Case No. 22-0774-EL-BLN Part 14 of 14

APPENDIX BWetland Determination Data Forms



Project/Site: West Trinway-Ohio Central Cit	y/County: Muskingum Co. Sampling Date: 3/2/2022
Applicant/Owner: AEP	State: OH Sampling Point: Wetland 001
	ction, Township, Range: Cass Twp.
Landform (hillslope terrace etc.): Depression	relief (concave convex none): Concave Slone (%): <1
Landform (hillslope, terrace, etc.): Depression Local Subregion (LRR or MLRA): LRR-N Lat: 40.096388	Long:82.026069
Soil Map Unit Name: BeD2- Berks channery silt loam, 15 to 25% slopes, er	oded NIML elassification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	
	_
Are Vegetation, Soil, or Hydrology significantly dis	
Are Vegetation, Soil, or Hydrology naturally proble	ematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing s	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes V No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes No	within a Wetland:
Remarks:	•
	within maintained transmission line right-of-way.
HYDROLOGY	Consorter Indicators (minimum of two positions)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plant	
✓ High Water Table (A2) — Hydrogen Sulfide	
	neres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Redu	
Sediment Deposits (B2) Recent Iron Reduc	ction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface	-
Algal Mat or Crust (B4) Other (Explain in F	
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): 8	
Saturation Present? Yes _ No _ Depth (inches): _0	Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos,	orevious inspections) if available:
N/A	storiodo inopositorio), il avalidado.
Remarks:	
Hydrology indicators are A2, A3, D2, D5.	

Sampling Point: Wetland 001

	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: $\frac{4}{}$ (A)
2				Total Number of Dominant
3				Species Across All Strata: 4 (B)
4				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
6.				That Ale OBL, FACW, of FAC (A/B)
				Prevalence Index worksheet:
7			·	Total % Cover of: Multiply by:
8				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)		= Total Cov	er	FACW species x 2 =
4 Absent				FAC species x 3 =
-				
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Provolence Index = P/A =
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
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
Herb Stratum (Plot size: 5' r)		= Total Cov	er	data in Remarks or on a separate sheet)
1. Persicaria sagittata	20	Yes	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Juncus effusus	20	Yes	FACW	
3. Carex lurida	20	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4. Onoclea sensibilis	10	No	FACW	Definitions of Four Vegetation Strata:
5. Typha x glauca	20	Yes	OBL	The Mandage of the control of the co
6. Mimulus alatus	10	No	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				and the best and grouter than e.25 k (1 m) tail.
11.				Herb – All herbaceous (non-woody) plants, regardless
12.				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)		= 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.)			
Matland vag is present. Deces the ren	امممان	مام سنده		_
Wetland veg is present. Passes the rap	na ana (uominar	ice test	ა.
1				

Sampling Point: Wetland 001

SOIL

Profile Des	cription: (Describe	to the de	pth needed to docur			or confirm	n the absence of	indicators.)
Depth	Matrix	0/		x Feature		1 2 2	Toutune	Damadra
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u> SL	Remarks
0-4	10YR 4/2	100	-					
4-16	10YR 4/1		7.5YR 4/6	25	_ <u>C</u>	M	Clay loam	
						· ———		
			·					
				-				
			-					
1Typo: C=C	Concentration D=Do	nlotion DN	- /I=Reduced Matrix, MS	S-Macko	d Sand G	raine	² Location: DL = D	Pore Lining, M=Matrix.
	Indicators:	pielion, Riv	/I=Reduced Matrix, Mis	5=IVIASKE	ed Sand Gi	allis.		rs for Problematic Hydric Soils ³ :
Histoso			Dark Surface	(\$7)				n Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ace (S8) (I	MLRA 147		st Prairie Redox (A16)
	listic (A3)		Thin Dark Su					/ILRA 147, 148)
	en Sulfide (A4)		Loamy Gleye			, ,	•	lmont Floodplain Soils (F19)
Stratifie	d Layers (A5)		Depleted Ma	trix (F3)			(N	/ILRA 136, 147)
2 cm M	uck (A10) (LRR N)		Redox Dark	Surface ((F6)			y Shallow Dark Surface (TF12)
	ed Below Dark Surface	ce (A11)	Depleted Dar				Oth	er (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
-	Mucky Mineral (S1) (LRR N,	Iron-Mangan		ses (F12)	(LRR N,		
	A 147, 148)		MLRA 13		/MIDA 1	26 422\	3Indian	tors of hydrophytic vogotation and
	Gleyed Matrix (S4) Redox (S5)		Umbric Surfa Piedmont Flo					tors of hydrophytic vegetation and and hydrology must be present,
-	d Matrix (S6)		Red Parent N					ss disturbed or problematic.
	Layer (if observed)):		(, (1	oo aletanood en problematie.
Type: No		•						
Depth (ir			<u> </u>				Hydric Soil Pr	esent? Yes 🖍 No
Remarks:							1	
Meets F	3							
10000	J							

Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co.	Sampling Date:
Applicant/Owner: AEP	State: OH	Sampling Point: Upland 001
••	Section, Township, Range: Cass Twp.	<u> </u>
	Local relief (concave, convex, none): none	Slope (%): 0
Subregion (LRR or MLRA): LRR-N Lat: 40.096521	Long82.026314	Datum: NAD83
Soil Map Unit Name: BeD2- Berks channery silt loam, 15 to 25% slop	es, eroded NWI classi	fication: N/A
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes <u> /</u> No (If no, explain in	Remarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are "Normal Circumstances"	" present? Yes 🖊 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed, explain any answ	vers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	ng sampling point locations, transect	ts, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wes No V Wetland Hydrology Present? Yes No V Remarks:	Is the Sampled Area within a Wetland? Yes	No
Upland data for W001-PEM-CAT2 (PEM) tak HYDROLOGY	en within maintained transmissio	on line right-of-way.
	Socondan/Indi	actors (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply		cators (minimum of two required)
	<u> </u>	
Surface Water (A1) True Aquatic High Water Table (A2) Hydrogen Su		egetated Concave Surface (B8) Patterns (B10)
		Lines (B16)
		n Water Table (C2)
		urrows (C8)
Drift Deposits (B3) Thin Muck Si		Visible on Aerial Imagery (C9)
		Stressed Plants (D1)
Iron Deposits (B5)		ic Position (D2)
Inundation Visible on Aerial Imagery (B7)		quitard (D3)
Water-Stained Leaves (B9)		graphic Relief (D4)
Aquatic Fauna (B13)		ral Test (D5)
Field Observations:		,
Surface Water Present? Yes No Depth (inche	es):	
Water Table Present? Yes No Depth (inche	es):	
Saturation Present? Yes No Depth (inche		ent? Yes No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial pho $\ensuremath{N/A}$	otos, previous inspections), if available:	
Remarks:		
Liversians in diseases are not present		
Hydrology indicators are not present.		

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?			
4 Absent				Number of Dominant Species That Are OBL, FACW, or FAC: (A)	
				That Are OBL, I ACW, OI I AC (A)	
2				Total Number of Dominant	
3				Species Across All Strata: 3 (B)	
4					
5				Percent of Dominant Species That Are ORL FACW or FAC: 33 (A/R	`
				That Are OBL, FACW, or FAC: 33 (A/B)
6				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				5 1 1 5 6	
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					
	0	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	g
Herb Stratum (Plot size: 5' r)					
1 Dichanthelium clandestinum	30	Yes	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Solidago canadensis	30	Yes	FACU		
3. Apocynum cannabinum	20	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must	
				be present, unless disturbed or problematic.	
4. Verbascum thapsus	10	No	FACU	Definitions of Four Vegetation Strata:	
5					
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) of	
				more in diameter at breast height (DBH), regardless of	i
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 of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
12.	90	T-4-1 O-1		Woody vine – All woody vines greater than 3.28 ft in	
Woody Vine Stratum (Plot size: 30' r)		= Total Cov	er	height.	
1. Absent					
1. 7.55011					
2.					
2.					
2		-			
2				Hydrophytic	
2				Vegetation	
2					
2			er	Vegetation	
2	0		er	Vegetation	
2	0		er	Vegetation	
2	0		er	Vegetation	
2	0		er	Vegetation	
2	0		er	Vegetation	
2	0		er	Vegetation	
2	0		er	Vegetation	
2	0		er	Vegetation	
2	0		er	Vegetation	
2	0		er	Vegetation	

Profile Desc	ription: (Describe	to the depth	needed to docum	nent the ir	ndicator	or confirm	n the ab	sence of indicat	ors.)	
Depth	Matrix			x Features		3				
(inches)	Color (moist)	<u></u> %	Color (moist)	<u></u> %	Type ¹	Loc ²	Text	ture	Remarks	S
0-16	10YR 4/4	100					SL			
							•			-
										
		<u> </u>								
										
							-			
	-									
	-						2			
	oncentration, D=Dep	letion, RM=Re	educed Matrix, MS	S=Masked	Sand Gra	ains.	² Locati	on: PL=Pore Lini		
Hydric Soil								Indicators for P		-
Histosol			Dark Surface					2 cm Muck		
	oipedon (A2)		Polyvalue Be		. , .		148)		e Redox (A16	5)
Black Hi			Thin Dark Su			47, 148)		(MLRA 1		In (E40)
	n Sulfide (A4)		Loamy Gleye		-2)				loodplain Soil	IS (F19)
	d Layers (A5) ick (A10) (LRR N)		Depleted Mar		2)			(MLRA 1:	ა ა, 147) w Dark Surfa	00 (TE12)
	d Below Dark Surfac	- (Δ11)	Depleted Dar						ain in Remarl	, ,
	ark Surface (A12)	C (A11)	Redox Depre					Other (Expi	alli ili ixciliali	N3)
	lucky Mineral (S1) (I	LRR N.	Iron-Mangan			_RR N.				
	\ 147, 148)	,	MLRA 13		- (/ (-	· · · · ,				
	Gleyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)		³ Indicators of h	nydrophytic ve	egetation and
	Redox (S5)		Piedmont Flo				18)		rology must b	-
Stripped	Matrix (S6)		Red Parent N	1aterial (F2	21) (MLR	A 127, 147	7)	unless distu	rbed or proble	ematic.
Restrictive I	_ayer (if observed):									
Type: Nor	ne		_							
Depth (inc	ches): -		<u></u>				Hydr	ic Soil Present?	Yes	No 🗸
Remarks:	·						1 -			
Lludria o	oila ara nat nr	ocont								
nyunc so	oils are not pr	esent.								

Project/Site: West Trinway-Ohio Central City	y/County: Muskingum Co. Sampling Date: 3/2/2022
Applicant/Owner: AEP	State: OH Sampling Point: Wetland 002
	ction, Township, Range: Cass Twp.
Landform (hillslope, terrace, etc.): Depression Local	relief (concave, convex, none): concave Slope (%): 0
Landform (hillslope, terrace, etc.): Depression Local Subregion (LRR or MLRA): LRR-N Lat: 40.096777	Long: -82.026638 Datum: NAD83
Soil Map Unit Name: GfC2: Glenford silt loam, 8 to 15 percent slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly dis	
Are Vegetation, Soil, or Hydrology naturally proble	
	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes _ ✓ No Wetland Hydrology Present? Yes _ ✓ No	within a Wetland? Yes No
Remarks:	
Wetland data for W002-PEM-CATMOD2 (PEM) right-of-way.	taken within maintained transmission line
HYDROLOGY	Output leading to discharge (astronomy of the property of
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 Plant	Surface Soil Cracks (B6) ts (B14) Sparsely Vegetated Concave Surface (B8)
Surface Water (A1) True Aquatic Plant High Water Table (A2) Hydrogen Sulfide 6	
	neres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Redu	
Sediment Deposits (B2) Recent Iron Reduc	ction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface	
Algal Mat or Crust (B4) Other (Explain in F	
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): 1	2
Saturation Present? Yes _ V No _ Depth (inches): 0	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections) if available:
N/A	nevious inspections), ii available.
Remarks:	
Hydrology indicators are A2, A3, D2, D5.	

Sampling Point: Wetland 002

	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: $\frac{3}{}$ (A)
<u> </u>				(,,
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				(VB)
				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				B 4 4 4 50
6				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				
10.				3 - Prevalence Index is ≤3.0 ¹
	0	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		- Total Cov	Ci	data in Remarks or on a separate sheet)
1. Persicaria sagittata	30	Yes	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Juncus effusus	25	Yes	FACW	
	- —			¹ Indicators of hydric soil and wetland hydrology must
3. Carex lurida	10	No	OBL	be present, unless disturbed or problematic.
4. Onoclea sensibilis	10	No	FACW	
5. Dichanthelium clandestinum	25	Yes	FAC	Definitions of Four Vegetation Strata:
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				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				Unidadahidia
				Hydrophytic
5.				Vegetation .
5				Vegetation Present? Yes No
5. 6.				Vegetation Present? Yes No
6	0			Vegetation Present? Yes No
	0			Vegetation Present? Yes No
6.	0			Vegetation Present? Yes No
6.	0			Vegetation Present? Yes No
Remarks: (Include photo numbers here or on a separate s	o sheet.)	= Total Cov		Vegetation Present? Yes No
6.	o sheet.)	= Total Cov		Present? Yes No
Remarks: (Include photo numbers here or on a separate s	o sheet.)	= Total Cov		Vegetation Present? Yes No
Remarks: (Include photo numbers here or on a separate s	o sheet.)	= Total Cov		Vegetation Present? Yes No
Remarks: (Include photo numbers here or on a separate s	o sheet.)	= Total Cov		Present? Yes No
Remarks: (Include photo numbers here or on a separate s	o sheet.)	= Total Cov		Vegetation Present? Yes No
Remarks: (Include photo numbers here or on a separate s	o sheet.)	= Total Cov		Vegetation Present? Yes No

SOIL Sampling Point: Wetland 002

Profile Desc	ription: (Describe	to the de	pth needed to docur	nent the	indicator	or confirm	n the absence	of indicato	rs.)	
Depth	Matrix			x Feature						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-6	10YR 4/3	100					SL			
6-16	10YR 4/1	80	7.5YR 4/4	20	С	М	loam			
			-	-						
		-		-	_					
							-			
		_		_						
				-	_					
										_
1			· 				2			
'Type: C=Co		oletion, RN	M=Reduced Matrix, MS	S=Maske	d Sand G	ains.	² Location: PL		g, M=Matrix. oblematic Hy	rduia Caila ³ .
•			Davis Confess	(07)					_	
Histosol	(A1) pipedon (A2)		Dark Surface Polyvalue Be		200 (58) (1	MI DA 147			(10) (MLRA 1 Redox (A16)	
	stic (A3)		Thin Dark Su				, 146) O	(MLRA 14		
	en Sulfide (A4)		Loamy Gleye			147, 140)	Pi		odplain Soils	(F19)
	d Layers (A5)		Depleted Ma		,			(MLRA 130		(-)
2 cm Mu	ıck (A10) (LRR N)		Redox Dark	Surface ((F6)		v	ery Shallow	Dark Surface	e (TF12)
	d Below Dark Surfac	e (A11)	Depleted Da				<u> </u>	ther (Explai	in in Remarks	s)
	ark Surface (A12)		Redox Depre							
	Mucky Mineral (S1) (LRR N,	Iron-Mangan		ses (F12)	(LRR N,				
	A 147, 148) Gleyed Matrix (S4)		MLRA 13 Umbric Surfa		(MI DA 1	26 122)	³ Indi	icators of hy	drophytic veg	retation and
	Redox (S5)		Piedmont Flo					-	ology must be	
-	Matrix (S6)		Red Parent N					-	ped or probler	
	Layer (if observed)	:								
Type: Nor	ne									
Depth (in	ches): <u>-</u>						Hydric Soil	Present?	Yes 🗸	No
Remarks:										
Meets F3	3									
	-									

Project/Site: West Trinway-Ohio Central	City/0	County: Muskingum Co.	S	Sampling Date: 3/2/2022			
Applicant/Owner: AEP	City/C	, <u> </u>	State: OH	Sampling Point: Upland 002			
	Secti						
Landform (hillslope, terrace, etc.): Flat	L ocal rel	ief (concave_convex_none):	none	Slope (%): 0			
			Long: -82.026737 Datum: NAD83				
Soil Map Unit Name: GfC2: Glenford silt loan	n, 8 to 15 percent slopes	Long.	NWI classificat	ion: N/A			
Are climatic / hydrologic conditions on the sit	e typical for this time of year?	′es No (If r	no, explain in Rer	marks.)			
Are Vegetation, Soil, or Hydr	ology significantly distur	bed? Are "Normal Ci	rcumstances" pre	esent? Yes 🖊 No			
Are Vegetation, Soil, or Hydr	ology naturally problem	atic? (If needed, expl	lain any answers	in Remarks.)			
SUMMARY OF FINDINGS - Attac	h site map showing san	npling point locations	s, transects,	important features, etc.			
Hydrophytic Vegetation Present? Y	res No	In the Commission Area					
Hydric Soil Present?	es No	Is the Sampled Area within a Wetland?	Yes	No 🗸			
	res No		.00				
Remarks:							
Upland data for W002-PEM-0 right-of-way.	CATMOD2 (PEM) tak	en within maintaine	ed transmis	sion line			
HYDROLOGY							
Wetland Hydrology Indicators:		<u>Se</u>	condary Indicato	ors (minimum of two required)			
Primary Indicators (minimum of one is requ	ired; check all that apply)		_ Surface Soil C				
Surface Water (A1)	True Aquatic Plants (• •	Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2)	Hydrogen Sulfide Od		Drainage Patterns (B10)				
Saturation (A3)	Oxidized Rhizospher		Roots (C3) Moss Trim Lines (B16) Dry-Season Water Table (C2)				
Water Marks (B1) Sediment Deposits (B2)	<pre> Presence of Reduce Recent Iron Reduction</pre>		_ Dry-Season w _ Crayfish Burro				
Sediment Deposits (B2) Drift Deposits (B3)	Thin Muck Surface (6		-	ble on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Explain in Re		_ '	essed Plants (D1)			
Iron Deposits (B5)	Out of (Explain in No.	<u> </u>	Geomorphic P	` '			
Inundation Visible on Aerial Imagery (E	37)	_	_ . _ Shallow Aquita				
Water-Stained Leaves (B9)		<u> </u>	_ Microtopograp				
Aquatic Fauna (B13)			FAC-Neutral T	est (D5)			
Field Observations:							
	No Depth (inches):						
	No Depth (inches):			./			
Saturation Present? Yes (includes capillary fringe)	No Depth (inches):	Wetland Hyd	rology Present?	? Yes No			
Describe Recorded Data (stream gauge, m	onitoring well, aerial photos, pre	evious inspections), if availab	ole:				
Remarks:							
Hydrology indicators are not	nragant						
Hydrology indicators are not	present.						

	Absolute	Dominani	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 30' r)	% Cover	Species?	Status	Number of Dominant Species	
1. Absent				· · · · · · · · · · · · · · · · · · ·	(A)
			· ·		` '
2.				Total Number of Dominant	
3				Species Across All Strata: 3	(B)
4				Percent of Dominant Species	
5				'	(A/B)
				mat Ale OBL, FACW, OI FAC.	(A/D)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
	•	= Total Co	/er	OBL species x 1 =	_
Sapling/Shrub Stratum (Plot size: 15' r)		i otal oo	701	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 (1)	_ (D)
5				Prevalence Index = B/A =	
6					_
7				Hydrophytic Vegetation Indicators:	
				1 - Rapid Test for Hydrophytic Vegetation	
8				2 - Dominance Test is >50%	
9					
10				3 - Prevalence Index is ≤3.0 ¹	
	0	= Total Co	·or	4 - Morphological Adaptations ¹ (Provide supp	orting
Herb Stratum (Plot size: 5' r)		- 10tal C0	/CI	data in Remarks or on a separate sheet)	
Dichanthelium clandestinum	30	Yes	FAC	Problematic Hydrophytic Vegetation ¹ (Explain	۱)
I					
2. Solidago canadensis	30	Yes	FACU	The disease of booking and control to the design of the de	4
3. Apocynum cannabinum	20	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology m be present, unless disturbed or problematic.	iust
✓ Verbascum thapsus	10	No	FACU	<u> </u>	
5. Daucus carota	10	No	UPL	Definitions of Four Vegetation Strata:	
5. Daucus calota		INU	UFL	Tree Meady plants avaluation vines 2 in (7.0 a	
					iii) Oi
6				Tree – Woody plants, excluding vines, 3 in. (7.6 c	see of
6				more in diameter at breast height (DBH), regardle	ess of
7					ess of
7 8				more in diameter at breast height (DBH), regardle	
7				more in diameter at breast height (DBH), regardle height.	
7				more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall.	less
7				more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard	less
7				more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall.	less
7				more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall.	less
7				more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	less
7				more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall.	less
7				more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	less
7	100	= Total Co		more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	less
7	100	= Total Co		more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	less
7	100	= Total Co		more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	less
7	100	= Total Co		more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height.	less
7	100	= Total Co		more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height.	less
7	100	= Total Co		more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height.	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less
7	100	= Total Co	/er	more in diameter at breast height (DBH), regardle height. Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	less

Profile Desc	ription: (Describe	to the depth i	needed to docun	ent the ir	ndicator	or confirm	the ab	sence of indicate	ors.)	
Depth	Matrix		Redox	c Features	;					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Text	ture	Remarks	
0-16	10YR 4/4	100					SL			
		 								
		. 								
-		·								
¹Type: C=Co	ncentration, D=Dep	letion RM=Re	duced Matrix MS	=Masked	Sand Gra	ins	² Locati	on: PL=Pore Linir	ng M=Matrix	_
Hydric Soil I		700011, 1111 110	raaooa maanx, me	mached	Cana Orc		Locati	Indicators for Pi		dric Soils ³ :
Histosol			Dark Surface	(S7)					, A10) (MLRA 1	
	ipedon (A2)	•	Polyvalue Be		e (S8) (M	Ι ΒΔ 147	148)		Redox (A16)	<i>-</i>
Black His		-	Thin Dark Su		. , .		,	(MLRA 14		
	n Sulfide (A4)	•	Loamy Gleye			,,			oodplain Soils	(F19)
	Layers (A5)	•	Depleted Mat		_,			(MLRA 13		(* **)
	ck (A10) (LRR N)	•	Redox Dark S		6)				v Dark Surface	e (TF12)
	Below Dark Surfac	e (A11)	Depleted Dar						in in Remarks	
Thick Da	rk Surface (A12)	-	Redox Depre	ssions (F8	3)					
Sandy M	ucky Mineral (S1) (I	LRR N,	Iron-Mangan	ese Masse	es (F12) (l	_RR N,				
MLRA	147, 148)		MLRA 130	5)						
	leyed Matrix (S4)		Umbric Surfa					³ Indicators of h		
Sandy R	edox (S5)		Piedmont Flo	odplain So	oils (F19)	(MLRA 14	l8)	wetland hydr	ology must be	present,
	Matrix (S6)		Red Parent M	laterial (F2	21) (MLR	A 127, 147	7)	unless distur	bed or problen	natic.
	.ayer (if observed)	•								
Type: Non	e		_							
Depth (inc	:hes):		_				Hydr	ic Soil Present?	Yes	No V
Remarks:										
Hydric so	oils are not pr	esent								
riyano se	nis are not pr	CSCIII.								

Project/Site: West Trinway-Ohio Central		City/County: Mus	kingum Co.		Sampling Date: 3/2/2022			
Applicant/Owner: AEP				State: OH	Sampling Date: 3/2/2022 Sampling Point: Wetland 003			
Investigator(s): KLV, BLG		Section, Townsh						
Landform (hillslope, terrace, etc.): Depre	ession	Local relief (concave	e, convex, none	e): concave	Slope (%): 0			
Subregion (LRR or MLRA): LRR-N	Lat: 40.0974	113	Long: -82.02	27553	Datum: NAD83			
Soil Map Unit Name: GfC2: Glenford silt	loam, 8 to 15 percent sl	opes		NWI classifica	ation: N/A			
Are climatic / hydrologic conditions on the	e site typical for this tim	ne of year? Yes	No (If	f no, explain in Re	emarks.)			
Are Vegetation, Soil, or H	Hydrologysigni	ficantly disturbed?	Are "Normal (Circumstances" p	resent? Yes 🖊 No			
Are Vegetation, Soil, or I	Hydrologynatu	rally problematic?	(If needed, ex	plain any answer	rs in Remarks.)			
SUMMARY OF FINDINGS - A	tach site map sho	owing sampling po	int location	ns, transects	, important features, etc.			
Hydrophytic Vegetation Present?	Yes No	la tha Car						
Hydric Soil Present?	Yes V No		npled Area Vetland?	Yes 🗸	No			
Wetland Hydrology Present?	Yes No							
Remarks:								
Wetland data for W003-PE right-of-way.	EM-CATMOD2	(PEM) taken with	nin mainta	ined transm	nission line			
HYDROLOGY								
Wetland Hydrology Indicators:			2	Secondary Indica	tors (minimum of two required)			
Primary Indicators (minimum of one is	required; check all that	apply)		Surface Soil (
Surface Water (A1)		uatic Plants (B14)	-					
High Water Table (A2)		en Sulfide Odor (C1)						
Saturation (A3)		d Rhizospheres on Living	Roots (C3)					
Water Marks (B1)		ce of Reduced Iron (C4)			Water Table (C2)			
Sediment Deposits (B2)		Iron Reduction in Tilled S	oolis (C6)	Crayfish Burr				
Drift Deposits (B3) Algal Mat or Crust (B4)		ck Surface (C7)	-		sible on Aerial Imagery (C9)			
Iron Deposits (B5)	Other (E	Explain in Remarks)	=	Geomorphic	ressed Plants (D1)			
Inundation Visible on Aerial Image	rv (B7)		-	Shallow Aqui				
Water-Stained Leaves (B9)	., (5.)		=		phic Relief (D4)			
Aquatic Fauna (B13)				FAC-Neutral				
Field Observations:					. ,			
Surface Water Present? Yes	No 🖍 Depth ((inches):						
		(inches):						
		(inches):		drology Presen	t? Yes <u>/</u> No			
(includes capillary fringe) Describe Recorded Data (stream gauge	e monitoring well seri	al photos previous inspe	ctions) if avails	ahla:				
N/A	e, monitoring well, acid	ai priotos, previous irispe	ctions), ii avaii	abic.				
Remarks:								
Hydrology indicators are C	3 D2 D5							
Trydrology maloators are c	00, 02, 00.							

Sampling Point: Wetland 003

	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: $\frac{3}{}$ (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/B)
6.				That Are OBL, FACW, or FAC (A/B)
				Prevalence Index worksheet:
7		-		Total % Cover of: Multiply by:
8				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)		= Total Cov	er	FACW species x 2 =
4 Absent				FAC species x 3 =
-				
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Provolence Index = P/A =
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
8.				1 - Rapid Test for Hydrophytic Vegetation
9.				2 - Dominance Test is >50%
				3 - Prevalence Index is ≤3.0 ¹
10	0	T-4-1 O-1		4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		= Total Cov	er	data in Remarks or on a separate sheet)
1. Persicaria sagittata	35	Yes	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Juncus effusus	20	Yes	FACW	
Onoclea sensibilis	20	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4. Impatiens capensis	10	No	FACW	Definitions of Four Vegetation Strata:
5. Agrimonia parviflora	15	No	FACW	The a Manda de plants and dispersions Oir (7.0 and a
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				than o in. BBT and greater than 0.20 tt (1 m) tail.
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)		= 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.)			
Matland vag is present. Deces the ren	ا مممان	ما مان ماما		_
Wetland veg is present. Passes the rap	nu ana (uominar	ice test	5 .

SOIL Sampling Point: Wetland 003

Profile Desc	cription: (Describe	to the de	pth needed to docun	nent the	indicator	or confirm	n the absence	of indicate	ors.)	
Depth	Matrix			x Feature					_	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>		Remarks	
0-16	10YR 4/2	80	7.5YR 4/6	20	С	M/PL	SL			
			-	· 						
			-							
		· 								
	•			·						
	-	-	-		_					
	-		-	· 		·		-		
['] Type: C=C Hydric Soil		oletion, RM	1=Reduced Matrix, MS	S=Maske	d Sand G	ains.	² Location: PL		ng, M=Matrix. roblematic Hy	rdric Soile ³ :
•			D 10 ((07)					_	
Histosol	• •		Dark Surface	. ,	(00) (A10) (MLRA 1	47)
	oipedon (A2)		Polyvalue Be		. , .		, 148) C		e Redox (A16)	
	stic (A3) en Sulfide (A4)		Thin Dark Su			147, 148)	-	MLRA 14		(E10)
	en Suifide (A4) d Layers (A5)		Loamy Gleye Depleted Mat		(Г∠)		P	MLRA 13)	oodplain Soils	(118)
	uck (A10) (LRR N)		Redox Dark S		F6)		1		w Dark Surface	(TF12)
	d Below Dark Surfac	e (A11)	Depleted Dar		,			-	ain in Remarks	, ,
	ark Surface (A12)	,	Redox Depre				_ `	zaror (Expic	am m romano	,
	Mucky Mineral (S1) (I	LRR N.	Iron-Mangan			(LRR N.				
	A 147, 148)	,	MLRA 13		()	(,				
	Gleyed Matrix (S4)		Umbric Surfa		(MLRA 1	36, 122)	³ Ind	icators of h	ydrophytic veg	etation and
	Redox (S5)		Piedmont Flo						rology must be	
-	Matrix (S6)		Red Parent M					-	bed or probler	
	Layer (if observed)	:							· · · · · · · · · · · · · · · · · · ·	
Type: No	ne									
Depth (in	ches):						Hydric Soil	Present?	Yes_	No
Remarks:										
Meets F	2									
vieets F	3									

Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co.	Sampling Date:			
Applicant/Owner: AEP	State: OH	Sampling Point: Upland 003			
••	Section, Township, Range: Cass Twp.				
	Local relief (concave, convex, none): none	Slope (%): 0			
Subregion (LRR or MLRA): LRR-N Lat: 40.09735	Long: -82.027656	Datum: NAD83			
Soil Map Unit Name: GfC2: Glenford silt loam, 8 to 15 percent slopes	S NWI class	ification: N/A			
Are climatic / hydrologic conditions on the site typical for this time o					
Are Vegetation, Soil, or Hydrology significan	ntly disturbed? Are "Normal Circumstances	s" present? Yes 🖊 No			
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed, explain any ans	wers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point locations, transec	ets, important features, etc.			
Hydrophytic Vegetation Present? Yes No V Hydric Soil Present? Yes No V Wetland Hydrology Present? Yes No V Remarks:	Is the Sampled Area within a Wetland? Yes	No			
Upland data for W003-PEM-CATMOD2 (PEl right-of-way.	M) taken within maintained transi	mission line			
Wetland Hydrology Indicators:	Secondary Ind	licators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that app	· · · · · · · · · · · · · · · · · · ·	oil Cracks (B6)			
Surface Water (A1) True Aquati	· · · · · · · · · · · · · · · · · · ·				
		Sparsely Vegetated Concave Surface (B8)Drainage Patterns (B10)			
	izospheres on Living Roots (C3) Moss Trim				
		on Water Table (C2)			
		Burrows (C8)			
Drift Deposits (B3) Thin Muck S		n Visible on Aerial Imagery (C9)			
		r Stressed Plants (D1)			
Iron Deposits (B5)		hic Position (D2)			
Inundation Visible on Aerial Imagery (B7)		quitard (D3)			
Water-Stained Leaves (B9)		graphic Relief (D4)			
Aquatic Fauna (B13)		tral Test (D5)			
Field Observations:					
Surface Water Present? Yes No Depth (inch	nes):				
Water Table Present? Yes No Depth (inch	nes):				
Saturation Present? Yes No Depth (inch		sent? Yes No			
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial ph N/A	notos, previous inspections), if available:				
Remarks:					
Hydrology indicators are not present.					

	Absolute	Dominant	Indicator	Dominance Test worksheet:	_
<u>Tree Stratum</u> (Plot size: 30' r)		Species?			
4 Absent				Number of Dominant Species That Are OBL, FACW, or FAC: (A)	
-				That Are OBL, I ACW, OI I AC(A)	
2				Total Number of Dominant	
3				Species Across All Strata: 4 (B)	
4					
5				Percent of Dominant Species That Are ORL FACW or FAC: 25 (A/R)	`
				That Are OBL, FACW, or FAC: 25 (A/B))
6				Prevalence Index worksheet:	_
7	- ——				
8					
	0	= Total Cov	er	OBL species x 1 =	
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species x 2 =	
1. Rubus allegheniensis	30	Yes	FACU	FAC species x 3 =	
2.				FACU species x 4 =	
				UPL species x 5 =	
3					
4				Column Totals: (A) (B)	
5				B 1 1 1 B/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					
	30	= Total Cov	er	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)	g
Herb Stratum (Plot size: 5' r)				·	
1. Dichanthelium clandestinum	30	Yes	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Solidago canadensis	20	Yes	FACU		
3. Verbascum thapsus	10	No	FACU	¹ Indicators of hydric soil and wetland hydrology must	
	- —			be present, unless disturbed or problematic.	
4. Andropogon virginicus	20	Yes	FACU	Definitions of Four Vegetation Strata:	
5					
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or	
				more in diameter at breast height (DBH), regardless of	
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 of size, and woody plants less than 3.28 ft tall.	
12.				of size, and woody plants less than 3.20 it tall.	
· · ·	80	T-4-1 0		Woody vine – All woody vines greater than 3.28 ft in	
	80	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in height.	
Woody Vine Stratum (Plot size: 30' r)	80	= Total Cov	er	, ,	
Woody Vine Stratum (Plot size: 30' r) 1. Absent			er 	, ,	
Woody Vine Stratum (Plot size: 30' r)			er 	, ,	
Woody Vine Stratum (Plot size: 30' r) 1. Absent 2.			er 	, ,	
Woody Vine Stratum (Plot size: 30' r) 1. Absent 2 3			er 	height.	
Woody Vine Stratum (Plot size: 30' r			er 	height. Hydrophytic	
Woody Vine Stratum (Plot size: 30' r			er	height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r				height. Hydrophytic	
Woody Vine Stratum (Plot size: 30' r				height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r	0			height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r	0			height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r	0			height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r	0			height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r) 1. Absent 2	0			height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r	0			height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r) 1. Absent 2	0			height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r) 1. Absent 2	0			height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r) 1. Absent 2	0			height. Hydrophytic Vegetation	
Woody Vine Stratum (Plot size: 30' r) 1. Absent 2	0			height. Hydrophytic Vegetation	

Profile Desc	ription: (Describe	to the depth r	needed to docur	nent the indica	ator or confirm	the ab	sence of indicators.)
Depth	Matrix		Redo	x Features			
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Typ	pe ¹ Loc ²	Text	rure Remarks
0-16	10YR 4/4	100				SL	
				· 			
		· — — —					
		. 					
		·		· <u></u> -			
				· 		-	
				· ——— ——			
				· 			
¹Type: C=Co	oncentration, D=Dep	letion RM=Re	duced Matrix MS	S=Masked San	d Grains	² Locatio	on: PL=Pore Lining, M=Matrix.
Hydric Soil		nouon, run ru	adood Matrix, Mi	y madrida dam	a Oranio.	Locati	Indicators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	(\$7)			2 cm Muck (A10) (MLRA 147)
	oipedon (A2)	-			8) (MLRA 147 ,	148)	Coast Prairie Redox (A16)
Black Hi		=		rface (S9) (ML		140)	(MLRA 147, 148)
	en Sulfide (A4)	-	Loamy Gleye				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)		k Surface (F7)			Other (Explain in Remarks)
	ark Surface (A12)	. , _	Redox Depre				
	lucky Mineral (S1) (I	_RR N,		ese Masses (F	12) (LRR N ,		
	A 147, 148)	_	MLRA 13		, ,		
	Gleyed Matrix (S4)	_		ce (F13) (MLR	A 136, 122)		³ Indicators of hydrophytic vegetation and
-	Redox (S5)				=19) (MLRA 14	l8)	wetland hydrology must be present,
-	Matrix (S6)	- -			MLRA 127, 147		unless disturbed or problematic.
	Layer (if observed):						
Type: Nor	ne		_				
Depth (inc						Hydri	ic Soil Present? Yes No
Remarks:	<u> </u>						· · · · · · · · · · · · · · · · · · ·
م ماسلم م	.!						
Hydric so	oils are not pr	esent.					

Project/Site: West Trinway-Ohio Central		City/Co	ounty: Muskingum Co.		Sampling Date: 3/2/2022		
Applicant/Owner: AEP				State: OH	Sampling Date: 3/2/2022 Sampling Point: Wetland 004		
Investigator(s): KLV, BLG			n, Township, Range: C				
Landform (hillslope, terrace, etc.): Depre	ssion	Local relie	f (concave, convex, no	ne): concave	Slope (%): 0		
Subregion (LRR or MLRA):	Lat: 40.0	98002	Long: -82.0	028374	Datum: NAD83		
Soil Map Unit Name: GfC2: Glenford silt I	oam, 8 to 15 percen	t slopes		NWI classific	cation: N/A		
Are climatic / hydrologic conditions on the	site typical for this	time of year? Ye	s / No	(If no, explain in R	lemarks.)		
Are Vegetation, Soil, or H	ydrologysi	gnificantly disturb	ed? Are "Norma	l Circumstances" p	present? Yes 🖊 No		
Are Vegetation, Soil, or H	ydrologyn	aturally problemat	ic? (If needed, e	explain any answe	ers in Remarks.)		
SUMMARY OF FINDINGS - Att	ach site map s	showing sam	pling point location	ons, transects	, important features, etc.		
Hydrophytic Vegetation Present?	Yes No)	la the Compled Area				
Hydric Soil Present?	Yes 🔽 No		Is the Sampled Area within a Wetland?	Yes 🗸	No		
Wetland Hydrology Present?	Yes No		mania modala				
Remarks:							
Wetland data for W004-PE right-of-way.	M-CATMOD	2 (PEM) tak	en within maint	ained transn	nission line		
HYDROLOGY							
Wetland Hydrology Indicators:				Secondary Indica	ators (minimum of two required)		
Primary Indicators (minimum of one is r	equired; check all the	nat apply)		Surface Soil			
Surface Water (A1)		Aquatic Plants (B	•		getated Concave Surface (B8)		
High Water Table (A2)		ogen Sulfide Odo		Drainage Patterns (B10)			
Saturation (A3)			s on Living Roots (C3)	Moss Trim L			
Water Marks (B1)		ence of Reduced			Water Table (C2)		
Sediment Deposits (B2)			in Tilled Soils (C6)	Crayfish Bur			
Drift Deposits (B3)		Muck Surface (C7		· · · · · · · · · · · · · · · · · · ·	isible on Aerial Imagery (C9)		
Algal Mat or Crust (B4)	Othe	r (Explain in Rema	arks)		tressed Plants (D1)		
Iron Deposits (B5)	·· (D7)				Position (D2)		
Inundation Visible on Aerial Imager	y (B7)			Shallow Aqu			
Water-Stained Leaves (B9) Aquatic Fauna (B13)				FAC-Neutral	aphic Relief (D4)		
Field Observations:				I AC-Neutral	1681 (D3)		
	No Dep	oth (inches):					
	No Dep						
	No Dep		Wetland H	Hydrology Preser	nt? Yes No		
(includes capillary fringe)		, ,			<u></u>		
Describe Recorded Data (stream gauge N/A	e, monitoring well, a	ieriai photos, prev	ious inspections), if ava	allable:			
Remarks:							
Hydrology indicators are A	2 A3 C3 D2	2 D5					
l lydrology maleatore are 70	2, 710, 00, 02	_, DO.					

Sampling Point: Wetland 004

	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: $\frac{3}{}$ (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				Describence in description of
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	•	= 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				Prevalence Index = B/A =
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.	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 Agrimonia parviflora	10	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Persicaria sagittata	20	Yes	OBL	
Z	10	No	FACW	¹ Indicators of hydric soil and wetland hydrology must
J	20	Yes	FACW	be present, unless disturbed or problematic.
T				Definitions of Four Vegetation Strata:
5. Solidago gigantea		No	FACW	Tree Mondy plants evaluding vince 3 in (7.6 cm) or
6. Packera aurea	10	No	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7. Juncus effusus	20	Yes	FACW	height.
8				Continue/Charles Weady plants avaluation vines less
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10.				g. 22.2. (· ···, · ···
11.				Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
12				Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)		= Total Cov	/ei	height.
Absent				
2.				
3				
4				Hydrophytic
5				Vegetation
·				Present? Yes No
6.				
	_	= Total Cov	/er	

SOIL Sampling Point: Wetland 004

Profile Desc	ription: (Describe	to the dep	th needed to docu	ment the	indicator	or confirm	n the absence	of indicators.)
Depth	Matrix		Redo	x Feature	es	-		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-16	10YR 4/2	80	10YR 4/6	20	С	M/PL	SL	
				_	-			
							-	
								-
				_	-			
	-							 _
								-
	-			-				
-							-	
¹ Type: C=Co	oncentration, D=Dep	oletion, RM	=Reduced Matrix, M	S=Maske	d Sand G	rains.	² Location: Pl	_=Pore Lining, M=Matrix.
Hydric Soil I							Indic	ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)			2	cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ace (S8) (MLRA 147		Coast Prairie Redox (A16)
Black Hi	. , ,		Thin Dark Su				, ,	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gley		, .	,,	F	Piedmont Floodplain Soils (F19)
	Layers (A5)		<u>✓</u> Depleted Ma		(1 2)		<u> </u>	(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark		F6)		,	/ery Shallow Dark Surface (TF12)
	Below Dark Surfac	· Δ (Δ11)	Depleted Da	,	,			Other (Explain in Remarks)
	ark Surface (A12)	<i>(</i> A11)	Redox Depre				`	Street (Explain in Nemarks)
	lucky Mineral (S1) (IDDN	Iron-Mangar			/I PP N		
	147, 148)	LIXIX IV,	MLRA 13		663 (1 12)	(LIXIX IV,		
	sleyed Matrix (S4)		Umbric Surfa		/MIDA 1	26 122\	³ Ind	licators of hydrophytic vegetation and
	ledox (S5)		Piedmont Flo					vetland hydrology must be present,
-			Red Parent I					
	Matrix (S6)		Red Parent i	viateriai (F	-21) (IVILE	KA 127, 14	<i>r</i>) u	nless disturbed or problematic.
	_ayer (if observed)	:						
Type: Nor	ie							,
Depth (inc	ches):						Hydric Soil	Present? Yes No
Remarks:								
N40040 F	,							
Meets F3	3							
1								

Project/Site: West Trinway-Ohio Central City/County: Muskingum Co. Sampling Date: 3/2/2022					
Project/Site: West Trinway-Ohio Central City/County: Muskingum Co. Sampling Date: 3/2/2022 Applicant/Owner: AEP State: OH Sampling Point: Uplan	d 004				
Investigator(s): KLV, BLG Section, Township, Range: Cass Twp.					
Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%):)				
Subregion (LRR or MLRA): Lat: 40.098342 Long: -82.028689 Datum: NAD8					
Soil Map Unit Name: GfC2: Glenford silt loam, 8 to 15 percent slopes NWI classification: N/A					
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No					
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features	, etc.				
Hydrophytic Vegetation Present? Yes No Is the Sampled Area					
Hydric Soil Present? Yes No Is the Sampled Area within a Wetland? Yes No					
Wetland Hydrology Present? Yes No					
Upland data for W004-PEM-CATMOD2 (PEM) taken within maintained transmission line right-of-way.					
HYDROLOGY					
Wetland Hydrology Indicators: Secondary Indicators (minimum of two requirements)	<u>ired)</u>				
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)					
Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface					
	Drainage Patterns (B10) Poots (C3) Moss Trim Lines (R16)				
Saturation (AS) Oxidized Rhizosphieres on Elving Roots (C3) Moss Fifth Elites (B10) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)					
Valid Math (ST) Freesting of Reduction in Tilled Soils (C6) Crayfish Burrows (C8)					
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C	9)				
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1)					
Iron Deposits (B5) Geomorphic Position (D2)					
Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3)					
	Microtopographic Relief (D4)				
Aquatic Fauna (B13) FAC-Neutral Test (D5)					
Field Observations: Surface Water Present? Yes No Depth (inches):					
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, previous inspections), if available: N/A					
Remarks:					
Hydrology indicators are not present.					

	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: $\frac{0}{}$ (A)
·				(**)
2				Total Number of Dominant
3				Species Across All Strata: 3 (B)
4				Percent of Deminant Charles
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)
6.				That Are OBE, I AOW, OF I AC (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. Rubus allegheniensis	30	Yes	FACU	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				2 - Dominance Test is >50%
9				
10.				3 - Prevalence Index is ≤3.0 ¹
	30	= 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. Verbascum thapsus	10	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
	30		FACU	
2. Dactylis glomerata		Yes		¹ Indicators of hydric soil and wetland hydrology must
3. Glechoma hederacea	20	Yes	FACU	be present, unless disturbed or problematic.
4. Arctium minus	10	No	FACU	
5				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				
9.				Sapling/Shrub – Woody plants, excluding vines, less
ö				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
40				
10				Herb – All herbaceous (non-woody) plants, regardless
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 3.28 ft tall.
11	70	= Total Cov	er	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
11	70	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
11	70	= Total Cov	er	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
11				of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
11				of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
11				of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
11				of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
11				of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic
11				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
11				of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic
11				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
11	0			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
11	0			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
11	0			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
11	0			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
11	0			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
11	0			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
11	0			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
11	0			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
11	0			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
11	0			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

Profile Desc	ription: (Describe	to the depth	needed to docun	ent the ir	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix			c Features						
(inches)	Color (moist)	<u></u> %	Color (moist)	<u></u> %	Type ¹	Loc ²	Texture		Remarks	
0-16	10YR 4/3	100					SL			
										_
		- -								
										
	-									
										,
								_		
1							2			
	oncentration, D=Dep	letion, RM=R	educed Matrix, MS	=Masked	Sand Gra	ins.		_=Pore Lining,		-:- 0 - :: - 3
Hydric Soil I								ators for Prob	-	
Histosol			Dark Surface					cm Muck (A10		')
	pipedon (A2)		Polyvalue Be				148) C	coast Prairie Re		
Black Hi			Thin Dark Su	, ,	•	47, 148)		(MLRA 147, 1		40)
	n Sulfide (A4) I Layers (A5)		Loamy Gleye Depleted Mat		-2)		P	iedmont Flood (MLRA 136, 1		19)
	ick (A10) (LRR N)		Redox Dark S	. ,	6)		\	ery Shallow D		TF12)
	Below Dark Surfac	e (A11)	Depleted Dar					Other (Explain i		11 12)
	ark Surface (A12)	0 (/ 1.1 /)	Redox Depre					outer (Explain)	n rtomanto,	
	lucky Mineral (S1) (I	LRR N,	Iron-Mangane			RR N,				
	\ 147, 148)		MLRA 130		` , `					
Sandy G	leyed Matrix (S4)		Umbric Surfa	ce (F13) (I	MLRA 13	6, 122)	³ Ind	icators of hydro	ophytic veget	ation and
	edox (S5)		Piedmont Flo	odplain Sc	oils (F19)	(MLRA 14	18) w	etland hydrolo	gy must be p	resent,
Stripped	Matrix (S6)		Red Parent M	laterial (F2	21) (MLR	A 127, 147	') u	nless disturbed	d or problema	tic.
	_ayer (if observed):									
Type: Nor	ne		<u></u>							
Depth (ind	ches): <u>-</u>		<u></u>				Hydric Soil	Present? Y	'es	No 🔽
Remarks:										
Hydric so	oils are not pr	esent.								
, a	эло аго тот рт	000								

Project/Site: West Trinway-Ohio Central		City/County: Muskingum Co.		Sampling Date: 3/2/2022			
Applicant/Owner: AEP		_ City/County: Muskingum Co.	State: OH	Sampling Point: Wetland 005			
••	Investigator(s): KLV, BLG Section, Township, Range:						
Landform (hillslope, terrace, etc.): Depress	sion	ocal relief (concave, convex, no	ne). concave	Slone (%): 0			
Subregion (LRR or MLRA): LRR-N	Lat. 40.100474	Long: -82.	031298	Olope (70):			
Soil Map Unit Name: Omu1C1: Omulga sil	t loam, 6 to 12 percent slop	es Long.	NWI classific	ation: N/A			
Are climatic / hydrologic conditions on the	site typical for this time of	year? Yes 🖊 No	(If no, explain in R	emarks.)			
Are Vegetation, Soil, or Hy	drology significant	ly disturbed? Are "Norma	l Circumstances" p	oresent? Yes 🖊 No			
Are Vegetation, Soil, or Hy			explain any answe				
SUMMARY OF FINDINGS - Atta	ach site map showir	ng sampling point location	ons, transects	, important features, etc.			
Hydrophytic Vegetation Present?	Yes No	In the Commission Association					
Hydric Soil Present?	Yes V No		Yes 🗸	No			
Wetland Hydrology Present?	Yes No		.00				
Remarks:							
Wetland data for W005-PEI right-of-way.	M-CATMOD2 (PE	M) taken within maint	ained transn	nission line			
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indica	tors (minimum of two required)			
Primary Indicators (minimum of one is re	quired; check all that apply	′)	Surface Soil				
Surface Water (A1)	Plants (B14)		getated Concave Surface (B8)				
High Water Table (A2)	Ifide Odor (C1)	Drainage Pat					
Saturation (A3)		zospheres on Living Roots (C3)	Moss Trim Li				
Water Marks (B1)		Reduced Iron (C4) Reduction in Tilled Soils (C6)		Water Table (C2)			
Sediment Deposits (B2)Drift Deposits (B3)	Thin Muck St		oils (C6) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)	Other (Explai		· 	tressed Plants (D1)			
Iron Deposits (B5)	Out (Explain	n in remaine)	✓ Geomorphic				
Inundation Visible on Aerial Imagery	(B7)		Shallow Aqui				
Water-Stained Leaves (B9)				phic Relief (D4)			
Aquatic Fauna (B13)			FAC-Neutral	Test (D5)			
Field Observations:							
	_ No V Depth (inche						
	_ No _ C Depth (inche						
Saturation Present? Yes (includes capillary fringe)	No Depth (inche	es): Wetland I	Hydrology Presen	t? Yes No			
Describe Recorded Data (stream gauge,	monitoring well, aerial pho	otos, previous inspections), if ava	ailable:				
N/A							
Remarks:							
Hydrology indicators are C3	3, D2, D5.						

Sampling Point: Wetland 005

	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: $\frac{4}{}$ (A)
<u> </u>				(,,
2				Total Number of Dominant
3				Species Across All Strata: 4 (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	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				B 4 4 4 50
6				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				
10.				3 - Prevalence Index is ≤3.0 ¹
	0	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		- Total Ook	Ci	data in Remarks or on a separate sheet)
1. Persicaria sagittata	40	Yes	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Dichanthelium clandestinum	20	Yes	FAC	
				¹ Indicators of hydric soil and wetland hydrology must
3. Juncus effusus	20	Yes	FACW	be present, unless disturbed or problematic.
4. Onoclea sensibilis	20	Yes	FACW	Definitions of Four Vegetation Strata:
5.				Definitions of Four Vegetation Strata.
				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/Charak Manda and and and and and
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
				than 5 m. bbit and greater than 5.25 m (1 m) tail.
10	. ———			Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
		= 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				
2.	· ——			
3				
				Hydrophytic
3 4				Hydrophytic Vegetation
3				Hydrophytic Vegetation Present? Yes No
3 4				Vegetation
3	0			Vegetation
3	0			Vegetation
3	0			Vegetation
3	0			Vegetation
3456Remarks: (Include photo numbers here or on a separate s		= Total Cov		Vegetation
3		= Total Cov		Vegetation
3456Remarks: (Include photo numbers here or on a separate s		= Total Cov		Vegetation
3456Remarks: (Include photo numbers here or on a separate s		= Total Cov		Vegetation
3456Remarks: (Include photo numbers here or on a separate s		= Total Cov		Vegetation
3456Remarks: (Include photo numbers here or on a separate s		= Total Cov		Vegetation
345		= Total Cov		Vegetation

SOIL Sampling Point: Wetland 005

Profile Desc	cription: (Describe	to the dep	th needed to docur	ment the	indicator	or confirn	n the absence	of indicators.)
Depth	Matrix (assist)	0/		x Feature		12	Tt	Demonto
(inches) 0-16	Color (moist) 10YR 4/2	<u> %</u> 80	Color (moist) 10YR 4/6	<u>%</u> 20	Type ¹ C	Loc ² PL/M	Texture SL	Remarks
0-10	1011/4/2		1011 4/0			FL/IVI	<u> </u>	
					<u> </u>			
				-				
				_				
1- 0.0							2	
Hydric Soil		oletion, RIVI	=Reduced Matrix, M	S=Masked	Sand Gi	ains.		_=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	(97)				cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		rce (S8) (I	/II RΔ 147		Coast Prairie Redox (A16)
	istic (A3)		Thin Dark Su				0	(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye			, -,	P	Piedmont Floodplain Soils (F19)
Stratified	d Layers (A5)		Depleted Ma	trix (F3)				(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark	•	,			/ery Shallow Dark Surface (TF12)
	d Below Dark Surfac	ce (A11)	Depleted Da				_ (Other (Explain in Remarks)
	ark Surface (A12) /lucky Mineral (S1) (I DD N	Redox Depre Iron-Mangan			I DD N		
	A 147, 148)	LKK N,	MLRA 13		es (F12)	LKK N,		
	Gleyed Matrix (S4)		Umbric Surfa		(MLRA 1	36. 122)	³ Ind	licators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo					vetland hydrology must be present,
-	Matrix (S6)		Red Parent N					nless disturbed or problematic.
	Layer (if observed)	:						
Type: No	ne							
Depth (in	ches): <u>-</u>						Hydric Soil	Present? Yes No
Remarks:							•	
Meets F	3							

Project/Site: West Trinway-Ohio Centra	al	City/County: Muskingum	Co.	Sampling Date: 3/2/2022		
Applicant/Owner: AEP		City/County: Muskingum	State: OH	Sampling Point: Upland 005		
Investigator(s): KLV, BLG						
Landform (hillslope, terrace, etc.): Flat		Local relief (concave, conve	x none). none	Slope (%). 0		
Subregion (LRR or MLRA): LRR-N				Datum: NAD83		
Soil Map Unit Name: Omu1C1: Omulga			NWI classif	ication: N/A		
Are climatic / hydrologic conditions on t	the site typical for this time of	f year? Yes 🖊 No	(If no, explain in	Remarks.)		
Are Vegetation, Soil, or	r Hydrology significa	ntly disturbed? Are "N	ormal Circumstances"	present? Yes No		
Are Vegetation, Soil, or			ded, explain any answ			
SUMMARY OF FINDINGS - A	Attach site map show	ing sampling point lo	ations, transect	s, important features, etc.		
Hydrophytic Vegetation Present?	Yes No	Is the Sampled A	roa			
Hydric Soil Present?	Yes No	— within a Wetland		No 🗸		
Wetland Hydrology Present?	Yes No	_				
Upland data for W005-PE right-of-way.	:M-CATMOD2 (PE	M) taken within mai	ntained transm	nission line		
HYDROLOGY	_					
Wetland Hydrology Indicators:		J. A	-	cators (minimum of two required)		
Primary Indicators (minimum of one is		Surface Soi	egetated Concave Surface (B8)			
	Surface Water (A1) True Aquatic Plants (B14)					
Saturation (A3)	High Water Table (A2)Saturation (A3)Hydrogen Sulfide Odor (C1)Oxidized Rhizospheres on Living Roots (C					
Water Marks (B1)		f Reduced Iron (C4)		n Water Table (C2)		
Sediment Deposits (B2)		Reduction in Tilled Soils (C6				
Drift Deposits (B3)	Thin Muck		Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Expl	ain in Remarks)	Stunted or S	Stressed Plants (D1)		
Iron Deposits (B5)				c Position (D2)		
Inundation Visible on Aerial Imag	jery (B7)		Shallow Aq			
Water-Stained Leaves (B9) Aquatic Fauna (B13)			Microtopogi ✓ FAC-Neutra	raphic Relief (D4)		
Field Observations:				# Test (D5)		
	No 🖍 Depth (inc	hes).				
	No Depth (inc					
	No Depth (inc		and Hydrology Prese	ent? Yes No		
(includes capillary fringe)		Ť	, ,,			
Describe Recorded Data (stream gau	ige, monitoring well, aerial p	notos, previous inspections),	r avallable:			
Remarks:						
Hydrology indicators are	not present					
l lydrology maleatore are	not procent.					

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 30' r)		Species?			
4 Absent				Number of Dominant Species That Are OBL, FACW, or FAC: (A	
-				That Are OBE, I ACW, OIT AC (A	١)
2				Total Number of Dominant	
3				Species Across All Strata: 5 (B	3)
4					
5				Percent of Dominant Species That Are OBL FACW or FAC: 20 (A	(D)
				That Are OBL, FACW, or FAC: 20 (A	√B)
6				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. Rubus allegheniensis	30	Yes	FACU	FAC species x 3 =	
2.				FACU species x 4 =	
				UPL species x 5 =	
3					
4				Column Totals: (A) ((B)
5				5	
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					
	30	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide suppor data in Remarks or on a separate sheet)	ting
Herb Stratum (Plot size: 5' r)					
1. Andropogon virginicus	20	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Solidago canadensis	20	Yes	FACU		
3. Dactylis glomerata	30	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology mus	st
				be present, unless disturbed or problematic.	
4. Dichanthelium clandestinum	30	Yes	FAC	Definitions of Four Vegetation Strata:	
5					
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm)	
6.					
6				more in diameter at breast height (DBH), regardless	of
7				more in diameter at breast height (DBH), regardless height.	ot ot
7				O \ /- O	
7				height.	
7				height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall.	ss
7				height. Sapling/Shrub – Woody plants, excluding vines, let than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardlet	ss
7				height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall.	ss
7				height. Sapling/Shrub – Woody plants, excluding vines, let than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardlet	ss ess
7				height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall.	ss ess
7				height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i	ss ess
7	100	= Total Cov		height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i	ss ess
7	100	= Total Cov		height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i	ss ess
7	100	= Total Cov		height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i	ss ess
7	100	= Total Cov		height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i	ss ess
7	100	= Total Cov		height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic	ss ess
7	100	= Total Cov		height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess
7	100	= Total Cov	er	height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height. Hydrophytic Vegetation	ss ess

Profile Desc	ription: (Describe	to the depth	needed to docur	nent the i	ndicator	or confirm	n the ab	sence of indicat	ors.)	
Depth	Matrix			x Features		3				
(inches)	Color (moist)	<u></u> %	Color (moist)	<u></u> %	Type ¹	Loc ²	Text	ture	Remarks	S
0-16	10YR 4/3	100					SL			
				· ——						
		- <u> </u>								
										
										
				· ——						
	oncentration, D=Dep	letion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.	² Locati	on: PL=Pore Lin		
Hydric Soil								Indicators for F		-
Histosol	, ,		Dark Surface					2 cm Muck		
	oipedon (A2)		Polyvalue Be		. , .		148)		e Redox (A16	3)
Black Hi			Thin Dark Su			47, 148)		(MLRA 1		(=40)
	en Sulfide (A4)		Loamy Gleye		- 2)				loodplain Soil	ls (F19)
	d Layers (A5) ick (A10) (LRR N)		Depleted Mar		6)			(MLRA 1	w Dark Surfa	00 (TE12)
	d Below Dark Surfac	- (Δ11)	Depleted Dai						ain in Remar	, ,
	ark Surface (A12)	C (ATT)	Redox Depre					Other (Exp	alli ili i (Ciliali	N3)
	lucky Mineral (S1) (I	LRR N.	Iron-Mangan			_RR N.				
	\ 147, 148)	,	MLRA 13		· · · · / (·	· · · · ,				
	Gleyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)		³ Indicators of I	nydrophytic v	egetation and
	Redox (S5)		Piedmont Flo				18)		Irology must I	-
Stripped	Matrix (S6)		Red Parent N	Naterial (F2	21) (MLR	A 127, 147	7)	unless distu	rbed or probl	ematic.
Restrictive I	Layer (if observed)									
Type: Nor	ne		<u></u>							
Depth (inc	ches): -		<u></u>				Hydr	ic Soil Present?	Yes	No 🗸
Remarks:										
Uvdria o	oila ara nat nr	ooont								
nyanc sa	oils are not pr	esent.								

Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co.	!	Sampling Date: 3/2/2022
Applicant/Owner: AEP	City/County: Muskingum Co.	State: OH	Sampling Point: Wetland 006
Investigator(s): KLV, BLG			
Landform (hillslope, terrace, etc.): Depression			Slope (%): 0
Subregion (LRR or MLRA): LRR-N Lat: 40.102594	Long: -82.0		
Soil Map Unit Name: WuD2: Westmoreland-Guernsey silt loams, 15	to 25 percent slopes, eroded	NWI classifica	tion: N/A
Are climatic / hydrologic conditions on the site typical for this time of			
Are Vegetation, Soil, or Hydrology signification			
Are Vegetation, Soil, or Hydrology naturall			
SUMMARY OF FINDINGS – Attach site map show			
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes No	within a Wetland?	Yes	No
Remarks:			
Wetland data for W006-PEM-CATMOD2 (P right-of-way. HYDROLOGY	EM) taken within mainta	ained transm	ission line
		Secondary Indicate	ors (minimum of two required)
Wetland Hydrology Indicators:	oly)		
Primary Indicators (minimum of one is required; check all that ap		Surface Soil C	
<u> </u>	ic Plants (B14) Sulfide Odor (C1)	Sparsely vege	etated Concave Surface (B8)
	hizospheres on Living Roots (C3)	Moss Trim Lin	
	of Reduced Iron (C4)		/ater Table (C2)
	Reduction in Tilled Soils (C6)	Crayfish Burro	
Drift Deposits (B3) Thin Muck			ible on Aerial Imagery (C9)
	lain in Remarks)	· 	essed Plants (D1)
Iron Deposits (B5)	an minonancy	Geomorphic P	· · ·
Inundation Visible on Aerial Imagery (B7)		Shallow Aquita	
Water-Stained Leaves (B9)			phic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral T	· · ·
Field Observations:			
Surface Water Present? Yes No Depth (inc	hes):		
Water Table Present? Yes No Depth (inc			
Saturation Present? Yes No Depth (inc		lydrology Present	? Yes No
(includes capillary fringe)	·		
Describe Recorded Data (stream gauge, monitoring well, aerial p N/A	hotos, previous inspections), if ava	ilable:	
Remarks:			
Nemarks.			
Hydrology indicators are A2, A3, C3, D2, D5	5.		

Sampling Point: Wetland 006

Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 4
That Are OBL, FACW, or FAC: 4 (A) Total Number of Dominant Species Across All Strata: 4 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Total Number of Dominant Species Across All Strata: 4 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B) Prevalence Index worksheet:
Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Total % Cover of: Multiply by: OBL species FACW species FACU species Y 4 = UPL species Column Totals: Column Totals: Hydrophytic Vegetation Indicators: Y 1 - Rapid Test for Hydrophytic Vegetation Y 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B) Prevalence Index worksheet:
That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of:
That Are OBL, FACW, or FAC: 100 (A/B) Prevalence Index worksheet:
Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = Hydrophytic Vegetation x 2 = Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = Hydrophytic Vegetation
OBL species
FACW species x 2 =
FACW species x 2 =
FACU species x 4 =
FACU species x 4 =
UPL species x 5 =
Column Totals: (A) (B) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
Hydrophytic Vegetation Indicators:
Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2 - Dominative Test is >30% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
data in Remarks or on a separate sheet)
Problematic Hydrophytic Vogotation ¹ (Explain)
Problematic Hydrophytic Vegetation (Evplain)
BL — Problematic Hydrophytic vegetation (Explain)
ACW
ACW Indicators of hydric soil and wetland hydrology must
be present, unless disturbed or problematic.
Definitions of Four Vegetation Strata:
Trace Manda plants evaluating vince 2 in (7.0 and) an
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
height.
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
than 3 iii. DBH and greater than 3.20 it (1 iii) taii.
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 Present? Yes No

SOIL Sampling Point: Wetland 006

Profile Desc	ription: (Describe	to the de	pth needed to docu	ment the	indicator	or confirm	n the absence	of indicators.)
Depth	Matrix			ox Feature	1	. 2	- .	
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks
0-16	10YR 4/1	75	10YR 4/4	25	<u>C</u>	M/PL	SL	
			-		-			
		- ——				-		
			_		-			
					-			
1- 0.0							21 11 12	
		letion, RN	I=Reduced Matrix, M	S=Maske	d Sand Gr	ains.		=Pore Lining, M=Matrix.
Hydric Soil				(O=)				ators for Problematic Hydric Soils ³ :
Histosol			Dark Surface		(00) (W D 4 4 4 =		cm Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue Be				, 148) C	oast Prairie Redox (A16)
	stic (A3)		Thin Dark Si Loamy Gley			147, 148)	D	(MLRA 147, 148) iedmont Floodplain Soils (F19)
	n Sulfide (A4) d Layers (A5)		Loamy Gley		(FZ)		Pi	(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark		F6)		V	ery Shallow Dark Surface (TF12)
	d Below Dark Surfac	e (A11)	Depleted Da					Other (Explain in Remarks)
	ark Surface (A12)	0 (, ,	Redox Depr				~	carer (Explain in Normanie)
	lucky Mineral (S1) (I	RR N.	Iron-Mangar			LRR N.		
	A 147, 148)	,	MLRA 13		,	,		
	Gleyed Matrix (S4)		Umbric Surfa		(MLRA 1	36, 122)	³ Indi	icators of hydrophytic vegetation and
	Redox (S5)		Piedmont Fl					etland hydrology must be present,
Stripped	Matrix (S6)		Red Parent I	Material (F	21) (MLR	A 127, 14	7) ur	nless disturbed or problematic.
Restrictive I	_ayer (if observed):							
Type: Nor	ne							
Depth (in							Hydric Soil	Present? Yes V No No
Remarks:							,	
rtomanto.								
NA	,							
Meets F3	3							

Project/Site: West Trinway-Ohio Central	City	/County: Muskingum Co.		Sampling Date: 3/2/2022		
Applicant/Owner: AEP	City	,	State: OH	Sampling Point: Upland 006		
Investigator(s): KLV, BLG Section, Township, Range: Cass Twp.						
Landform (hillslope, terrace, etc.): Flat				Slope (%): 0		
Subregion (LRR or MLRA): LRR-N	Lat. 40.102771	Long: -82.0	33948	NAD83		
Soil Map Unit Name: WuD2: Westmorelan	d-Guernsey silt loams, 15 to 25 pe	ercent slopes, eroded	NWI classific	ation: N/A		
Are climatic / hydrologic conditions on the	site typical for this time of year?	Yes No (If no, explain in R	emarks.)		
Are Vegetation, Soil, or Hy	drology significantly dist	urbed? Are "Normal	Circumstances" p	resent? Yes 🖊 No		
Are Vegetation, Soil, or Hy	drology naturally proble	matic? (If needed, e.	xplain any answe	rs in Remarks.)		
SUMMARY OF FINDINGS - Atta	ach site map showing sa	impling point locatio	ns, transects	, important features, etc.		
Hydrophytic Vegetation Present?	Yes No	In the Committee of Ameri				
Hydric Soil Present?	Yes No	Is the Sampled Area within a Wetland?	Yes	No 🗸		
Wetland Hydrology Present?	Yes No	Within a Worland	.00			
Remarks:						
Upland data for W006-PEM right-of-way. HYDROLOGY		Non Willim Maintai	ned transmi			
Wetland Hydrology Indicators:			Secondary Indica	tors (minimum of two required)		
Primary Indicators (minimum of one is re	equired; check all that apply)		Surface Soil			
Surface Water (A1)	s (B14)	Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2)	Odor (C1)	Drainage Patterns (B10)				
Saturation (A3)		eres on Living Roots (C3)				
Water Marks (B1)	Presence of Reduc		Dry-Season Water Table (C2)			
Sediment Deposits (B2)	Recent Iron Reduc					
Drift Deposits (B3)	Thin Muck Surface		·	sible on Aerial Imagery (C9)		
Algal Mat or Crust (B4)	Other (Explain in R	emarks)		tressed Plants (D1)		
Iron Deposits (B5)	, (D7)		Geomorphic Position (D2) Shallow Aquitard (D3)			
 Inundation Visible on Aerial Imagery Water-Stained Leaves (B9)	(67)			phic Relief (D4)		
Aquatic Fauna (B13)			FAC-Neutral			
Field Observations:				(,		
	No Depth (inches):					
	No Depth (inches):					
	No Pepth (inches):		ydrology Presen	t? Yes No		
(includes capillary fringe) Describe Recorded Data (stream gauge,	monitoring well periol photon r	various inspections) if avai	lable			
N/A	, monitoring well, aerial priotos, p	revious irispections), ii avai	liable.			
Remarks:						
remarks.						
Hydrology indicators are no	nt nracant					
l lydrology maleators are no	n prosont.					

201 -	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?			
Ahsent				Number of Dominant Species That Are OBL. FACW. or FAC: (//	۸۱
				That Are OBL, FACW, or FAC:	A)
2				Total Number of Dominant	
3					B)
				(,
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0 (A	A/B)
6					
7				Prevalence Index worksheet:	
				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 =	
				FACU species x 4 =	
2					
3				UPL species x 5 =	
4				Column Totals: (A)	(B)
5				Prevalence Index = B/A =	
6				Hydrophytic Vegetation Indicators:	
7					
				1 - Rapid Test for Hydrophytic Vegetation	
8				2 - Dominance Test is >50%	
9				3 - Prevalence Index is ≤3.0 ¹	
10.					
	0	= Total Cov	or	4 - Morphological Adaptations ¹ (Provide suppo	rting
Herb Stratum (Plot size: 5' r)		- Total Cov	CI	data in Remarks or on a separate sheet)	
1. Poa pratensis	40	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
	- —				
2. Dactylis glomerata	20	Yes	FACU	1	
3. Plantago lanceotata	20	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology mu	st
				be present, unless disturbed or problematic.	
4				Definitions of Four Vegetation Strata:	
5					
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	
				more in diameter at breast height (DBH), regardles	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	200
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	;55
				than o in. BBH and greater than 0.20 it (1 iii) tail.	
10				Herb – All herbaceous (non-woody) plants, regardle	ess
				Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall.	ess
10				Herb – All herbaceous (non-woody) plants, regardled of size, and woody plants less than 3.28 ft tall.	ess
10 11	80	- Total Cov			
10	80	= Total Cov	rer	of size, and woody plants less than 3.28 ft tall.	
10	80	= Total Cov	er	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	
10			rer	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	
10			ver	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	
10			rer	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	
10			er	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	
10			eer	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height.	
10			eer	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic	
10			eer	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height.	
10				of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10				of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	

Depth	Matrix	o to the depth	needed to document the indicator or confirm Redox Features	ii iiic abs	ende di maidators.
(inches)	Color (moist)	%	Color (moist) % Type ¹ Loc ²	Textu	re Remarks
0-16	10YR 4/3	100		SL	
	-			· -	
				· <u></u>	
		- DM F	De doca d Matrice MO. Marabad Occident	21 4:	D. Dans Links M. Mateix
lydric Soil I		epietion, Rivi=F	Reduced Matrix, MS=Masked Sand Grains.		n: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
-			Dark Curfoss (C7)	'	
Histosol	oipedon (A2)		Dark Surface (S7)Polyvalue Below Surface (S8) (MLRA 147	1/8)	2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16)
Black Hi			Thin Dark Surface (S9) (MLRA 147, 148)	, 140)	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Matrix (F3)	-	(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark Surface (F6)	. <u>-</u>	Very Shallow Dark Surface (TF12)
Depleted	Below Dark Surfa	ice (A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depressions (F8)		
	lucky Mineral (S1)	(LRR N,	Iron-Manganese Masses (F12) (LRR N,		
	A 147, 148)		MLRA 136)		2
	sleyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 122)		³ Indicators of hydrophytic vegetation and
-	ledox (S5)		Piedmont Floodplain Soils (F19) (MLRA 1		wetland hydrology must be present,
	Matrix (S6) _ayer (if observed	N-	Red Parent Material (F21) (MLRA 127, 14	1	unless disturbed or problematic.
		ı):			
Type: Nor			_		
Depth (inc	ches): -		<u> </u>	Hydric	Soil Present? Yes No
Remarks:					
Hydric so	oils are not p	resent.			
•	·				

Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co.		Sampling Date: 3/2/2022
Applicant/Owner: AEP	c.t.y, c.coy		Sampling Point: Wetland 007
	Section, Township, Range:		<u> </u>
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, convex, n	one): concave	Slope (%): 0
Landform (hillslope, terrace, etc.): Depression Subregion (LRR or MLRA): LRR-N Lat: 40	.103177 Long:8.	2.034498	Datum: NAD83
Soil Map Unit Name: AfC2: Alford silt loam, 8 to 15 percent			
Are climatic / hydrologic conditions on the site typical for th			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology		, explain any answer	
SUMMARY OF FINDINGS – Attach site map	snowing sampling point locat	ions, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes I		l ,	
Hydric Soil Present? Yes I	No within a Wetland?		No
Wetland Hydrology Present? Yes	No		
Remarks:			
Wetland data for W007-PEM-CAT1 (P	EM) taken within maintaine	d transmissior	n line right-of-way.
HYDROLOGY			
Wetland Hydrology Indicators:	that apply)	-	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all		Surface Soil (etated Concave Surface (B8)
	e Aquatic Plants (B14) drogen Sulfide Odor (C1)	Drainage Pati	
	idized Rhizospheres on Living Roots (C3		
	esence of Reduced Iron (C4)		Vater Table (C2)
	cent Iron Reduction in Tilled Soils (C6)	Crayfish Burro	
	n Muck Surface (C7)		sible on Aerial Imagery (C9)
	ner (Explain in Remarks)		ressed Plants (D1)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)		Geomorphic FShallow Aquit	
Water-Stained Leaves (B9)			phic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral	
Field Observations:			
Surface Water Present? Yes No De			
Water Table Present? Yes No De			
Saturation Present? Yes No De	epth (inches): 0 Wetland	Hydrology Present	t? Yes No No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspections), if a	vailable:	
N/A			
Remarks:			
Hydrology indicators are A2, A3, C3, E	02, D5.		

Sampling Point: Wetland 007

<u>Tree Stratum</u> (Plot size: 30' r) 1. Absent	Absolute	Dominant	Indicator	Dominance Test worksheet:
1. Absent		Species?		Number of Dominant Species
				That Are OBL, FACW, or FAC: $\frac{1}{2}$ (A)
				<u></u>
2.				Total Number of Dominant
3				Species Across All Strata: 1 (B)
4				Dercent of Deminent Charles
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
6.				(70b)
				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				Drovolongo Indox = P/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
_	0	= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)				
1. Phalaris arundinacea	90	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Mimulus alatus	10	No	OBL	
·				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7.				more in diameter at breast height (DBH), regardless of height.
				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 harbassaus (non woody) plants, regardless
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				of size, and woody plants less than 5.25 it tail.
· <u> </u>	400	= Total Cov	or	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)		- 10tal C01	EI	height.
1. Absent				
·				
2.				
·				
2				
2				Hydrophytic
2				Vegetation
2				1

SOIL Sampling Point: Wetland 007

Profile Desc	ription: (Describe	to the de	pth needed to docu	ment the	indicator	or confirm	n the absenc	e of indicator	rs.)	
Depth	Matrix		Redo	x Feature	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	_	Remarks	
0-06	10YR 4/1	75	10YR 4/4	25	С	M/PL	SL			
		-								<u> </u>
		-				· ——		-		-
			-				1	_		
								<u> </u>		
			-				1	_		
		-				· ——	r	_		
			-				1	_		
¹ Type: C=Co	oncentration D=Dep	letion RM	1=Reduced Matrix, M	S=Maske	d Sand Gi	rains.	² Location: F	PL=Pore Lining	a. M=Matrix.	
Hydric Soil I			, , , , , , , , , , , , , , , , , , , ,					cators for Pro		dric Soils³:
Histosol			Dark Surface	e (S7)				2 cm Muck (A	_	
· 	oipedon (A2)		Polyvalue Be		ace (S8) (I	MLRA 147		Coast Prairie		,
Black His			Thin Dark St				, ,	(MLRA 147		
	n Sulfide (A4)		Loamy Gley			,,		Piedmont Floo		F19)
	Layers (A5)		Depleted Ma		()			(MLRA 136		,
	ick (A10) (LRR N)		Redox Dark		F6)			Very Shallow		(TF12)
	Below Dark Surfac	e (A11)	Depleted Da	,	,			Other (Explain		
	ark Surface (A12)	,	Redox Depre					` '	,	
	lucky Mineral (S1) (I	RR N,	Iron-Mangar			(LRR N,				
	\ 147, 148)		MLRA 13		` ,	•				
	leyed Matrix (S4)		Umbric Surfa		(MLRA 1	36, 122)	³ Ir	ndicators of hy	drophytic veg	etation and
	ledox (S5)		Piedmont Flo					wetland hydro		
-	Matrix (S6)		Red Parent I					unless disturb		
	_ayer (if observed):								<u> </u>	
Type: Nor	ne									
Depth (inc							Hydric So	il Present?	Yes	No
Remarks:							,			
N4 4 - E0	,									
Meets F3	3									

Project/Site: West Trinway-Ohio Central	_ City/County: Muskingum Co.	Sampling Date: 3/2/2022				
Applicant/Owner: AEP	State: OH	Sampling Point: Upland 007				
	Section, Township, Range: Cass Twp.					
	Local relief (concave, convex, none): none	Slope (%): 0				
	(LRR or MLRA): LRR-N Lat: 40.103328 Long: -82.034529					
Soil Map Unit Name: AfC2: Alford silt loam, 8 to 15 percent slopes, e	roded NWI clas	sification: N/A				
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes No (If no, explain	n Remarks.)				
Are Vegetation, Soil, or Hydrology significar	tly disturbed? Are "Normal Circumstance	es" present? Yes 🖊 No				
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed, explain any ans	swers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point locations, transe	cts, 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				
Upland data for W007-PEM-CAT1 (PEM) tak	en within maintained transmissi	on line right-of-way.				
Wetland Hydrology Indicators:	Secondary In	dicators (minimum of two required)				
Primary Indicators (minimum of one is required; check all that appl	<u> </u>	Soil Cracks (B6)				
	<u> </u>	Vegetated Concave Surface (B8)				
		Patterns (B10)				
		m Lines (B16)				
		son Water Table (C2)				
		Burrows (C8)				
Drift Deposits (B3) Thin Muck S		n Visible on Aerial Imagery (C9)				
		or Stressed Plants (D1)				
Iron Deposits (B5)		phic Position (D2)				
Inundation Visible on Aerial Imagery (B7)		Aquitard (D3)				
Water-Stained Leaves (B9)		ographic Relief (D4)				
Aquatic Fauna (B13)	·	utral Test (D5)				
Field Observations:						
Surface Water Present? Yes No Depth (inch	es):					
Water Table Present? Yes No Depth (inch	es).					
Saturation Present? Yes No V Depth (inch		esent? Yes No				
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial ph $\ensuremath{N/A}$	otos, previous inspections), if available:					
Remarks:						
Hydrology indicators are not present.						
l sy an energy mianeatters and most processing						

201	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?			
Ahsent				Number of Dominant Species That Are OBL. FACW. or FAC: (A	۸ ۱
	-			That Are OBL, FACW, or FAC:	٦)
2				Total Number of Dominant	
3				Species Across All Strata: 3 (E	B)
				(,
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0 (A	A/B)
6					
7.				Prevalence Index worksheet:	
				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 =	
				FACU species x 4 =	
2					
3				UPL species x 5 =	
4				Column Totals: (A)	(B)
5				Prevalence Index = B/A =	
6				Hydrophytic Vegetation Indicators:	
7					
				1 - Rapid Test for Hydrophytic Vegetation	
8				2 - Dominance Test is >50%	
9				3 - Prevalence Index is ≤3.0 ¹	
10.					
	0	= Total Cov	or	4 - Morphological Adaptations ¹ (Provide suppor	rting
Herb Stratum (Plot size: 5' r)		- Total Cov	CI	data in Remarks or on a separate sheet)	
1. Poa pratensis	40	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Dactylis glomerata	20	Yes	FACU	1	
3. Plantago lanceotata	20	No	FACU	¹ Indicators of hydric soil and wetland hydrology mus	st
				be present, unless disturbed or problematic.	
4				Definitions of Four Vegetation Strata:	
5					
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	
				more in diameter at breast height (DBH), regardless	s of
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	000
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	:55
	-			than o m. BBit and greater than 0.20 it (1 m) tail.	
10				Herb – All herbaceous (non-woody) plants, regardle	ess
				Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall.	ess
10				Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall.	ess
10 11	80	= Total Cov			
10	80	= Total Cov	rer	of size, and woody plants less than 3.28 ft tall.	
10	80	= Total Cov	/er	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	
10			rer	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	
10			rer	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	
10			ver	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	
10			eer	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft	
10			er	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height.	
10			rer	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic	
10			rer	of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height.	
10				of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10				of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	
10	0			of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. Hydrophytic Vegetation	

Profile Desc	ription: (Describe	to the depth	needed to docun	ent the ir	ndicator	or confirm	n the ab	sence of indicato	rs.)	
Depth	Matrix		Redox	K Features	i					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Text	ture	Remarks	
0-16	10YR 4/3	100					SL			
										
							-			
										
¹Type: C=Cc	ncentration, D=Dep	letion RM=Re	educed Matrix MS	=Masked	Sand Gra	ins	² Locati	on: PL=Pore Linin	n M=Matrix	
Hydric Soil I		nedon, rawi–rac	ducca Matrix, Mc	- Waskea	Oaria Ore		Locati	Indicators for Pr		dric Soils ³ :
Histosol			Dark Surface	(\$7)					\10) (MLRA 1 4	
	ipedon (A2)		Polyvalue Be		م (S8) (M	I D A 1/17	1/8\	Coast Prairie		*'')
Black His			Tolyvalde Be Thin Dark Su		. , .		140)	(MLRA 14		
	n Sulfide (A4)		Loamy Gleye			-7, 1-0,			odplain Soils ((F19)
	Layers (A5)		Depleted Mat		_,			(MLRA 13		,
	ck (A10) (LRR N)		Redox Dark S		6)				Dark Surface	(TF12)
	Below Dark Surfac	e (A11)	Depleted Dar						in in Remarks	
	rk Surface (A12)	,	Redox Depre							,
	ucky Mineral (S1) (I	LRR N,	Iron-Mangane			RR N,				
	147, 148)	,	MLRA 130		, , ,	•				
	leyed Matrix (S4)		Umbric Surfa	-	MLRA 13	6, 122)		3Indicators of hy	drophytic veg	etation and
	edox (S5)		Piedmont Flo				18)		ology must be	
-	Matrix (S6)		Red Parent M						ped or problem	-
Restrictive L	ayer (if observed)	•								
Type: Non	е		<u></u>							
Depth (inc	:hes):						Hydr	ic Soil Present?	Yes	No
Remarks:										
م ماها م	سم عمم معد مان									
nyanc sc	oils are not pr	esent.								

Project/Site: West Trinway-Ohio Central		City/County: Muskingum Co.		Sampling Date: 3/3/2022			
Applicant/Owner: AEP		City/County: Muskingum Co.	State: OH	Sampling Point: Wetland 008			
		Section, Township, Range:					
Landform (hillslope, terrace, etc.): Depr		Local relief (concave, convex, n		Slope (%): 0			
Subregion (LRR or MLRA): LRR-N		Datum: NAD83					
Soil Map Unit Name: WuD2: Westmorel	and-Guernsey silt loam, 15	to 25 percent slopes, eroded	NWI classific	cation: N/A			
Are climatic / hydrologic conditions on the	ne site typical for this time	of year? Yes 🖊 No	(If no, explain in F	Remarks.)			
Are Vegetation, Soil, or	Hydrology signific	antly disturbed? Are "Norm	al Circumstances"	present? Yes 🖊 No			
Are Vegetation, Soil, or	Hydrology natural	ly problematic? (If needed	, explain any answe	ers in Remarks.)			
SUMMARY OF FINDINGS - A	ttach site map show	ving sampling point locat	ions, transects	s, important features, etc.			
Hydrophytic Vegetation Present?	Yes No						
Hydric Soil Present?	Yes V No		Yes_	No			
Wetland Hydrology Present?	Yes No						
Wetland data for W008-Pl	EM-CATMOD2 (F	PEM) taken within mair	tained transr	mission line			
,							
HYDROLOGY			Cocondany India	atora (minimum of two required)			
Wetland Hydrology Indicators:	required; check all that ar	unly)	-	ators (minimum of two required)			
Primary Indicators (minimum of one is Surface Water (A1)		tic Plants (B14)	Surface Soil	getated Concave Surface (B8)			
High Water Table (A2)		Sulfide Odor (C1)	Sparsely ve				
Saturation (A3)		Rhizospheres on Living Roots (C3					
Water Marks (B1)		of Reduced Iron (C4)		Water Table (C2)			
Sediment Deposits (B2)		n Reduction in Tilled Soils (C6)	Crayfish Bur				
Drift Deposits (B3)	Thin Muck		Saturation V	isible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Exp	olain in Remarks)		Stressed Plants (D1)			
Iron Deposits (B5)				Position (D2)			
Inundation Visible on Aerial Image	ery (B7)		Shallow Aquitard (D3)				
Water-Stained Leaves (B9)			Microtopographic Relief (D4) FAC-Neutral Test (D5)				
Aquatic Fauna (B13)			FAC-Neutra	T Test (D5)			
Field Observations: Surface Water Present? Yes	No 🖍 Depth (in	ches):					
	No Depth (in						
	No Depth (in		Hydrology Prese	nt? Yes No			
(includes capillary fringe)		,					
Describe Recorded Data (stream gaug	ge, monitoring well, aerial	ohotos, previous inspections), if a	vailable:				
Remarks:							
Hydrology indicators are 0	C3. D2. D5.						
	30, 22, 20.						

Sampling Point: Wetland 008

	Absolute	Dominant	Indicator	Dominance Test worksheet:	\neg
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species	
1. Absent				That Are OBL, FACW, or FAC: $\frac{4}{}$ (A)	
2.				()	
				Total Number of Dominant	
3.				Species Across All Strata: 4 (B)	
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/E)
6					
7				Prevalence Index worksheet:	
8.				Total % Cover of: Multiply by:	
·		= Total Cov	·or	OBL species x 1 =	
Sapling/Shrub Stratum (Plot size: 15' r)		- Total Cov	'EI	FACW species x 2 =	
. Absent				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 =	
				Hydrophytic Vegetation Indicators:	Ī
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 supportin	_
_	0	= Total Cov	er er	data in Remarks or on a separate sheet)	a
Herb Stratum (Plot size: 5' r)				Problematic Hydrophytic Vegetation¹ (Explain)	
1. Phalaris arundinacea	30	Yes	FACW	Froblematic Hydrophytic Vegetation (Explain)	
2. Acorus calamus	30	Yes	OBL		
3. Carex lurida	10	No	OBL	¹ Indicators of hydric soil and wetland hydrology must	
4 Packera aurea	15	Yes	FACW	be present, unless disturbed or problematic.	
5. Onoclea sensibilis	15	Yes	FACW	Definitions of Four Vegetation Strata:	
-			TAOW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) of	r
6				more in diameter at breast height (DBH), regardless o	
7				height.	
8					
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. bbit and greater than 5.20 ft (1 m) tail.	
				Herb – All herbaceous (non-woody) plants, regardless	
11.				of size, and woody plants less than 3.28 ft tall.	
12				Woody vine – All woody vines greater than 3.28 ft in	
W 1 1/2 O1 1 (D1 1 : 30' f		= Total Cov	er er	height.	
Woody Vine Stratum (Plot size: 30' r)				g	
1. Absent					
2					
3					
4.					
				Hydrophytic	
5				Vegetation Present? Yes No	
6	_			Present? Yes No	
		= Total Cov	er er		
Remarks: (Include photo numbers here or on a separate	sheet.)			1	
Wetland year is present. December the re-	ملم ما م	ما ما ما ما			
Wetland veg is present. Passes the rap	ola ana d	aominar	ice test	S.	

SOIL Sampling Point: Wetland 008

Profile Desc	ription: (Describe	to the dep	oth needed to docu	ment the	indicator	or confirm	n the absence	of indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Remarks
0-16	10YR 4/1	75	7.5YR 4/4	25	С	M/PL	SL	
				_	-		-	
			-		-	. ——	-	
					- (
						· ——		
					_			
¹ Type: C=Ce	oncentration, D=Dep	letion, RM	=Reduced Matrix, M	S=Maske	d Sand Gi	ains.	² Location: PL	=Pore Lining, M=Matrix.
Hydric Soil	Indicators:							tors for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)			2	cm Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue Be	elow Surfa	ace (S8) (I	VILRA 147	, 148) C	oast Prairie Redox (A16)
	stic (A3)		Thin Dark S			147, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gley		(F2)		Pi	iedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma					(MLRA 136, 147)
	ick (A10) (LRR N)	- (044)	Redox Dark					(ery Shallow Dark Surface (TF12)
	d Below Dark Surfac ark Surface (A12)	e (ATT)	Depleted Da Redox Depr					Other (Explain in Remarks)
	fucky Mineral (S1) (I	RRN	Iron-Mangar			(I RR N		
	147, 148)	-1414 14,	MLRA 13)CO (1 12)	(=:::::::::::::::::::::::::::::::::::::		
	Gleyed Matrix (S4)		Umbric Surfa		(MLRA 1	36, 122)	³ Indi	cators of hydrophytic vegetation and
	Redox (S5)		Piedmont Fl					etland hydrology must be present,
-	Matrix (S6)		Red Parent I					nless disturbed or problematic.
Restrictive I	Layer (if observed):							
Type: Nor	ne							
Depth (in	ches): <u>-</u>						Hydric Soil	Present? Yes No
Remarks:							l.	
Meets F3	3							
IVICCIS I C	,							

Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co.	Sampling Date: 3/3/2022 State: OH Sampling Point: Upland 008
Applicant/Owner: AEP		State: OH Sampling Point: Upland 008
	Section, Township, Range: Ca	
		e): none Slope (%): 0
Subregion (LRR or MLRA): LRR-N Lat: 40.1049	32 Long: -82.0	3652 Datum: NAD83
Subregion (LRR or MLRA): LRR-N Lat: 40.10490 Soil Map Unit Name: WuD2: Westmoreland-Guernsey silt loams,	15 to 25 percent slopes, eroded	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time		
Are Vegetation, Soil, or Hydrology signifi	cantly disturbed? Are "Normal	Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology natura		xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sho		ns, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks:	within a Wetland?	Yes No
Upland data for W008-PEM-CATMOD2 (Pright-of-way. HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that a		Surface Soil Cracks (B6)
		Sparsely Vegetated Concave Surface (B8)
	n Sulfide Odor (C1) Rhizospheres on Living Roots (C3)	Drainage Patterns (B10) Moss Trim Lines (B16)
	e of Reduced Iron (C4)	Dry-Season Water Table (C2)
	on Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
	k Surface (C7)	Saturation Visible on Aerial Imagery (C9)
<u> </u>	kplain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	·	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)
Water-Stained Leaves (B9)		Microtopographic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No Depth (i		
Water Table Present? Yes No Depth (i		✓
Saturation Present? Yes No Depth (i (includes capillary fringe)	nches): Wetland H	ydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aeria N/A	photos, previous inspections), if avail	able:
Remarks:		
Hydrology indicators are not present.		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		
4 Absent	,			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
·				That Are OBL, FACW, or FAC: (A)
2	- ——			Total Number of Dominant
3				Species Across All Strata: 4 (B)
4				
				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: $\frac{25}{}$ (A/B)
6	- ——			Prevalence Index worksheet:
7				
8				Total % Cover of: Multiply by:
o:	0			OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)	-	= Total Cov	er	FACW species x 2 =
Rubus allegheniensis	30	Yes	FACU	
I	- — —			FAC species x 3 =
2	- 			FACU species x 4 =
3				UPL species x 5 =
				Column Totals: (A) (B)
4				Column rotals. (A)
5				Prevalence Index = B/A =
6				
7				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				
10.				3 - Prevalence Index is ≤3.0 ¹
	30	= 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)
Dactylis glomerata	30	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
- I - <u></u>				
2. Dichanthelium clandestinum	30	Yes	FAC	The disease of booking and conditioned booking as a second
3. Glechoma hederacea	20	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
·				
4				Definitions of Four Vegetation Strata:
5				Tree Mandy plants evalvation visco 2 in (7.0 cm) or
6				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 of size, and woody plants less than 3.28 ft tall.
				of size, and woody plants less than 3.26 it tall.
12				Woody vine – All woody vines greater than 3.28 ft in
30'1	80	= Total Cov	er	height.
Woody Vine Stratum (Plot size: 30' r)				
1. Absent				
2				
3				
4				Hydrophytic
5				Vegetation
6				Present? Yes No
o:				
		= Total Cov	er	
Remarks: (Include photo numbers here or on a separate s				1
	sheet.)			
Wotland you is not proceed	sheet.)			
Wetland veg is not present.	sheet.)			
Wetland veg is not present.	sheet.)			
Wetland veg is not present.	sheet.)			
Wetland veg is not present.	sheet.)			
Wetland veg is not present.	sheet.)			
Wetland veg is not present.	sheet.)			

Profile Desc	ription: (Describe	to the depth n	eeded to docun	ent the ir	ndicator	or confirm	the ab	sence of indicate	ors.)	
Depth	Matrix		Redox	c Features	3					
(inches)	Color (moist)	% (Color (moist)	<u>%</u>	Type ¹	Loc ²	Text	ture	Remarks	
0-16	10YR 3/3	100					SL			
		- <u> </u>								
		- <u> </u>								
										
¹Type: C=Cc	ncentration, D=Dep	letion RM=Red	duced Matrix MS	=Masked	Sand Gra	ins	² Locati	on: PL=Pore Linir	ng M=Matrix	_
Hydric Soil I		10001, 1101 1101	adood Matrix, Mc	macroa	Curia Cre		Locati	Indicators for Pr		dric Soils ³ :
Histosol			Dark Surface	(S7)					A10) (MLRA 1	
	ipedon (A2)		Polyvalue Be		e (S8) (M	I RΔ 147	148)		Redox (A16)	<i>-</i>
Black His		_	Thin Dark Su		. , .		140)	(MLRA 14		
	n Sulfide (A4)	_	Loamy Gleye			,,			oodplain Soils	(F19)
	Layers (A5)	_	Depleted Mat		_,			(MLRA 13		(* **)
	ck (A10) (LRR N)		Redox Dark S		6)				v Dark Surface	e (TF12)
	Below Dark Surfac	e (A11)	Depleted Dar					-	in in Remarks	
Thick Da	rk Surface (A12)	_	Redox Depre	ssions (F8	3)					
Sandy M	ucky Mineral (S1) (I	LRR N, _	Iron-Mangane	ese Masse	es (F12) (I	_RR N,				
MLRA	147, 148)		MLRA 136	5)						
	leyed Matrix (S4)	_	Umbric Surfa					³ Indicators of h	ydrophytic veg	etation and
Sandy R	edox (S5)	_	Piedmont Flo	odplain So	oils (F19)	(MLRA 14	l8)	wetland hydr	ology must be	present,
	Matrix (S6)	_	Red Parent M	laterial (F2	21) (MLR /	A 127, 147	7)	unless distur	bed or problen	natic.
	ayer (if observed)	:								
Type: Non	e		_							
Depth (inc	:hes):		_				Hydr	ic Soil Present?	Yes	No 🔽
Remarks:										
Hydric so	oils are not pr	ocont								
riyunc sc	nis are not pr	eseni.								

Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co. Sampling Date: 3/3/2022
Applicant/Owner: AEP	State: OH Sampling Point: Wetland 009
	Section, Township, Range: Cass Twp.
Landform (hillslope, terrace, etc.): Depression	ocal relief (concave, convex, none); concave Slope (%); 0
Subregion (LRR or MLRA). LRR-N Lat. 40.111125	Long: -82.042903 Datum: NAD83
Soil Map Unit Name: WhC2: Wellston silt loam, 8 to 15 percent slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of	•
	ly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally p	
	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	- within a Wetland? Yes No
Wetland data for W009-PEM-CAT2 (PEM) ta	ken within maintained transmission line right-of-way.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	· · · · · · · · · · · · · · · · · · ·
Surface Water (A1)	
	Ifide Odor (C1) Drainage Patterns (B10) zospheres on Living Roots (C3) Moss Trim Lines (B16)
	Reduced Iron (C4) Dry-Season Water Table (C2)
	Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck St	
Algal Mat or Crust (B4) Other (Explain	n in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inche Water Table Present? Yes No Depth (inche Present)	
Saturation Present? Yes No Depth (inche	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
N/A Remarks:	
Remarks.	
Hydrology indicators are A2, A3, C3, D2, D5.	

Sampling Point: Wetland 009

	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: $\frac{4}{}$ (A)	,
2.					
				Total Number of Dominant	
3				Species Across All Strata: 4 (B)	
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100 (A/	B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
	•	= 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 =	
3.				UPL species x 5 =	
					١,
4				Column Totals: (A) (E	"
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 ≤3.0¹	
10					
	0	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporti data in Remarks or on a separate sheet)	ng
Herb Stratum (Plot size: 5' r)				Problematic Hydrophytic Vegetation¹ (Explain)	
1. Phalaris arundinacea	30	Yes	FACW	Problematic Hydrophytic Vegetation (Explain)	
2. Scirpus cyperinus	20	Yes	FACW	1	
3. Persicaria sagittata	30	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
4. Onoclea sensibilis	20	Yes	FACW		
5				Definitions of Four Vegetation Strata:	
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm)	or
6				more in diameter at breast height (DBH), regardless	
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines, less	s
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Herb All berbassays (non woody) plants, regardless	
11. <u> </u>				Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.	is
12				or size, and treedy plante less than elze it am	
	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	
5.				Vegetation Vac	
6				Present? Yes No No	
		= Total Cov	er		
Remarks: (Include photo numbers here or on a separate	sheet.)			•	
Watland was is present. Decease the re-	oid and d	dominar	oo toot		
Wetland veg is present. Passes the rap	ola ana (aominar	ice test	S.	

Sampling Point: Wetland 009

Profile Desc	ription: (Describe	to the de	pth needed to docur	nent the	indicator	or confirn	n the absence	of indicators.)
Depth	Matrix		Redo	x Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-8	10YR 4/1	90	10YR 4/6	10	С	M	SL	
8-16	10YR6/1	75	10YR 5/6	25	С	M/PL	clay loam	_
	-	-	-	· ——	_			
				· ——				
	-		-					
		•				· ——		
				· ——				
					_			
1- 0.0							2 5.	
		letion, RN	1=Reduced Matrix, MS	S=Maske	ed Sand Gr	ains.		=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ :
Hydric Soil I			5 . 6 .	(O=)				-
Histosol			Dark Surface		(00) (DA 447		cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be Thin Dark Su				, 148) C	oast Prairie Redox (A16)
Black His	n Sulfide (A4)		Loamy Gleye		, .	147, 140)	Di	(MLRA 147, 148) iedmont Floodplain Soils (F19)
	l Layers (A5)		Loanly Gleye		(1 2)			(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark		F6)		V	'ery Shallow Dark Surface (TF12)
	Below Dark Surfac	e (A11)	Depleted Dai					Other (Explain in Remarks)
	ark Surface (A12)	- ()	Redox Depre					(=
	lucky Mineral (S1) (L	RR N,	Iron-Mangan			LRR N,		
MLRA	A 147, 148)		MLRA 13					
Sandy G	lleyed Matrix (S4)		Umbric Surfa	ce (F13)	(MLRA 1	36, 122)	³ Indi	icators of hydrophytic vegetation and
Sandy R	ledox (S5)		Piedmont Flo	odplain	Soils (F19)	(MLRA 14	48) w	etland hydrology must be present,
	Matrix (S6)		Red Parent N	/laterial (F21) (MLR	A 127, 147	7) ur	nless disturbed or problematic.
	_ayer (if observed):							
Type: Nor	ne							
Depth (inc	ches):						Hydric Soil	Present? Yes No
Remarks:								
Meets F3	3							
Wiooto i c	•							

Project/Site: West Trinway-Ohio Central City/County:	Muskingum Co. Sampling Date: 3/3/2022
Applicant/Owner: AEP	Muskingum Co. Sampling Date: 3/3/2022 State: OH Sampling Point: Upland 009
Investigator(s): KLV, BLG Section, Tow	
Landform (hillslope, terrace, etc.): Flat Local relief (cone	cave convex none): none Slope (%): 0
Subregion (LRR or MLRA): LRR-N Lat: 40.111002	
Soil Map Unit Name: WhC2: Wellston silt loam, 8 to 15 percent slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	
Are Vegetation, Soil, or Hydrology significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling	
Hydrophytic Vegetation Present? Yes No✓	O-marked Asses
Hudrig Cail Dragget?	Sampled Area a Wetland? Yes No
Wetland Hydrology Present? Yes No	4 Welland. 165 165
Upland data for W009_PEM-CAT2 (PEM) taken within I	naintained transmission line right-of-way.
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Li	
Water Marks (B1) Presence of Reduced Iron (C	
Sediment Deposits (B2) Recent Iron Reduction in Till	
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Shallow Aquitard (D3) Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
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, previous in	spections), if available:
N/A	
Remarks:	
Hydrology indicators are not present.	

	Ahsolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?			
4 Absent				Number of Dominant Species That Are OBL, FACW, or FAC: (A)	
-				That Are OBL, I ACW, OIT AC (A)	
2				Total Number of Dominant	
3				Species Across All Strata: 5 (B)	
4					
5				Percent of Dominant Species That Are ORL FACW or FAC: 20 (A/B)	٠,
				That Are OBL, FACW, or FAC: 20 (A/B	•)
6				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. Rubus allegheniensis	30	Yes	FACU	FAC species x 3 =	
2.				FACU species x 4 =	
				UPL species x 5 =	
3					
4				Column Totals: (A) (B))
5				5 1 1 5 5 6	
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					
	30	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supportin data in Remarks or on a separate sheet)	g
Herb Stratum (Plot size: 5' r)					
1. Dactylis glomerata	30	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Glechoma hederacea	20	Yes	FACU		
3. Dichanthelium clandestinum	30	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must	
				be present, unless disturbed or problematic.	
4. Trifolium repens	20	Yes	FACU	Definitions of Four Vegetation Strata:	
5					
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) o	
				more in diameter at breast height (DBH), regardless of	Ì
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 of size, and woody plants less than 3.28 ft tall.	,
12.				of size, and woody plants less than 3.20 it tall.	
12.	100	= Total Cov		Woody vine – All woody vines greater than 3.28 ft in	
	100	= 10121 (.00	er		
Woody Vine Stratum (Plot size: 30' r		Total Cov	0.	height.	
Woody Vine Stratum (Plot size: 30' r)		Total Gov	O.	height.	
1. Absent				height.	
				height.	
1. Absent 2				height.	
1. Absent 2 3				height.	
1. Absent 2 3 4				Hydrophytic	
1. Absent 2 3 4 5				Hydrophytic Vegetation	
1. Absent 2 3 4				Hydrophytic	
1. Absent 2 3 4 5				Hydrophytic Vegetation	
1. Absent 2	0			Hydrophytic Vegetation	
1. Absent 2 3 4 5	0			Hydrophytic Vegetation	
1. Absent 2	0			Hydrophytic Vegetation	
1. Absent 2	0			Hydrophytic Vegetation	
1. Absent 2	0			Hydrophytic Vegetation	
1. Absent 2	0			Hydrophytic Vegetation	
1. Absent 2	0			Hydrophytic Vegetation	
1. Absent 2	0			Hydrophytic Vegetation	
1. Absent 2	0			Hydrophytic Vegetation	
1. Absent 2	0			Hydrophytic Vegetation	

Profile Desc	ription: (Describe	to the dept	h needed to docun	ent the ind	icator or confir	m the ab	sence of indicate	ors.)	
Depth	Matrix		Redox	 Features 		_			
(inches)	Color (moist)	%	Color (moist)	<u></u> % 1	Type ¹ Loc ²	Text	ture	Remarks	
0-16	10YR 4/4	70				SL			
	10YR 4/3	30					co-matrix	color	
					 -				
						_			
						_			_
									_
	oncentration, D=Dep	oletion, RM=	Reduced Matrix, MS	=Masked Sa	and Grains.	² Locati	on: PL=Pore Linir		3
Hydric Soil							Indicators for Pr	oblematic Hy	dric Soils':
Histosol	, ,		Dark Surface	, ,				410) (MLRA 1 4	47)
	oipedon (A2)				(S8) (MLRA 14			Redox (A16)	
	stic (A3)				ILRA 147, 148)		(MLRA 14		(= 4.6)
	en Sulfide (A4)		Loamy Gleye)			oodplain Soils (F19)
	d Layers (A5) uck (A10) (LRR N)		Depleted Mat Redox Dark S				(MLRA 13	v Dark Surface	(TE12)
	d Below Dark Surfac	- (Δ11)	Depleted Dar	. ,	7)			in in Remarks	
	ark Surface (A12)	(/(11)	Redox Depre		')		Other (Exple	iii iii remano,	'
	Mucky Mineral (S1) (LRR N.			(F12) (LRR N,				
	A 147, 148)	,	MLRA 130		, , ,				
	Gleyed Matrix (S4)				RA 136, 122)		³ Indicators of h	ydrophytic veg	etation and
	Redox (S5)				(F19) (MLRA	148)	wetland hydr	ology must be	present,
Stripped	Matrix (S6)		Red Parent M	laterial (F21)	(MLRA 127, 14	47)	unless distur	bed or problem	natic.
	Layer (if observed)	:							
Type: Nor	ne								
Depth (inc						Hydr	ic Soil Present?	Yes	No 🗸
Remarks:									
Lludria	.:								
rryanc so	oils are not pr	esent.							

Project/Site: West Trinway-Ohio Central	City/C	County: Muskingum Co.		Sampling Date: 3/3/2022
Applicant/Owner: AEP	City/C		State: OH	Sampling Point: Wetland 010
	Section			
Landform (hillslope, terrace, etc.): Depressio				Slope (%): 0
Subregion (LRR or MLRA): LRR-N	Lat. 40.112619	I ong: -82.0)44267	Datum. NAD83
Soil Map Unit Name: WuD2: Westmoreland-C	suernsey slit loams, 15 to 25 per	cent slopes, eroded	NWI classifica	ition: N/A
Are climatic / hydrologic conditions on the site	e typical for this time of year? Y	′es <u> ✓ </u>	If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydro	ology significantly distur	bed? Are "Normal	Circumstances" pr	esent? Yes 🖊 No
Are Vegetation, Soil, or Hydro				
SUMMARY OF FINDINGS – Attac	h site map showing san	npling point locatio	ns, transects,	important features, etc.
Hydrophytic Vegetation Present? Y	es No	Is the Sampled Area		
Hydric Soil Present? Y	es No	within a Wetland?	Yes	_ No
Wetland Hydrology Present? Y Remarks:	es No			
Wetland data for W010-PSS-right-of-way.	CATMOD2 (PSS) tak	en within mainta	ined transmi	ssion line
HYDROLOGY				•
Wetland Hydrology Indicators:			Secondary Indicate	ors (minimum of two required)
Primary Indicators (minimum of one is requ			Surface Soil C	
Surface Water (A1)	True Aquatic Plants ('		etated Concave Surface (B8)
High Water Table (A2)	Hydrogen Sulfide Od		Drainage Patt	
Saturation (A3) Water Marks (B1)	Oxidized RhizospherPresence of Reduced		Moss Trim Lin	nes (B16) Vater Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction		Crayfish Burro	
Octament Deposits (B2)	Thin Muck Surface (0			sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Rer			ressed Plants (D1)
Iron Deposits (B5)			Geomorphic F	Position (D2)
Inundation Visible on Aerial Imagery (B	7)		Shallow Aquit	
Water-Stained Leaves (B9)				phic Relief (D4)
Aquatic Fauna (B13)		Т	FAC-Neutral	Test (D5)
Field Observations:	No. / Double (implication)			
	No Depth (inches): No Depth (inches): 8			
	No Depth (inches): 0	Wetland H	ydrology Present	? Yes No
(includes capillary fringe)				105
Describe Recorded Data (stream gauge, m N/A	onitoring well, aerial photos, pre	vious inspections), if avai	lable:	
Remarks:				
Hydrology indicators are A2,	A3, C3, D2, D5.			

Sampling Point: Wetland 010

inance Test worksheet: ber of Dominant Species Are OBL, FACW, or FAC: 4 (A) Number of Dominant iles Across All Strata: 4 (B) ent of Dominant Species Are OBL, FACW, or FAC: 100 (A/B) alence Index worksheet: Fotal % Cover of: Multiply by: species x 1 =
Are OBL, FACW, or FAC: 4 (A) Number of Dominant iles Across All Strata: 4 (B) ent of Dominant Species Are OBL, FACW, or FAC: 100 (A/B) alence Index worksheet: Fotal % Cover of: Multiply by: species x 1 =
Number of Dominant ies Across All Strata: 4 (B) ent of Dominant Species Are OBL, FACW, or FAC: 100 (A/B) alence Index worksheet: Fotal % Cover of: Multiply by: species x 1 =
Sent of Dominant Species Are OBL, FACW, or FAC: 100 (A/B)
ent of Dominant Species Are OBL, FACW, or FAC: 100 (A/B) alence Index worksheet: Fotal % Cover of: Multiply by: species x 1 =
Are OBL, FACW, or FAC:
Are OBL, FACW, or FAC:
Fotal % Cover of: Multiply by: species x 1 = N species x 2 = species x 3 = J species x 4 = species x 5 = mn Totals: (A) Prevalence Index = B/A = ophytic Vegetation Indicators:
Fotal % Cover of: Multiply by: species x 1 = N species x 2 = species x 3 = J species x 4 = species x 5 = mn Totals: (A) Prevalence Index = B/A = ophytic Vegetation Indicators:
species x 1 = N species x 2 = species x 3 = J species x 4 = species x 5 = mn Totals: (A) Prevalence Index = B/A = ophytic Vegetation Indicators:
W species x 2 = species x 3 = J species x 4 = species x 5 = mn Totals: (A) Prevalence Index = B/A = ophytic Vegetation Indicators:
species x 3 = J species x 4 = species x 5 = mn Totals: (A) Prevalence Index = B/A = ophytic Vegetation Indicators:
J species x 4 = species x 5 = mn Totals: (A) Prevalence Index = B/A = ophytic Vegetation Indicators:
J species x 4 = species x 5 = mn Totals: (A) Prevalence Index = B/A = ophytic Vegetation Indicators:
species x 5 =
mn Totals: (A) (B) Prevalence Index = B/A = ophytic Vegetation Indicators:
Prevalence Index = B/A =ophytic Vegetation Indicators:
ophytic Vegetation Indicators:
ophytic Vegetation Indicators:
I - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is >50%
3 - Prevalence Index is ≤3.0 ¹
4 - Morphological Adaptations ¹ (Provide supporting
data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation ¹ (Explain)
cators of hydric soil and wetland hydrology must
resent, unless disturbed or problematic.
nitions of Four Vegetation Strata:
mions of Four Vegetation Strata.
- Woody plants, excluding vines, 3 in. (7.6 cm) or
in diameter at breast height (DBH), regardless of
nt.
ing/Shrub – Woody plants, excluding vines, less
3 in. DBH and greater than 3.28 ft (1 m) tall.
– All herbaceous (non-woody) plants, regardless
te, and woody plants less than 3.28 ft tall.
dy vine – All woody vines greater than 3.28 ft in
nt.
ophytic
etation
ent? Yes No
יו יי

SOIL Sampling Point: Wetland 010

Profile Desc	cription: (Describe	to the de	pth needed to docur	nent the	indicator	or confirm	n the absence o	f indicators.)
Depth	Matrix			x Feature		-		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 4/3	100					SL	
4-16	10YR 4/2	85	10YR 4/4	15	С	M/PL	SL	
								_
	-			-	_			
								
	-							
		_						
		-		_	_			
				-	_			
		letion, RN	/I=Reduced Matrix, M	S=Maske	d Sand G	ains.		Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indicate	ors for Problematic Hydric Soils ³ :
Histosol			Dark Surface					m Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue Be					ast Prairie Redox (A16)
	stic (A3)		Thin Dark Su			147, 148)		MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye		(F2)			dmont Floodplain Soils (F19)
	d Layers (A5) uck (A10) (LRR N)			. ,	E6)			MLRA 136, 147) ry Shallow Dark Surface (TF12)
	d Below Dark Surfac	e (A11)	Depleted Da				·	her (Explain in Remarks)
	ark Surface (A12)	0 (/ (/)	Redox Depre				0	Tor (Explain in Formatio)
	Mucky Mineral (S1) (I	LRR N,	Iron-Mangan			(LRR N,		
	A 147, 148)		MLRA 13		, ,			
Sandy G	Sleyed Matrix (S4)		Umbric Surfa	ace (F13)	(MLRA 1	36, 122)	³ Indic	ators of hydrophytic vegetation and
Sandy F	Redox (S5)		Piedmont Flo					tland hydrology must be present,
	Matrix (S6)		Red Parent N	Material (F21) (MLF	RA 127, 14	7) unl	ess disturbed or problematic.
	Layer (if observed):							
Type: No	ne 							
Depth (in	ches):						Hydric Soil P	resent? Yes No
Remarks:								
Meets F3	3							

City/County: Muskingum Co. Sampling Date: 3/3/2022 Upland 010 State: OH Sampling Date: OH Sampling Date: OH Sampling Date: OH Sampling Date: Upland 010 OH Sampling Point: Upland 010 OH Sampling Point: Upland 010 OH OH OH OH OH OH OH O
Section, Township, Range: Cass Twp.
andform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0 ubregion (LRR or MLRA): LAR: N Lat: 40.112766 Long: -82.044216 Datum: NAD83 oil Map Unit Name: WuD2: Westmoreland-Guernsey silt loams, 15 to 25 percent slopes, eroded NWI classification: N/A re climatic / hydrologic conditions on the site typical for this time of year? Yes V No (If no, explain in Remarks.) re Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No No Will near the vegetation or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No V Is the Sampled Area within a Wetland? Yes No V Wetland Hydrology Present? Yes No V Is the Sampled Area within a Wetland? Wetland Hydrology Present? Yes No V Is taken within maintained transmission line right-of-way. BYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B16) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 Datum: NAD83 Lat: 40.112766 Long: -82.044216 NWI classification: N/A Lat: 40.112766 Long: -82.044216 Long: -82.0442
oil Map Unit Name: WUD2: Westmoreland-Guernsey silt loams, 15 to 25 percent slopes, eroded NWI classification: N/A re climatic / hydrologic conditions on the site typical for this time of year? Yes
re Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No re Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No
Is the Sampled Area within a Wetland? Wetland Hydrology Indicators: Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Presence of Reduced Iron (C4) Pint In Remarks: (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No V Wetland Hydrology Present? Yes No V Wetland Hydrology Present? Yes No V Yes No V Wetland? Wetland Hydrology Present? Yes No V Yes N
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Wetland Hydrology Present? Wetland Gata for W010-PSS-CATMOD2 (PSS) taken within a Wetland? Wetland Hydrology Indicators: Is the Sampled Area within a Wetland? Yes
Hydric Soil Present? Wetland Hydrology Present? Wes No within a Wetland? Wes No within a Wetland? Remarks: UpaInd data for W010-PSS-CATMOD2 (PSS) taken within maintained transmission line right-of-way. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Hydric Soil Present? Wetland Hydrology Present? Wes No within a Wetland? Wes No within a Wetland? Remarks: UpaInd data for W010-PSS-CATMOD2 (PSS) taken within maintained transmission line right-of-way. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Wetland Hydrology Present? Wes No Remarks: UpaInd data for W010-PSS-CATMOD2 (PSS) taken within maintained transmission line right-of-way. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
UpaInd data for W010-PSS-CATMOD2 (PSS) taken within maintained transmission line right-of-way. Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
 High Water Table (A2) Saturation (A3) Water Marks (B1) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Saturation (A3)
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)
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): Wetland Hydrology Present? Yes No No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
N/A
Remarks:
Hydrology indicators are not present.
, 6,

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species?	Status	Number of Dominant Species	
1. Absent					A)
2				Total Number of Dominant	
3					B)
4.					,
5.				Percent of Dominant Species	A (D)
				That Are OBL, FACW, or FAC: 0 (A	A/B)
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
8	•			OBL species x 1 =	
Capling (Charle Charles (Diet sing 15')	0	= Total Cov	er		
Sapling/Shrub Stratum (Plot size: 15' r) Rubus allegheniensis	20	Yes	FACU	FACW species x 2 =	
**				FAC species x 3 =	
2				FACU species x 4 =	
3	<u> </u>			UPL species x 5 =	
4				Column Totals: (A)	(B)
5				B 1 1 1 8/A	
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	20			4 - Morphological Adaptations ¹ (Provide suppo	orting
Herb Stratum (Plot size: 5'r)		= Total Cov	er	data in Remarks or on a separate sheet)	_
Б	50	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain))
Poa pratensis Taraxacum officinale	20	Yes	FACU		
Z	- —			¹ Indicators of hydric soil and wetland hydrology mu	ıst
3. Cardamine hirsuta	10	No	FACU	be present, unless disturbed or problematic.	
4				Definitions of Four Vegetation Strata:	
5				_	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm	
7				more in diameter at breast height (DBH), regardles height.	5 01
8.				1.00	
9.				Sapling/Shrub – Woody plants, excluding vines, le	ess
				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Herb - All herbaceous (non-woody) plants, regardl	less
11				of size, and woody plants less than 3.28 ft tall.	
12				Woody vine – All woody vines greater than 3.28 ft	in
Was to Visa - Otatom (Dist size 30' f	80	= Total Cov	er	height.	
Woody Vine Stratum (Plot size: 30' r)				ŭ	
1. Absent	- ·				
2					
3					
4				Hadranbart.	
5				Hydrophytic Vegetation	
6				Present? Yes No	
		= Total Cov	er		
Remarks: (Include photo numbers here or on a separate					
Remarks. (include prioto numbers here of on a separate	Sileet.)				
Wetland veg is not present.					
·					

Profile Desc	ription: (Describe	to the depth i	needed to docum	nent the in	ndicator o	or confirm	the ab	sence of indicat	ors.)	
Depth	Matrix		Redo	x Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Text	ture	Remarks	
0-16	10YR 4/3	100					SL			
		· 								
		· 								
		·					-			
										
	-									
		·								
	-	·						· ·		
		·								
¹Type: C=Cc	oncentration, D=Dep	letion RM=Re	educed Matrix MS	S=Masked	Sand Gra	nins	² Location	on: PL=Pore Lini	ng M=Matrix	_
Hydric Soil I		100011, 1001	raabba maan, m	machea	Cana Cit		Locati	Indicators for P		vdric Soils³:
Histosol			Dark Surface	(S7)					(A10) (MLRA 1	
	ipedon (A2)	•	Polyvalue Be		e (S8) (M	I RΔ 147	148)		e Redox (A16)	•
Black His		-	Thin Dark Su				140)	(MLRA 14		
	n Sulfide (A4)	-	Loamy Gleye			,,			oodplain Soils	(F19)
	Layers (A5)	•	Depleted Mat		-/			(MLRA 1		()
	ck (A10) (LRR N)	•	Redox Dark S		3)				w Dark Surfac	e (TF12)
· 	Below Dark Surface	e (A11)	Depleted Dar	•	,				ain in Remarks	
	rk Surface (A12)		Redox Depre					_ ` '		,
	lucky Mineral (S1) (L	RR N,	Iron-Mangan			RR N,				
	147, 148)		MLRA 13		· / ·	·				
	leyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)		3Indicators of h	ydrophytic veg	getation and
	edox (S5)	_	Piedmont Flo	odplain So	ils (F19)	(MLRA 14	8)	wetland hyd	rology must be	e present,
Stripped	Matrix (S6)		Red Parent N	1aterial (F2	21) (MLR	A 127, 147	')	unless distu	rbed or proble	matic.
	.ayer (if observed):									
Type: Non	e		_							
Depth (inc	ches): <u>-</u>		<u>_</u>				Hydri	ic Soil Present?	Yes	No 🗸
Remarks:							<u> </u>			
Udrio oci	la ara nat nra	oont.								
Hanc son	ls are not pre	sent.								

Project/Site: West Trinway-Ohio Central	I	City/County: Muskingum Co.		Sampling Date: <u>3/3/2022</u>			
Applicant/Owner: AEP		, ,	State: OH	Sampling Point: Wetland 011			
Investigator(s): KLV, BLG		Section, Township, Range:		<u> </u>			
Landform (hillslope, terrace, etc.): Depr	ession	Local relief (concave, convex, no	one). concave	Slone (%): 0			
Subregion (LRR or MLRA): LRR-N	Lat. 40.11474						
Soil Map Unit Name: Ne: Newark silt loa	am, 0 to 3 percent slopes, fr	equently flooded	NWI classific	cation: N/A			
Are climatic / hydrologic conditions on the	he site typical for this time	of year? Yes 🗸 No	(If no, explain in F	Remarks.)			
Are Vegetation, Soil, or	Hydrology significa	antly disturbed? Are "Norma	al Circumstances"	present? Yes 🖊 No			
Are Vegetation, Soil, or	Hydrology naturall		explain any answe				
SUMMARY OF FINDINGS – A			ons, transects	s, important features, etc.			
Hydrophytic Vegetation Present?							
Hydric Soil Present?	Yes No No No No No No No No No N		Yes 🗸	No			
Wetland Hydrology Present?	Yes No		100				
Remarks:							
Wetland data for W011-P right-of-way.	EM-CATMOD2 (P	EM) taken within main	tained transr	nission line			
HYDROLOGY			0	- (- (- (- (- (- (- (- (- (- (
Wetland Hydrology Indicators:	required, about all that an	الاسلام	-	ators (minimum of two required)			
Primary Indicators (minimum of one is			Surface Soil	getated Concave Surface (B8)			
Surface Water (A1) High Water Table (A2)	 .	tic Plants (B14) Sulfide Odor (C1)	Sparsely ve Drainage Pa				
Saturation (A3)		Rhizospheres on Living Roots (C3)					
Water Marks (B1)		of Reduced Iron (C4)		Water Table (C2)			
Sediment Deposits (B2)		n Reduction in Tilled Soils (C6)					
Drift Deposits (B3)	Thin Muck			isible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Exp	olain in Remarks)	Stunted or Stressed Plants (D1)				
Iron Deposits (B5)			Geomorphic	Position (D2)			
Inundation Visible on Aerial Image	ery (B7)		Shallow Aquitard (D3)				
Water-Stained Leaves (B9)			Microtopographic Relief (D4)				
Aquatic Fauna (B13)			FAC-Neutra	Test (D5)			
Field Observations:	No. V Donth (in	ahaa);					
	No Depth (inc						
	No V Depth (inc		Hydrology Presei	nt? Yes No			
(includes capillary fringe)		, -		nt: res NO			
Describe Recorded Data (stream gauge N/A	ge, monitoring well, aerial p	photos, previous inspections), if av	ailable:				
Remarks:							
Hydrology indicators are (C3, D2, D5.						
, 0,	, ,						

Sampling Point: Wetland 011

Tree Stratum (Plot size: 30' r) 5 1. Absent 2 3 4 2			Indicator	Dominance Test worksheet:				
2		Species?		Number of Dominant Species				
2				That Are OBL, FACW, or FAC: 1 (A	١)			
3. 4.				(,			
4				Total Number of Dominant				
				Species Across All Strata: 1 (E	3)			
F				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	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					(D)			
4				Column Totals: (A) ((D)			
5				Prevalence Index = B/A =				
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				
	 .	= Total Cov		4 - Morphological Adaptations ¹ (Provide suppor	ting			
Herb Stratum (Plot size: 5' r)		- Total Cov	CI	data in Remarks or on a separate sheet)				
	60	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)				
2. Onoclea sensibilis 1	0	No	FACW					
1/ 1 ' h '/ P	0	No	FAC	¹ Indicators of hydric soil and wetland hydrology must				
J	0	No	FACW	be present, unless disturbed or problematic.				
T				Definitions of Four Vegetation Strata:				
5. Dichanthelium clandestinum	0	No	FAC	Tree Meady plants avaluation vince 2 in /7 Com	\			
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardless				
7				height.				
8								
9				Sapling/Shrub – Woody plants, excluding vines, let than 3 in. DBH and greater than 3.28 ft (1 m) tall.	SS			
10.				than 5 m. bbit and greater than 5.25 ft (1 m) tail.				
				Herb – All herbaceous (non-woody) plants, regardle	ess			
11				of size, and woody plants less than 3.28 ft tall.				
12	10			Woody vine – All woody vines greater than 3.28 ft i	n			
Woody Vine Stratum (Plot size: 30' r)	<u> </u>	= Total Cov	er	height.				
1. Absent								
2								
3								
4				Ukadaankatia				
5				Hydrophytic Vegetation				
6				Present? Yes No				
		= Total Cov	er					
	et.)							

Sampling Point: Wetland 011

SOIL

Profile Desc	ription: (Describe	to the de	pth needed to docur	nent the	indicator	or confirn	n the absence	e of indicators.)	
Depth	Matrix		Redo	x Feature	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-4	10YR 4/3	100	· -				SL		
4-16	10YR 4/2	85	10YR 4/4	15	С	M/PL	SL		
				-				-	_
			·		_		-		
									_
							•		
		·		-					
		·						-	
								-	
¹Type: C=Co	ncentration. D=Dep	letion. RN	/I=Reduced Matrix, M	S=Maske	d Sand Gi	ains.	² Location: P	PL=Pore Lining, M=Matrix.	
Hydric Soil I		100011, 100	T TOUGOOG MIGHIX, INC	<u> </u>	a cana ci	unio.		cators for Problematic Hyd	Iric Soils³:
Histosol			Dark Surface	e (S7)				2 cm Muck (A10) (MLRA 14	
	ipedon (A2)		Polyvalue Be		ace (S8) (I	VLRA 147,		Coast Prairie Redox (A16)	,
Black His	. , ,		Thin Dark Su				, <u> </u>	(MLRA 147, 148)	
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)			Piedmont Floodplain Soils (F	- 19)
	Layers (A5)		Depleted Ma	trix (F3)				(MLRA 136, 147)	
	ck (A10) (LRR N)		Redox Dark	•	,			Very Shallow Dark Surface	(TF12)
	Below Dark Surfac	e (A11)	Depleted Da					Other (Explain in Remarks)	
	irk Surface (A12)	DD N	Redox Depre			(LDD N			
	lucky Mineral (S1) (L . 147, 148)	-KK N,	Iron-Mangan MLRA 13		ses (F IZ)	LKK N,			
	leyed Matrix (S4)		Umbric Surfa		(MI RA 1	36 122)	3In	dicators of hydrophytic vege	tation and
	edox (S5)		Piedmont Flo					wetland hydrology must be p	
	Matrix (S6)		Red Parent N					unless disturbed or problema	
	ayer (if observed):							·	
Type: Non	e								
Depth (inc							Hydric Soi	il Present? Yes	No
Remarks:							,		
remano.									
Masta E	.								
Meets F3)								

Project/Site: West Trinway-Ohio Central City	/County: Muskingum Co. Sampling Date: 3/3/2022
Applicant/Owner: AEP	State: OH Sampling Point: Wetland 012
	tion, Township, Range: Cass Twp.
Landform (hillslope terrace etc.): Depression	elief (concave convex none): concave Slone (%): 0
Landform (hillslope, terrace, etc.): Depression Local results Local results Lat: 40.114123	Long: -82.049538 Datum: NAD83
Soil Map Unit Name: WuD2: Westmoreland-Guernsey silt loams, 15 to 25 per	ercent slopes, eroded NIM/L classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	
	_
Are Vegetation, Soil, or Hydrology significantly dist	
Are Vegetation, Soil, or Hydrology naturally problem	
SUMMARY OF FINDINGS – Attach site map showing sa	impling 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	Willing a Victoria.
Remarks:	
Wetland data for W012-PUB-CAT2 (PUB) taken	within maintained transmission line right-of-way.
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 C ✓ Saturation (A3) Oxidized Rhizosphe	Odor (C1) Drainage Patterns (B10) eres on Living Roots (C3) Moss Trim Lines (B16)
Saturation (A3) Oxidized Kniizospin Water Marks (B1) Presence of Reduc	
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface	
Algal Mat or Crust (B4) Other (Explain in R	emarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
✓ Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes No Depth (inches):	2
Water Table Present? Yes Vo Depth (inches): 0	
Saturation Present? Yes No Depth (inches): 0	Wetland Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:
N/A Remarks:	
Nemara.	
Hydrology indicators are A1,A2, A3, B7,C3, C9, I	12 D5
	72, 55.

Sampling Point: Wetland 012

	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: $\frac{3}{}$ (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				
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	•	= 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				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1
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	·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 Phalaris arundinacea	20	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Onoclea sensibilis	20	Yes	FACW	
3. Typha x glauca	30	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must
4 Agrimonia parviflora	10	No	FACW	be present, unless disturbed or problematic.
···				Definitions of Four Vegetation Strata:
5				Tree Meady plants avaluating vince 2 in (7.0 am) or
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8.				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10.				than 3 in. DBH and greater than 3.20 it (1 in) tail.
				Herb – All herbaceous (non-woody) plants, regardless
11.	<u> </u>			of size, and woody plants less than 3.28 ft tall.
12				Woody vine – All woody vines greater than 3.28 ft in
Manda Vina Chatana (Diet sina 30' I	80	= Total Cov	er er	height.
Woody Vine Stratum (Plot size: 30' r 1. Absent				Ç .
·				
2				
3.				
3				
3				Hydrophytic
3				Hydrophytic Vegetation Present? Yes No
3				Vegetation

SOIL Sampling Point: Wetland 012

Profile Desc	ription: (Describe	to the dep	th needed to docur	nent the	indicator	or confirm	n the absence	of indicators.)
Depth	Matrix			x Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-4	10YR 4/1	100					SL	
4-16	10YR 5/1	70	10YR 4/6	30	С	M/PL	SL	
				-				
						-		
				-	-			<u> </u>
				-				
	-							
¹Type: C=Co	oncentration D=Der	oletion RM	=Reduced Matrix, MS	S=Masker	d Sand G	raine	² l ocation: Pl	L=Pore Lining, M=Matrix.
Hydric Soil		JICTION, IXIVI	-Neduced Matrix, Mc	3-Maske	u Sanu S	iaiiis.		ators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	(\$7)				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		re (S8) (MI RΔ 147		Coast Prairie Redox (A16)
Black Hi			Tolyvalde Be				((MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye			,,	F	Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Ma		(- –)			(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark	. ,	F6)		\	Very Shallow Dark Surface (TF12)
	Below Dark Surfac	ce (A11)	Depleted Dar	rk Surface	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 Mass	es (F12)	(LRR N,		
	\ 147, 148)		MLRA 13	6)				
	leyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
-	edox (S5)		Piedmont Flo					vetland hydrology must be present,
	Matrix (S6)		Red Parent N	Material (F	21) (MLF	RA 127, 14	7) u	inless disturbed or problematic.
	_ayer (if observed)	:						
Type: Nor	ne							
Depth (ind	ches): -						Hydric Soil	l Present? Yes No
Remarks:							I	
Meets F3	2							
IVICCIS I	,							

Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co.	s	Sampling Date: 3/3/2022		
Applicant/Owner: AEP		State: OH	Sampling Point: Upland 011/012		
	Section, Township, Range: C				
	Local relief (concave, convex, no		Slone (%): 0		
Subregion (LRR or MLRA): LRR-N Lat: 40.	.114342 Long: -82	048899	Datum: NAD83		
Soil Map Unit Name: Ne: Newark silt loam, 0 to 3 percent sl		NWI classificat	ion: N/A		
Are climatic / hydrologic conditions on the site typical for th					
Are Vegetation, Soil, or Hydrology			esent? Yes 🗸 No		
Are Vegetation, Soil, or Hydrology		explain any answers			
SUMMARY OF FINDINGS – Attach site map	showing sampling point location	ons, transects, i	important features, etc.		
Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N Remarks:	within a Wetland?	Yes	No		
Upland data for W011-PEM-CATMOD: transmission line right-of-way. HYDROLOGY Wetland Hydrology Indicators:	2 (PEM), W012-PUB-CAT2		vithin maintained		
Primary Indicators (minimum of one is required; check all	that apply)	Surface Soil Cr			
	e Aquatic Plants (B14)		tated Concave Surface (B8)		
	drogen Sulfide Odor (C1)	Drainage Patte			
	dized Rhizospheres on Living Roots (C3)				
	sence of Reduced Iron (C4)	Dry-Season Water Table (C2)			
	cent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)			
Drift Deposits (B3) Thi	n Muck Surface (C7)	Saturation Visil	ble on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Oth	er (Explain in Remarks)	Stunted or Stressed Plants (D1)			
Iron Deposits (B5)		Geomorphic Po	osition (D2)		
Inundation Visible on Aerial Imagery (B7)		Shallow Aquita			
Water-Stained Leaves (B9)		Microtopograph			
Aquatic Fauna (B13)		FAC-Neutral Te	est (D5)		
Field Observations:					
	epth (inches):				
	epth (inches):				
Saturation Present? Yes No De (includes capillary fringe)	epth (inches): Wetland I	Hydrology Present?	P Yes No		
Describe Recorded Data (stream gauge, monitoring well, N/A	aerial photos, previous inspections), if ava	ailable:			
Remarks:					
Hydrology indicators are not present.					

Sampling Point: Upland 011/012

	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: $\frac{0}{}$ (A)
·				
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				Description of Description
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)
				That Ale Obl., I AOW, OI I AC (A/b)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				
	^	= Total Cov		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species x 2 =
1. Absent				FAC species x 3 =
				FACU species x 4 =
2				
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				
				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				
9				2 - Dominance Test is >50%
10.				3 - Prevalence Index is ≤3.0 ¹
10	_			4 - Morphological Adaptations ¹ (Provide supporting
Llamb Chratuma (Diataina) 5'I		= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)	70	.,	E4011	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Dactylis glomerata	70	Yes	FACU	<u> </u>
2. Trifolium pratense	30	Yes	FACU	
3.				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7.				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
12.				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				Hydrophytic
5				Vegetation
6				Present? Yes No
	0	= Total Cov	er	
Remarks: (Include photo numbers here or on a separate s				
Remarks. (include prioto numbers here of on a separate s	sneet.)			
Watland year is not present				
Wetland veg is not present.				

Sampling Point: Upland 011/012

Profile Desc	cription: (Describe	to the depth	needed to docun	nent the ir	ndicator	or confirm	the absence	of indicato	ors.)	
Depth	Matrix			x Features			_			
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-16	10YR 4/3	100					SL			
										
		· — — —								
										
	_									
¹ Type: C=Co	oncentration, D=Dep	letion, RM=Re	educed Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL	.=Pore Linin	ng, M=Matrix	-
Hydric Soil										lydric Soils³:
Histosol	(A1)		Dark Surface	(S7)			2	cm Muck (A	410) (MLRA	147)
Histic Ep	pipedon (A2)		Polyvalue Be	low Surfac	e (S8) (N	ILRA 147,	148) C	oast Prairie	Redox (A16)
Black Hi	istic (A3)		Thin Dark Su			47, 148)		(MLRA 14		
	en Sulfide (A4)		Loamy Gleye		- 2)		P		oodplain Soils	s (F19)
	d Layers (A5)		Depleted Mat		•		,	(MLRA 13		(TE40)
	uck (A10) (LRR N)	o (A11)	Redox Dark S					-	v Dark Surfac iin in Remark	
	d Below Dark Surfac ark Surface (A12)	e (ATT)	Depleted Dar Redox Depre					лпег (⊏хріа	iiii iii Remark	.S)
	/lucky Mineral (S1) (I	RR N.	Iron-Mangane			LRR N.				
	A 147, 148)		MLRA 130		,					
	Gleyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)	³ Ind	icators of hy	ydrophytic ve	getation and
	Redox (S5)		Piedmont Flo					-	ology must b	-
Stripped	l Matrix (S6)		Red Parent M	1aterial (F2	21) (MLR	A 127, 147	7) u	nless disturl	bed or proble	ematic.
	Layer (if observed):	:								
Type: Nor	ne		_							
Depth (in	ches):		<u> </u>				Hydric Soil	Present?	Yes	No <u> </u>
Remarks:										
Hdric soi	ils are not pre	sent								
1 10110 001	ilo aro mot pro	00111.								

Project/Site: West Trinway-Ohio Central		City/County: Mus	kingum Co.		Sampling Date: 3/8/2022			
Applicant/Owner: AEP				State: OH	Sampling Point: Wetland 013			
Investigator(s): KLV, BLG	o, Range: Cas							
Landform (hillslope, terrace, etc.): Depre	ssion	Local relief (concave	. convex. none); concave	Slope (%): 0			
Subregion (LRR or MLRA): LRR-N			Datum: NAD83					
Soil Map Unit Name: Ne: Newark silt loar	n, 0 to 3 percent slopes,	frequently flooded		_ NWI classifica	ation: N/A			
Are climatic / hydrologic conditions on the	e site typical for this tim	e of year? Yes	No (If	no, explain in Re	emarks.)			
Are Vegetation, Soil, or H	lydrologysignif	icantly disturbed?	Are "Normal C	ircumstances" p	resent? Yes 🖊 No			
Are Vegetation, Soil, or H	lydrology natur	ally problematic?	(If needed, exp	olain any answer	rs in Remarks.)			
SUMMARY OF FINDINGS - At	tach site map sho	wing sampling po	int location	s, transects,	, important features, etc.			
Hydrophytic Vegetation Present?	ydrophytic Vegetation Present? Yes No Is the Sampled Area							
Hydric Soil Present?	Yes V No			Yes 🗸	No			
Wetland Hydrology Present?	Yes No							
Wetland data for W013-PE right-of-way.	:M-CATMOD2 (PEM) taken with	in maintai	ned transm	nission line			
HYDROLOGY	-							
Wetland Hydrology Indicators:			<u>S</u>	econdary Indicat	tors (minimum of two required)			
Primary Indicators (minimum of one is r	equired; check all that a	apply)		Surface Soil (
Surface Water (A1)		uatic Plants (B14)	_		etated Concave Surface (B8)			
High Water Table (A2)		n Sulfide Odor (C1)		Drainage Pat				
Saturation (A3) Water Marks (B1)		Rhizospheres on Living e of Reduced Iron (C4)	Roots (C3)	Moss Trim Li				
Sediment Deposits (B2)		ron Reduction in Tilled S	oils (C6)	Dry-Season Water Table (C2) Is (C6) Crayfish Burrows (C8)				
Drift Deposits (B3)		ck Surface (C7)		Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)		xplain in Remarks)	_	 '	ressed Plants (D1)			
Iron Deposits (B5)			Geomorphic Position (D2)					
Inundation Visible on Aerial Imager	y (B7)		Shallow Aquitard (D3)					
Water-Stained Leaves (B9)			Microtopographic Relief (D4)					
Aquatic Fauna (B13)			<u>-</u>	FAC-Neutral	Test (D5)			
Field Observations:	No. V Double (See all and A						
		nches):						
		nches):	Wetland Hy	drology Presen	t? Yes No			
(includes capillary fringe)				•	t: les NO			
Describe Recorded Data (stream gauge N/A	e, monitoring well, aeria	I photos, previous inspec	ctions), if availa	ıble:				
Remarks:								
Hydrology indicators are C	3, D2, D5.							

	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				Descent of Deminent Creation
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
				That Are OBE, I AGW, OF I AG (A/B)
6				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 =
				FACU species x 4 =
2				
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				
				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				
9				2 - Dominance Test is >50%
10.				3 - Prevalence Index is ≤3.0 ¹
10.	0			4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		= Total Cov	er	data in Remarks or on a separate sheet)
	4E	Vaa	EA C\\\	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Phalaris arundinacea	45	Yes	FACW	
2. Onoclea sensibilis	20	Yes	FACW	1
3. Packera aurea	10	No	FACW	¹ Indicators of hydric soil and wetland hydrology must
4. Agrimonia parviflora	10	No	FACW	be present, unless disturbed or problematic.
5. Dichanthelium clandestinum	10	No	FAC	Definitions of Four Vegetation Strata:
	- ——			Tana Mandu planta avaluding vinas 2 in (7 C ara) an
6. Asclepias incarnata	5	No	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
				1.0.9.1.1
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 barbassays (non woody) plants, regardless
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				of size, and woody plants less than 5.20 it tail.
12.	30	T-4-1 O-1		Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)		= 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)			
Tremarks. (include prioto numbers here or on a separate s	Silect.)			
Wetland veg is present. Passes the do				
Tiveliand veg is present. I asses the dol	minance	a tact		
	minance	e test.		
	minance	e test.		
	minance	e test.		
	minance	e test.		
	minance	e test.		
	minance	e test.		

Profile Desc	ription: (Describe	to the dep	oth needed to docur	nent the	indicator	or confirm	n the absence	of indicators.)
Depth	Matrix			x Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-4	10YR 4/3	100	-				SL	
4-16	10YR 4/2	90	10YR 4/6	10	С	M/PL	SL	
					-			
	-							-
	-		-					
¹Type: C=Co	oncentration, D=Dei	oletion. RM	=Reduced Matrix, MS	S=Maske	d Sand G	rains.	² Location: PI	L=Pore Lining, M=Matrix.
Hydric Soil		510001, 1101	rtoddod Matrix, Mi	<u> </u>	u cunu c	i dilio.		ators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	(S7)				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ace (S8) (MLRA 147.		Coast Prairie Redox (A16)
Black Hi			Thin Dark Su				· -	(MLRA 147, 148)
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)		F	Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma	trix (F3)				(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark					Very Shallow Dark Surface (TF12)
	Below Dark Surfac	ce (A11)	Depleted Da				_ (Other (Explain in Remarks)
	ark Surface (A12)	LDDN	Redox Depre			/I DD N		
	lucky Mineral (S1) (\ 147, 148)	LKK N,	Iron-Mangan MLRA 13		ses (F12)	(LKK N,		
	Gleyed Matrix (S4)		Umbric Surfa		/MI DA 1	36 122)	3Inc	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)):	_		, , ,		Í	
Type: Nor								
Depth (inc							Hydric Soil	I Present? Yes V No No
Remarks:			,				1	
remarks.								
NA 4	,							
Meets F3	3							

Project/Site: West Trinway-Ohio Central		City/County: Muskingum Co		Sampling Date: <u>3/8/2022</u>		
Applicant/Owner: AEP		_ City/County: Muskingum Co	State: OH	Sampling Point: Upland 013		
Investigator(s): KLV, BLG Section, Township, Range: Cass Twp.						
Landform (hillslope, terrace, etc.): Flat	1	ocal relief (concave, convex)	none). none	Slope (%): 0		
Subregion (LRR or MLRA): LRR-N			Long:82.047682			
Soil Map Unit Name: Ne: Newark silt loa		uently flooded	NWI classific	cation: N/A		
Are climatic / hydrologic conditions on th	e site typical for this time of	year? Yes 🖊 No	_ (If no, explain in F	Remarks.)		
Are Vegetation, Soil, or I	- - - - - - - - - - - - - - - - - - -	tly disturbed? Are "Norn	nal Circumstances" ¡	present? Yes 🖊 No		
Are Vegetation, Soil, or I	Hydrology naturally	problematic? (If needed	d, explain any answe	ers in Remarks.)		
SUMMARY OF FINDINGS - At	tach site map showi	ng sampling point loca	tions, transects	s, important features, etc.		
Hydrophytic Vegetation Present?	Yes No	In the Commission Ass				
Hydric Soil Present?	Yes No 🗸	Is the Sampled Are within a Wetland?	ı Yes	No 🗸		
Wetland Hydrology Present?	Yes No	_				
Upland data for W013-PEI right-of-way.	M-CATMOD2 (PEN	Л) taken within maint	ained transm	ission line		
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indica	ators (minimum of two required)		
Primary Indicators (minimum of one is		•	Surface Soil Cracks (B6)			
Surface Water (A1)		Plants (B14)	Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2)	Hydrogen St		Drainage Patterns (B10) Roots (C3) Moss Trim Lines (B16)			
Saturation (A3) Water Marks (B1)		zospheres on Living Roots (C3 Reduced Iron (C4)				
Sediment Deposits (B2)		Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2)			
Octament Deposits (B2) Drift Deposits (B3)	Thin Muck S		Soils (C6) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Other (Expla		Stunted or Stressed Plants (D1)			
Iron Deposits (B5)		,	Geomorphic Position (D2)			
Inundation Visible on Aerial Image	ry (B7)		Shallow Aquitard (D3)			
Water-Stained Leaves (B9)			Microtopographic Relief (D4)			
Aquatic Fauna (B13)			FAC-Neutral	I Test (D5)		
Field Observations:						
	No Depth (inch					
	No Depth (inch					
(includes capillary fringe)	No V Depth (inch		Wetland Hydrology Present? Yes No			
Describe Recorded Data (stream gaug N/A	e, monitoring well, aerial pho	otos, previous inspections), if a	vailable:			
Remarks:						
Hydrology indicators are n	ot present.					

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r)		Species?		
4 Absent				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
				matric obe, thow, of tho.
2				Total Number of Dominant
3				Species Across All Strata: 3 (B)
4				B + (B + +0 +
5				Percent of Dominant Species That Are ORL FACW or FAC: 0 (A/R)
				That Are OBL, FACW, or FAC: 0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				
	•	= Total Cov		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species x 2 =
1. Rubus allegheniensis	20	Yes	FACU	FAC species x 3 =
2				FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5.				
				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				
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
	20	= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)				
1. Dactylis glomerata	70	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Andropogon virginicus	30	Yes	FACU	
				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				3
6				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				3 ()
				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Was decided. Allowed to decide a secretar these 0.00 ft in
	100	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30' r)				neight.
1. Absent				
2				
2				
3				
4				Hydranhydia
5				Hydrophytic Vegetation
6.				Present? Yes No
0				100 <u>100 100 100 100 100 100 100 100 100</u>
		= Total Cov	er	
Remarks: (Include photo numbers here or on a separate	sheet.)			
Wetland veg is not present.				
•				

Profile Desc	ription: (Describe	to the depth i	needed to docum	nent the in	ndicator o	or confirm	the ab	sence of indicat	ors.)	
Depth	Matrix		Redo	x Features						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Text	ture	Remarks	
0-16	10YR 4/3	100					SL			
		· 								
		· 								
		·					-			
										
	-									
		·								
	-	·						· ·		
		·								
¹Type: C=Cc	oncentration, D=Dep	letion RM=Re	educed Matrix MS	S=Masked	Sand Gra	ins	² Location	on: PL=Pore Lini	ng M=Matrix	_
Hydric Soil I		100011, 1001	raabba maan, m	machea	Cana Cit		Locati	Indicators for P		vdric Soils³:
Histosol			Dark Surface	(S7)					(A10) (MLRA 1	
	ipedon (A2)	•	Polyvalue Be		e (S8) (M	I RΔ 147	148)		e Redox (A16)	•
Black His		-	Thin Dark Su				140)	(MLRA 14		
	n Sulfide (A4)	-	Loamy Gleye			,,			oodplain Soils	(F19)
	Layers (A5)	•	Depleted Mat		-/			(MLRA 1		()
	ck (A10) (LRR N)	•	Redox Dark S		3)				w Dark Surfac	e (TF12)
· 	Below Dark Surface	e (A11)	Depleted Dar	•	,				ain in Remarks	
	rk Surface (A12)		Redox Depre					_ ` '		,
	lucky Mineral (S1) (L	RR N,	Iron-Mangan			RR N,				
	147, 148)		MLRA 13		· / ·	·				
	leyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)		3Indicators of h	ydrophytic veg	getation and
	edox (S5)	_	Piedmont Flo	odplain So	ils (F19)	(MLRA 14	8)	wetland hyd	rology must be	e present,
Stripped	Matrix (S6)		Red Parent N	1aterial (F2	21) (MLR	A 127, 147	')	unless distu	rbed or proble	matic.
	.ayer (if observed):									
Type: Non	e		_							
Depth (inc	ches): <u>-</u>		<u>_</u>				Hydri	ic Soil Present?	Yes	No 🗸
Remarks:							<u> </u>			
Udrio oci	la ara nat nra	oont.								
Hanc son	ls are not pre	sent.								

Project/Site: West Trinway-Ohio Central		City/County:	Muskingum Co.		Sampling Date: 3/8/2022			
Applicant/Owner: AEP		City/County:		State: OH	Sampling Point: Wetland 014			
nvestigator(s): KLV, BLG Section, Township, Range: Cass Twp.								
Landform (hillslope, terrace, etc.): Depre	ssion	Local relief (con	cave. convex. nor	ne): concave	Slope (%): 0			
Subregion (LRR or MLRA):	Lat: 40.11	7755	Long82.0	049102	Datum: NAD83			
Soil Map Unit Name: WtD2: Westmorelar	nd silt loam, 15 to 25 p	percent slopes	201191	NWI classific	eation: N/A			
Are climatic / hydrologic conditions on the	e site typical for this t	ime of year? Yes 🕑	, No	(If no, explain in R	emarks.)			
Are Vegetation, Soil, or H	lydrologysig	nificantly disturbed?	Are "Normal	Circumstances" p	present? Yes 🖊 No			
Are Vegetation, Soil, or H	lydrologyna	turally problematic?	(If needed, e	explain any answe	rs in Remarks.)			
SUMMARY OF FINDINGS - At	tach site map s	howing sampling	point location	ons, transects	, important features, etc.			
Hydrophytic Vegetation Present?	Yes No	la tha	Commission Association					
Hydric Soil Present?	Yes V No	13 1110	Sampled Area a Wetland?	Yes 🗸	No			
Wetland Hydrology Present?	Yes No		. a Wolland	.00				
Remarks:								
Wetland data for W014-PE right-of-way.	M-CATMOD2	? (PEM) taken v	vithin mainta	ained transn	nission line			
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary Indica	ators (minimum of two required)			
Primary Indicators (minimum of one is r	equired; check all the	at apply)		Surface Soil				
Surface Water (A1)	True A		Sparsely Vegetated Concave Surface (B8)					
High Water Table (A2)		gen Sulfide Odor (C1)		Drainage Patterns (B10)				
Saturation (A3)		ed Rhizospheres on Li						
Water Marks (B1)		nce of Reduced Iron (C		Dry-Season Water Table (C2)				
Sediment Deposits (B2)		t Iron Reduction in Till	ed Solls (C6)	Crayfish Burn				
Drift Deposits (B3) Algal Mat or Crust (B4)		fluck Surface (C7) (Explain in Remarks)		· 	isible on Aerial Imagery (C9) tressed Plants (D1)			
Iron Deposits (B5)	Other	(Explain in Nemarks)						
Inundation Visible on Aerial Imager	v (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 Dept	n (inches):						
Water Table Present? Yes	No Dept	n (inches): 10						
	No Dept	n (inches): 0	Wetland F	lydrology Presen	nt? Yes No			
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
N/A	, ,	, ,,						
Remarks:								
Hydrology indicators are A	2. A3. C3. D2	. D5.						
'', and '' gy '' '' and '' and ''	_, , ,	,						

	A la a a l 4 a	Daminant	ladianta.	Daminanaa Taat wankabaat
<u>Tree Stratum</u> (Plot size: 30' r)		Dominant Species?		Dominance Test worksheet:
1 Absent	<u> 70 COVEI</u>	Opecies:	Status	Number of Dominant Species That Are OBL FACW or FAC: 4
I				That Are OBL, FACW, or FAC: 4 (A)
2				Total Number of Dominant
3				Species Across All Strata: 4 (B)
				(2)
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				OBL species x 1 =
45! -	0	= Total Co	ver	
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				2 - Dominance Test is >50%
9				1
10.				3 - Prevalence Index is ≤3.0 ¹
10	0			4 - Morphological Adaptations ¹ (Provide supporting
Harle Christians (Diet sine), 5' [= Total Co	ver	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)	05		E4.0\4\	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Phalaris arundinacea	25	Yes	FACW	
2. Onoclea sensibilis	20	Yes	FACW	
3. Juncus effusus	20	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must
A	5	No	FACW	be present, unless disturbed or problematic.
T		-		Definitions of Four Vegetation Strata:
5. Dichanthelium clandestinum	20	Yes	FAC	
6. Carex lurida	5	No	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7. Packera aurea	5	No	FACW	more in diameter at breast height (DBH), regardless of
1.				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				3 **** **** **** *****
				Herb – All herbaceous (non-woody) plants, regardless
11		-		of size, and woody plants less than 3.28 ft tall.
12				N
	100	= Total Co	ver	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)				height.
1. Absent				
		-		
2.				
2.				
2				Hydrophytic
2				Vegetation
2				

Profile Desc	ription: (Describe	to the dep	oth needed to docur	nent the	indicator	or confirm	n the absence	of indicators.)
Depth	Matrix			x Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-4	10YR 4/2	100	-				SL	
4-16	10YR 4/1	70	10YR 4/6	30	С	M/PL	SL	
					-		-	
	-		-					-
	-							<u> </u>
	-							
¹Type: C=Co	ncentration D=De	oletion RM	=Reduced Matrix, MS	S=Masker	d Sand G	raine	² l ocation: Pl	_=Pore Lining, M=Matrix.
Hydric Soil		JIEUOH, IXIVI	-iteaucea iviatiix, ivit	J-IVIASKE	u Sanu S	iaiiis.		ators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	(97)				cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ace (S8) (MI RΔ 147		Coast Prairie Redox (A16)
Black Hi			Thin Dark Su					(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye			,,	F	Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Ma		(-)		<u> </u>	(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark	. ,	F6)		\	/ery Shallow Dark Surface (TF12)
	Below Dark Surfac	ce (A11)	Depleted Da	•	,			Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depre	essions (F	·8)			
Sandy M	lucky Mineral (S1) (LRR N,	Iron-Mangan	ese Mass	ses (F12)	(LRR N,		
	\ 147, 148)		MLRA 13	6)				
	leyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
-	edox (S5)		Piedmont Flo					vetland hydrology must be present,
	Matrix (S6)		Red Parent N	/laterial (F	-21) (MLF	RA 127, 14	7) u	nless disturbed or problematic.
	_ayer (if observed)	:						
Type: Nor	ne							
Depth (ind	ches): -						Hydric Soil	Present? Yes No
Remarks:							l	
Meets F3	2							
IVICCIS I C	,							

Applicant/Owner_AEP State_OH Sampting Point: Upland of 4 investigatority. KLV, BLG Section, Township, Range: Class Trop. Landform (hillshope, terrace, etc.): Flat Local relef (concave, convex, none): Tome Slope (%): 0 Subregion (LRR or MLRA): LRRN Lat. 40.118076 Local relef (concave, convex, none): Tome Slope (%): 0 Datum. NAD83 SMI Map Uni Name: MeS: Keens with loam. 3 to 8 percent slopes Red climate: hydrologic conditions on the site bypical for this time of year? Yes No. (If no, explain in Remarks.) Are Vegetation Soil or Hydrology agnificantly disturbed? Are "Normal Circumstances" present? Yes No. (If no explain in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophysic Vegetation Present? Yes No. V. Is the Sampled Area within a Wetland? Yes No. V. Westand Hydrology Present? Yes No. V. Surface Soil Crack (8i) Wetland Hydrology Indicators: Upland data for W014-PEM-CATMOD2 (PEM) taken within maintained transmission line right-of-way. HYDROLOGY Wetland Hydrology Indicators: Westand Hydrology Indicators: Primary Indicators (inhimum of one is required; check all that apply) Surface Soil Crack (8i) Sparsely Vegetated Concave Surface (85) Sparsely Vegetated Concave Surface (85) Sparsely Vegetated Concave Surface (85) Primary Indicators (16) Wetland Hydrology Indicators: Primary Indicators (16) Sediment Deposits (85) Presence of Reduced Inn (164) Sediment Deposits (85) Presence of Reduced Inn (164) Sediment Deposits (85) Find Deposit	Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co.	Sampling Date: 3/8/2022				
Investigator(s); KLV, BLG Section, Township, Range: Cass Twp. Landform (fillslope, terrace, etc.); Fliat Local relief (concave, convex, none); none Subregion (LRR or MLRA); LRRN Lat: 40.118076 Long: **B2.049619 Datum; **NAD83 Are Limited (hydrologic conditions on the site typical for this time of year? Yes **No (If no, explain in Remarks.) Are Vegetation , Soil , or Hydrology , significantly disturbed? Are Vegetation , Soil , or Hydrology , naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes , No		State: OH Sampling Point: Upland 014					
Landform (nillslope, terrace, etc.): Flat	• • • • • • • • • • • • • • • • • • • •						
Subregion (LRR or MLRA): LRRN			Slope (%). 0				
Soil Map Unit Name: Mee's Keene sitt loam, sto o Percent slopes NAI Classification: IVIA Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (Iff no, explain in Remarks.) Are Negetation Soil or Hydrology significantly disturbed?							
Are Vegetation	Soil Map Unit Name: KeB: Keene silt loam, 3 to 8 percent slopes	NWI classi	fication: N/A				
Are Vegetation	Are climatic / hydrologic conditions on the site typical for this time of	year? Yes 🔽 No (If no, explain in	Remarks.)				
Are Vegetation	Are Vegetation, Soil, or Hydrology significant	ly disturbed? Are "Normal Circumstances"	" present? Yes 🖊 No				
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present?	Are Vegetation, Soil, or Hydrology naturally p						
Hydric Soil Present? Yes No within a Wetland? Yes No within a Wetland Hydrology Present? Yes No within a Wetland Inagery (Call Source Constitutions). If available: N/A Remarks:							
Upland data for W014-PEM-CATMOD2 (PEM) taken within maintained transmission line right-of-way. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) High Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation (A3) Vater Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Print Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Water Stained Leaves (B9) Field Observations: Surface Water Table (Present? Yes No Depth (inches): Saturation Present? Yes No Pepth (inches): Saturation Pres	Hydric Soil Present? Yes No Welland Hydrology Present? Yes No W	Is the Sampled Area within a Wetland? Yes	No				
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Inon 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 Wetland Hydrology Present?	right-of-way.	/I) taken within maintained transr	nission line				
Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Sediment Deposits (B2) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)		Secondary Indi	cators (minimum of two required)				
Surface Water (A1)		<u></u>	· · · · · · · · · · · · · · · · · · ·				
High Water Table (A2)		<u> </u>					
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches):							
Water Marks (B1)							
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Sturation Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Personal Protocology Protocology Present? Yes No Personal Protocology Protocology Protocology Protocology Protocology Protocology Protocology Protocology Protocology		- · · · · · · · · · · · · · · · · · · ·					
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): No Depth (inches): Wetland Hydrology Present? Yes No No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:							
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:							
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): Wetland Hydrology Present? Yes No Depth (inches):							
Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Aquatic Fauna (B13) FAC-Neutral Test (D5) FAC-Neutral Test (D5) 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 Depth (inches): Saturation Present? Yes No Person No Saturation Present? Yes No Person No Saturation Present? Yes _							
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, previous inspections), if available: N/A Remarks:	<u> </u>						
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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:	· /	 · -					
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:	<u> </u>		,				
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No		es):					
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:	Water Table Present? Yes No Depth (inche	es):					
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:			ent? Yes No				
N/A Remarks:	(includes capillary fringe)						
		otos, previous inspections), if available:					
Hydrology indicators are not present.	Remarks:						
	Hydrology indicators are not present.						

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r)		Species?		Number of Dominant Species
Absent				That Are OBL, FACW, or FAC: 1 (A)
·				That 7 to 0 B 2, 17 to 17 to 1
2				Total Number of Dominant
3				Species Across All Strata: 5 (B)
4				Description of Description
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)
				That Ale Obl., I AOW, OF I AO (A/b)
6				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. Rubus allegheniensis	15	Yes	FACU	FAC species x 3 =
2. Rosa multiflora	15	Yes	FACU	FACU species x 4 =
	-			
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				
6.				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				
10.				3 - Prevalence Index is ≤3.0 ¹
10.	30	- Total Cav		4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		= Total Cov	еі	data in Remarks or on a separate sheet)
Dactylis glomerata	40	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
				
2. Dichanthelium clandestinum	40	Yes	FAC	1 adjectors of budgie sell and wetlend budgeless movet
3. Rumex obtusifolius	20	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4.				
				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				
				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than 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	Ci	height.
1. Absent				
2				
3				
4				
5				Hydrophytic
				Vegetation Present? Yes No
6				1103CHT: 103 110
		= Total Cov	ei	
Remarks: (Include photo numbers here or on a separate	0	= Total Cov	eı	
Remarks: (Include photo numbers here or on a separate s	0	= Total Cov	<u> </u>	
Remarks: (Include photo numbers here or on a separate s	0	= Total Cov	е	
	0	= Total Cov	eı	
Remarks: (Include photo numbers here or on a separate sep	0	= Total Cov	eı	
	0	= Total Cov	eı	
	0	= Total Cov	eı	
	0	= Total Cov	ei	
	0	= Total Cov	ei	
	0	= Total Cov	ei	

Profile Desc	ription: (Describe	to the depth	needed to docun	ent the ir	ndicator o	or confirm	the absence	e of indicators.)
Depth	Matrix			c Features				
(inches)	Color (moist)	<u></u> %	Color (moist)	<u></u> %	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-16	10YR 4/3	70					SL	
	10YR 3/3	30						co-matrix color
	-							
		· —— —						
		<u> </u>						
1Type: C=Cc	oncentration, D=Dep	letion RM=R	aduced Matrix MS	=Masked	Sand Gra	nine	² I ocation: P	L=Pore Lining, M=Matrix.
Hydric Soil I		iction, Kivi-K	educed Matrix, Mc	-iviaskeu	Saliu Gia	11115.		eators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	(S7)				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ce (S8) (M	ILRA 147,		Coast Prairie Redox (A16)
Black His	stic (A3)		Thin Dark Su	rface (S9)	(MLRA 1	47, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye	,	- 2)		F	Piedmont Floodplain Soils (F19)
	Layers (A5)		Depleted Mat		0)		,	(MLRA 136, 147)
	ck (A10) (LRR N) I Below Dark Surfac	Δ (Δ11)	Redox Dark S Depleted Dar					Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
	rk Surface (A12)	C (ATT)	Redox Depre					Outer (Explain in Remarks)
	lucky Mineral (S1) (L	_RR N,	Iron-Mangan			_RR N,		
MLRA	147, 148)		MLRA 13	-				
	leyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
-	edox (S5)		Piedmont Flo					vetland hydrology must be present,
	Matrix (S6) ayer (if observed):		Red Parent M	lateriai (F2	21) (MLR/	4 127, 147	′) ι	unless disturbed or problematic.
Type: Nor								
Depth (inc			<u> </u>				Hydric Soi	I Present? Yes No
Remarks:	леs)		<u> </u>				Hyuric 301	Triesent: TesNO
Remarks.								
∐dric coi	le are not pro	cont						
Hulle Soi	ls are not pre	sent.						

Project/Site: West Trinway-Ohio Central City/Co	ounty: Muskingum Co. Sampling Date: 3/9/2022
Applicant/Owner: AEP	State: OH Sampling Point: Wetland 015
	on, Township, Range: Cass Twp.
Landform (hillslope terrace etc.): Depression	ef (concave convex none): concave Slope (%): 0
Landform (hillslope, terrace, etc.): Depression Local relief Subregion (LRR or MLRA): LRR-N Lat: 40.134981	Long: -82.065259 Datum: NAD83
Soil Map Unit Name: GfC2: Glenford silt loam, 8 to 15 percent slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Ye	
	· · · · · · · · · · · · · · · · · · ·
Are Vegetation, Soil, or Hydrology significantly disturb	
Are Vegetation, Soil, or Hydrology naturally problema	
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Ja the County of Area
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes No	William & Westame . 100 100
Remarks:	
Wetland data for W015-PSS-CAT2 (PSS) taken wit	thin maintained transmission line right-of-way.
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 (E High Water Table (A2) Hydrogen Sulfide Odo	
✓ High Water Table (A2) Hydrogen Sulfide Odo ✓ Saturation (A3) Oxidized Rhizosphere	
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (C	
Algal Mat or Crust (B4) Other (Explain in Rem	
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 _ V _ Depth (inches):	
Water Table Present? Yes No Depth (inches): 4	
Saturation Present? Yes No Depth (inches): 0	Wetland Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev	vious inspections), if available:
N/A Remarks:	
Remarks.	
Hydrology indicators are A2, A3, C3, D2, D5.	
Tryurology indicators are A2, A3, C3, D2, D3.	

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species
Absent				That Are OBL, FACW, or FAC: $\frac{5}{}$ (A)
<u> </u>				matric obe, raow, orrao (A)
2				Total Number of Dominant
3				Species Across All Strata: 5 (B)
4				
5.				Percent of Dominant Species That Are OBL FACW or FAC: 100 (A/B)
				That Are OBL, FACW, or FAC: $\frac{100}{}$ (A/B)
6				Prevalence Index worksheet:
7				
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 =
1. Salix nigra	65	Yes	OBL	FAC species x 3 =
2. Sambucus nigra	20	Yes	FAC	FACU species x 4 =
3				UPL species x 5 =
				Column Totals: (A) (B)
4				(5)
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.				
	85	= Total Cov	er er	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		- Total Cov	Ci	data in Remarks or on a separate sheet)
1. Phalaris arundinacea	15	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Impatiens capensis	20	Yes	FACW	1 adicates of hydric call and watered hydrology, mayot
3. Agrimonia parviflora	20	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4.				
				Definitions of Four Vegetation Strata:
5				Tree Meady plants avaluating vines 2 in (7.0 cm) or
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
				height.
1 7.				
7				1.0.g.m
8	_			Sapling/Shrub – Woody plants, excluding vines, less
	_			
8 9	_			Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8	_			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, regardless
8	_			Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8				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, regardless of size, and woody plants less than 3.28 ft tall.
8				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, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
8				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, regardless of size, and woody plants less than 3.28 ft tall.
8				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, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
8	55	= Total Cov	er	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, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
8	55	= Total Cov	er	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, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
8	55	= Total Cov	er	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, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
8	55	= Total Cov	er	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, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
8	55	= Total Cov	er	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, 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
8	55	= Total Cov	er	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, 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
8	55	= Total Cov	er	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, 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
8	55	= Total Cov	er	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, 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
8	55	= Total Cov	er	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, 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
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8	55	= Total Cov	er	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, 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
8	55	= Total Cov	er	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, 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
8	55	= Total Cov	er	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, 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
8	55	= Total Cov	er	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, 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
8	55	= Total Cov	er	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, 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

thes) Color (moist) % Color (moist) % Type ¹ Loc ² Texture Remarks	pth ches)			epth needed to docu			i oi comin		•
10YR 4/3				_		1	L oc²	Tevture	Remarks
10YR 4/2 40				Color (moist)		Туре	LUC		Nemarks
De: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) 2 cm Muck (A10) (LRR N) Predomort Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Depleted Bob Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 136) MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Red Parent Material (F21) (MLRA 127, 147) Trictive Layer (if observed): Type: None Parks: No Hydric Soil Present? Yes No				10VP 4/6	20		M/DI		
e: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Coation: PL=Pore Lining, M=Matrix.	<u> </u>							<u> </u>	
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Histosol (A1) — Dark Surface (S7) — Polyvalue Below Surface (S8) (MLRA 147, 148) — Coast Prairie Redox (A16) — MLRA 147, 148) — Loamy Gleyed Matrix (F2) — Depleted Matrix (F3) — Depleted Matrix (F3) — Depleted Below Dark Surface (A11) — Depleted Dark Surface (F7) — Nurran (S1) (LRR N) — Redox Depressions (F8) — Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) — MLRA 147, 148) — Muran 147, 148) — Sandy Gleyed Matrix (S4) — Piedmont Floodplain Soils (F12) — Other (Explain in Remarks) — Other (Explain in Remarks) — Other (Explain in Remarks) — Nurran 148, Matrix (S4) — Piedmont Floodplain Soils (F19) (MLRA 148) — Sandy Redox (S5) — Piedmont Floodplain Soils (F19) (MLRA 148) — Stripped Matrix (S6) — Piedmont Floodplain Soils (F19) (MLRA 147) — Nurran 147, 147) — Very Shallow Dark Surface (TF12) — Other (Explain in Remarks) — Other (Explain in Remarks) — Other (Explain in Remarks) — Nurran 148, Matrix (S4) — Piedmont Floodplain Soils (F19) (MLRA 148) — Sandy Redox (S5) — Piedmont Floodplain Soils (F19) (MLRA 148) — Red Parent Material (F21) (MLRA 127, 147) — Wery Shallow Dark Surface (TF12) — Other (Explain in Remarks) — Other (Explain in Remarks) — Nurran 147, 148 — Nurran 147 — Nurran			Depletion, R	M=Reduced Matrix, M	IS=Maske	d Sand G	rains.		
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 136, 147) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 136, 147, 148) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 136, 147, 148) Hydrogen Sulfide (A4) Hydrogen Sulfide (A4) Example Below Surface (S9) (MLRA 147, 148) Hydrogen Sulfide (A4) Hydrogen Sulfie (A14) Hydrogen S									· · · · · · · · · · · · · · · · · · ·
Alack Histic (A3)									
Hydrogen Sulfide (A4) Stratified Layers (A5) Com Muck (A10) (LRR N) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Trictive Layer (if observed): Whydric Soil Present? Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Whydric Soil Present? Yes No No Arks:								—	` ,
Stratified Layers (A5)							147, 148)		
2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) 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) Erictive Layer (if observed): Thick Dark Surface (A11) Depleted Dark Surface (F6) Depleted Dark Surface (F7) Depleted Dark Surface (F12) (LRR N, MLRA 136) Sandy Burch (Explain in Remarks) Slick Plan (Explain	-					(F2)			
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) Strictive Layer (if observed): weepth (inches): method Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Which Matrix (S4) MLRA 136, 122) Mucky Mineral (S1) (LRR N, MLRA 136) Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Iron-Manganese			Λ			E6)			
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Strictive Layer (if observed): Thick Dark Surface (A12) Surface (F13) (MLRA 136, 122) Surface (F13) (MLRA 148) Surface (F13) (MLRA 148					,	,			
Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Trictive Layer (if observed): weepth (inches): wetland hydrology must be present, and a problematic. Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) "MLRA 136, Umbric Surface (F13) (MLRA 136, 122) "Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. When the problematic in the problemati								0"	от (Ехрантит котпатко)
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Every ticking and the properties of							(LRR N,		
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. trictive Layer (if observed): type: None tepth (inches): Hydric Soil Present? Yes No tarks:	MLR	RA 147, 148)		MLRA 1	36)				
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. trictive Layer (if observed): type: None tepth (inches): Hydric Soil Present? Yes No tearks:)						
trictive Layer (if observed): Type: None Depth (inches): The properties of the pro	-								
ype: None lepth (inches): Hydric Soil Present? Yes No larks:				Red Parent	Material (I	F21) (ML	RA 127, 14	17) unle	ess disturbed or problematic.
epth (inches): Hydric Soil Present? Yes No earks:			∌d):						
narks:									
	epth (ii	nches):						Hydric Soil P	resent? Yes No
ets F3	arks:								
ets F3									
ets F3									
	ets F	-3							

Project/Site: West Trinway-Ohio Cen	tral	City/County: Mu	skingum Co.		Sampling Date: 3/9/2022			
Applicant/Owner: AEP			State: OH	Sampling Date: 3/9/2022 Sampling Point: Upland 015				
Investigator(s): KLV, BLG		Section, Township, Range: Cass Twp.						
Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (S								
Subregion (LRR or MLRA): LRR-N								
Soil Map Unit Name: RaB: Rawson s	NWI classifica	ntion: N/A						
Are climatic / hydrologic conditions o	n the site typical for this time	e of year? Yes	No (If	f no, explain in Re	emarks.)			
Are Vegetation, Soil,	or Hydrology signif	cantly disturbed?	Are "Normal C	Circumstances" pr	esent? Yes 🗸 No			
Are Vegetation, Soil,				plain any answers				
SUMMARY OF FINDINGS -			•		,			
Hydrophytic Vegetation Present?	Yes No							
Hydric Soil Present?	Yes No	/ 10 1110 04	npled Area Vetland?	Yes	No.			
Wetland Hydrology Present?	Yes No		Totiunu .	100	- No			
Remarks:		·						
Upland data for W015-F	'SS_CAT2 (PSS) t	aken within mai	ntained tra	ansmission	ine right-of-way.			
Wetland Hydrology Indicators:			ç	Secondary Indicat	ors (minimum of two required)			
Primary Indicators (minimum of one	e is required: check all that a	(ylagı		Surface Soil C				
Surface Water (A1)	•	atic Plants (B14)			etated Concave Surface (B8)			
High Water Table (A2)		Sulfide Odor (C1)	_	Drainage Patterns (B10)				
Saturation (A3)		Rhizospheres on Living						
Water Marks (B1)		e of Reduced Iron (C4)	Dry-Season Water Table (C2)					
Sediment Deposits (B2)	Recent Ir	on Reduction in Tilled	Soils (C6)					
Drift Deposits (B3)	Thin Muc	k Surface (C7)	Saturation Visible on Aerial Imagery (C9)					
Algal Mat or Crust (B4)	Other (E:	rplain in Remarks)	_	Stunted or Str	ressed Plants (D1)			
Iron Deposits (B5)			=	Geomorphic F				
Inundation Visible on Aerial Ima	agery (B7)		_	Shallow Aquit				
Water-Stained Leaves (B9)			Microtopographic Relief (D4) FAC-Neutral Test (D5)					
Aquatic Fauna (B13)			-	FAC-Neutral	est (D5)			
Field Observations: Surface Water Present? Yes	s No 🖍 Depth (i	nohoo):						
	S No Depth (i							
	s No Depth (i			drology Present	? Yes No			
(includes capillary fringe)					: 165 NU			
Describe Recorded Data (stream gann)/A	auge, monitoring well, aeria	photos, previous inspe	ctions), if availa	able:				
Remarks:								
Hydrology indicators are	e not present.							
, 0,	·							

	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: $\frac{0}{}$ (A)
2				Total Number of Dominant
3				Species Across All Strata: $\frac{2}{}$ (B)
4				Demonstrat Demonstrate Consider
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)
6				(178)
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	EI	FACW species x 2 =
1. Absent				FAC species x 3 =
-				FACU species x 4 =
2				UPL species x 5 =
3				
4				Column Totals: (A) (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				
9				2 - Dominance Test is >50%
10				3 - Prevalence Index is ≤3.0 ¹
	0	= Total Cov	er	4 - Morphological Adaptations¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		10101 001	0.	data in Remarks or on a separate sheet)
1. Lamium purpureum	30	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Cardamine hirsuta	30	Yes	FACU	
				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				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	<u> </u>		-	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 of size, and woody plants less than 3.28 ft tall.
12.				or size, and woody plants less than 5.25 it tall.
	60	= 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				Vegetation Present? Yes No
6			-	riesent? resNo
	-	= Total Cov	er	
Remarks: (Include photo numbers here or on a separate	sheet.)			
Wetland veg is not present.				
Trought rog to hot procent.				

Profile Desc	cription: (Describe	to the depth	needed to docun	nent the ir	ndicator	or confirm	the absence	of indicato	ors.)	
Depth	Matrix			x Features			_			
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-16	10YR 4/3	100					SL			
										
		· — — —								
										
	_									
¹ Type: C=Ce	oncentration, D=Dep	letion, RM=Re	educed Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL	.=Pore Linin	ng, M=Matrix	-
Hydric Soil										lydric Soils³:
Histosol	(A1)		Dark Surface	(S7)			2	cm Muck (A	410) (MLRA	147)
Histic Ep	pipedon (A2)		Polyvalue Be	low Surfac	e (S8) (N	ILRA 147,	148) C	oast Prairie	Redox (A16)
Black Hi	istic (A3)		Thin Dark Su			47, 148)		(MLRA 14		
	en Sulfide (A4)		Loamy Gleye		- 2)		P		oodplain Soils	s (F19)
	d Layers (A5)		Depleted Mat		•		,	(MLRA 13		(TE40)
	uck (A10) (LRR N)	o (A11)	Redox Dark S					-	v Dark Surfac iin in Remark	
	d Below Dark Surfac ark Surface (A12)	e (ATT)	Depleted Dar Redox Depre					лпег (⊏хріа	iiii iii Remark	.S)
	/lucky Mineral (S1) (I	RR N.	Iron-Mangane			LRR N.				
	A 147, 148)		MLRA 130		,o (i 12) (i					
	Gleyed Matrix (S4)		Umbric Surfa		MLRA 13	6, 122)	³ Ind	icators of hy	ydrophytic ve	getation and
	Redox (S5)		Piedmont Flo					-	ology must b	-
Stripped	l Matrix (S6)		Red Parent M	1aterial (F2	21) (MLR	A 127, 147	7) u	nless disturl	bed or proble	ematic.
	Layer (if observed):	:								
Type: Nor	ne		_							
Depth (in	ches):		<u> </u>				Hydric Soil	Present?	Yes	No <u> </u>
Remarks:										
Hdric soi	ils are not pre	sent								
1 10110 001	no aro not pro	00111.								

Project/Site: West Trinway-Ohio Central	City/Co	ounty: Muskingum Co.		Sampling Date: 3/9/2022			
Applicant/Owner: AEP	City/Co		State: OH	Sampling Point: Wetland 016			
	Section Section						
Landform (hillslope, terrace, etc.): Depression	Local relie	ef (concave, convex, non	ne); concave	Slope (%): 0			
Subregion (LRR or MLRA):	1 at: 40.136903	Long: -82.0	067345	Datum: NAD83			
Soil Map Unit Name: GfC2: Glenford silt loam, 8 to	15 percent slopes		NWI classifica	ntion: N/A			
Are climatic / hydrologic conditions on the site typic	al for this time of year? Ye	es <u> /</u> No (If no, explain in Re	emarks.)			
Are Vegetation, Soil, or Hydrology _	significantly disturb	ped? Are "Normal	Circumstances" pr	esent? Yes 🖊 No			
Are Vegetation, Soil, or Hydrology _			xplain any answer				
SUMMARY OF FINDINGS - Attach site	map showing sam	pling point locatio	ns, transects,	important features, etc.			
Hydrophytic Vegetation Present? Yes	phytic Vegetation Present? Yes No Is the Sampled Area						
		Is the Sampled Area within a Wetland?	Yes 🗸	_ No			
	No						
Remarks:							
Wetland data for W016-PSS-CAT right-of-way.	MOD2 (PSS) take	en within mainta	ined transmi	ssion line			
HYDROLOGY							
Wetland Hydrology Indicators:			-	ors (minimum of two required)			
Primary Indicators (minimum of one is required; cl			Surface Soil (
Surface Water (A1)	True Aquatic Plants (E	,		etated Concave Surface (B8)			
	Hydrogen Sulfide Odo		Drainage Patt				
	Oxidized Rhizosphere						
	Presence of ReducedRecent Iron Reduction			Vater Table (C2)			
	Thin Muck Surface (C		Crayfish Burro				
	Other (Explain in Rem		Saturation Visible on Aerial Imagery (C9)Stunted or Stressed Plants (D1)				
Iron Deposits (B5)		ianto)	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:							
	Depth (inches):						
	Depth (inches): 6			V			
Saturation Present? Yes No (includes capillary fringe)	Depth (inches): 0	Wetland H	ydrology Present	? Yes No			
Describe Recorded Data (stream gauge, monitorin	ng well, aerial photos, prev	vious inspections), if avai	ilable:				
Remarks:							
Terrans.							
Hydrology indicators are A2, A3, I	D2, D5.						

	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: $\frac{5}{}$ (A)
2.				(,,
				Total Number of Dominant Species Across All Strate: 5 (P)
3				Species Across All Strata: 5 (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:
	0	= Total Cov	er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)			·	FACW species x 2 =
1. Salix nigra	30	Yes	OBL	FAC species x 3 =
2 Sambucus nigra	30	Yes	FAC	FACU species x 4 =
3. Acer negundo	10	No	FAC	UPL species x 5 =
4				Column Totals: (A) (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				
8				1 - Rapid Test for Hydrophytic Vegetation
9				2 - Dominance Test is >50%
10.				3 - Prevalence Index is ≤3.0 ¹
10.	70	= 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 Persicaria sagittata	20	Yes	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
n Impatiens capensis	20	Yes	FACW	
3. Onoclea sensibilis	20	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				
9.				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				Woody vine All woody vines greater than 2.29 ft in
20' 5	60	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30' r)				
1. Absent				
2				
3				
3				
4				Hydrophytic
4				Vegetation
4				

Profile Desc	ription: (Describe	to the dep	th needed to docur	nent the	indicator	or confirn	n the absence o	of indicators.)
Depth	Matrix			x Feature	es			
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-6	10YR 4/2	100					SL	
6-16	10YR 5/1	75	10YR 4/6	25	С	M	SL	
					-			
								_
	-							
	-						-	
¹Type: C=Co	oncentration, D=Der	oletion. RM	=Reduced Matrix, MS	S=Maske	d Sand G	rains.	² Location: PL=	=Pore Lining, M=Matrix.
Hydric Soil		<u> </u>	Troducou Matrix, III	<u> </u>	a cana c	unio.		tors for Problematic Hydric Soils ³ :
Histosol			Dark Surface	(S7)				cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ace (S8) (I	MLRA 147,		past Prairie Redox (A16)
Black Hi			Thin Dark Su					(MLRA 147, 148)
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)		Pie	edmont Floodplain Soils (F19)
	l Layers (A5)		Depleted Ma	trix (F3)				(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark	•	,			ery Shallow Dark Surface (TF12)
	Below Dark Surfac	ce (A11)	Depleted Da				Of	ther (Explain in Remarks)
	ark Surface (A12)	LDDN	Redox Depre			(I DD N		
	lucky Mineral (S1) (LKK N,	Iron-Mangan		ses (F12)	(LRK N,		
	147, 148) sleyed Matrix (S4)		MLRA 13 Umbric Surfa		(MI DA 1	36 122\	³ India	cators of hydrophytic vegetation and
	ledox (S5)		Piedmont Flo					etland hydrology must be present,
-	Matrix (S6)		Red Parent N					lless disturbed or problematic.
	_ayer (if observed)	:	_				1	, , , , , , , , , , , , , , , , , , ,
Type: Nor								
Depth (inc							Hydric Soil I	Present? Yes V No No
Remarks:							.,	
remarks.								
NA 4	,							
Meets F3	3							

Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co. Sampling Date: 3/9/2022	!			
Applicant/Owner: AEP	State: OH Sampling Point: Uplan	d 016			
••	Section, Township, Range: Cass Twp.				
	ocal relief (concave, convex, none): none Slope (%):)			
Subregion (LRR or MLRA): LRR-N Lat: 40.137086	Long: -82.067727 Datum: NAD8	3			
Soil Map Unit Name: GfC2: Glenford silt loam, 8 to 15 percent slopes	NWI classification: N/A				
Are climatic / hydrologic conditions on the site typical for this time of year					
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Normal Circumstances" present? Yes Yes No				
Are Vegetation, Soil, or Hydrology naturally pr	roblematic? (If needed, explain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features	s, etc.			
Hydrophytic Vegetation Present? Yes No V Hydric Soil Present? Yes No V Wetland Hydrology Present? Yes No V Remarks:	Is the Sampled Area within a Wetland? Yes No				
Upland data for W016-PSS-CATMOD2 (PSS) right-of-way.	taken within maintained transmission line				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two requ	uired)			
Primary Indicators (minimum of one is required; check all that apply)	·	•			
Surface Water (A1) True Aquatic F		Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2) Hydrogen Sulfi		Drainage Patterns (B10)			
	ospheres on Living Roots (C3) Moss Trim Lines (B16)				
Water Marks (B1) Presence of Re	leduced Iron (C4) Dry-Season Water Table (C2)				
Sediment Deposits (B2) Recent Iron Re	eduction in Tilled Soils (C6) Crayfish Burrows (C8)				
Drift Deposits (B3) Thin Muck Sur	rface (C7) Saturation Visible on Aerial Imagery (C	9)			
Algal Mat or Crust (B4) Other (Explain	in Remarks) Stunted or Stressed Plants (D1)				
Iron Deposits (B5)	Geomorphic Position (D2)				
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)				
Water-Stained Leaves (B9)	Microtopographic Relief (D4)				
Aquatic Fauna (B13)	FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No Depth (inches	s):				
Water Table Present? Yes No Depth (inches		/			
Saturation Present? Yes No Depth (inches (includes capillary fringe)	s): Wetland Hydrology Present? Yes No	_			
Describe Recorded Data (stream gauge, monitoring well, aerial photo N/A	os, previous inspections), if available:				
Remarks:					
Hydrology indicators are not present.					
Trydrology maloators are not present.					

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?			
4 Absent				Number of Dominant Species That Are OBL, FACW, or FAC: (A	`
-				That Are OBL, FACW, or FAC:	1)
2				Total Number of Dominant	
3				Species Across All Strata: 3 (B)	5)
4					
				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 0 (A	/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	
	0	= Total Cov	or	OBL species x 1 =	
Sapling/Shrub Stratum (Plot size: 15' r)		= Total Cov	ei	FACW species x 2 =	
Rubus allegheniensis	20	Yes	FACU		
I				FAC species x 3 =	
2				FACU species x 4 =	
3				UPL species x 5 =	
				Column Totals: (A) (I	B)
4				(1)	٥,
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					
	20	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide support	ting
Herb Stratum (Plot size: 5' r)		Total Cov	OI .	data in Remarks or on a separate sheet)	
1. Lamium purpureum	20	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Cardamine hirsuta	10	No	FACU		
2. Cardamine misuta	- ——			¹ Indicators of hydric soil and wetland hydrology must	+
3. Setaria faberi	20	Yes	UPL	be present, unless disturbed or problematic.	ı
4					
				Definitions of Four Vegetation Strata:	
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm)	۱or
6				more in diameter at breast height (DBH), regardless	
7				height.	
8	- — —			Sapling/Shrub – Woody plants, excluding vines, les	SS
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
9.				3 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
9				Herb – All herbaceous (non-woody) plants, regardles	ess
9					ess
9				Herb – All herbaceous (non-woody) plants, regardles	
9		= Total Cov		Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.	
9				Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft ir	
9				Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft ir	
9	60	= Total Cov		Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft ir	
9	60	= Total Cov		Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft ir	
9	60	= Total Cov		Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft ir	
9	60	= Total Cov		Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.	
9	60	= Total Cov		Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft ir	
9	60	= Total Cov		Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic	
9	60	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation	
9	60	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation	
9	60	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation	
9	60	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation	
9	60	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation	
9	60	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation	
9	60	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation	
9	60	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation	
9	60	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation	

Profile Desc	cription: (Describe	to the depth ne	eded to docum	ent the inc	dicator o	or confirm	n the abser	nce of indicato	rs.)	
Depth	Matrix		Redox	Features						
(inches)	Color (moist)		Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	<u> </u>	Remarks	
0-16	10YR 4/3	100					SL			
		 					-			
-										
		 								
		-					2	<u> </u>		
	oncentration, D=Dep	oletion, RM=Red	uced Matrix, MS	=Masked S	Sand Gra	ains.		PL=Pore Linin		
Hydric Soil	Indicators:						In	dicators for Pr	oblematic Hy	dric Soils':
Histosol	(A1)	_	_ Dark Surface	(S7)				_ 2 cm Muck (A	A10) (MLRA 1	47)
Histic E	oipedon (A2)	_	_ Polyvalue Bel	ow Surface	(S8) (M	ILRA 147,	148)	Coast Prairie	Redox (A16)	
Black Hi	stic (A3)		_ Thin Dark Sui	face (S9) (I	MLRA 1	47, 148)		(MLRA 14	7, 148)	
Hydroge	en Sulfide (A4)		_ Loamy Gleye	d Matrix (F2	2)			_ Piedmont Flo	odplain Soils	(F19)
Stratified	d Layers (A5)	_	_ Depleted Mat	rix (F3)				(MLRA 13	6, 147)	
2 cm Mu	ıck (A10) (LRR N)		_ Redox Dark S	Surface (F6))		_	Very Shallow	/ Dark Surface	e (TF12)
Depleted	d Below Dark Surfac	ce (A11)	_ Depleted Dar	k Surface (F	=7)			_ Other (Expla	in in Remarks)
Thick Da	ark Surface (A12)	_	_ Redox Depre	ssions (F8)						
Sandy N	Mucky Mineral (S1) (LRR N,	_ Iron-Mangane	se Masses	(F12) (L	_RR N,				
MLRA	A 147, 148)		MLRA 136	i)						
Sandy G	Bleyed Matrix (S4)	_	_ Umbric Surfac	ce (F13) (M	LRA 13	6, 122)	3	³ Indicators of hy	drophytic veg	etation and
	Redox (S5)		_ Piedmont Flo	odplain Soil	ls (F19)	(MLRA 14	18)	wetland hydro	ology must be	present,
Stripped	Matrix (S6)		_ Red Parent M	aterial (F21) (MLR	A 127, 147	7)	unless disturb	bed or probler	natic.
Restrictive	Layer (if observed)	:								
Type: No	ne									
Depth (in							Hydric 9	Soil Present?	Yes	No 🗸
							Tiyunc	Jon Fresent:	163	
Remarks:										
Hdric so	ils are not pre	sent.								

Applicant/Owner: Act	Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co.		Sampling Date: 3/11/2022
Investigator(s): KLV, BLG Section, Township, Range: Cass Twp. Landform (fillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0 Landform (fillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0 Landform (fillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0 Latt. 40.14426 Long: S20.74567 Datum: MADB3 Soli Map Unit Name: Me: Melvin silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PEMIC Are Useptation Soli or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes V No Are Vegetation Soli or Hydrology naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes V No Is the Sampled Area within a Wetland? Yes No No Normal Organization Present? Yes No Normal Nor	Applicant/Owner: AEP	, ,	State: OH	
Landform (hillslope, terrace, etc.): Depression	• •	Section Township Range. Co		
Subregion (LRR of MLRA): LRR-N Lat: 40.14426 Long: -82.074557 Deatum: NAD83 Soll Map Unit Name: Me: Melvin silt loam, 0 to 3 percent slopes, frequently flooded NWI classification: PEM1C Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no. explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.) Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No ls the Sampled Area within a Wetland? Yes No Hydrology Fresent? Yes No ls the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No ls the Sampled Area within a Wetland? Yes No Wetland Hydrology Indicators:				Slone (%). 0
Soil Map Unit Name: Merk Mehrin silt loam, 0 to 3 percent slopes, frequently (flooded	Subregion (LBP or MLPA): LRR-N Lat. 40.14426			
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	Coil Man Unit Name. Me: Melvin silt loam, 0 to 3 percent slopes, fre	guently flooded	NIMI algorifies	Datum
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No Are Vegetation Soil or Hydrology naturally problematic? (Iff needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No Soil Is the Sampled Area within a Wetland? Ves No No No Setting and Hydrology Present? Yes No No Setting Area within a Wetland? Ves No No Setting Area within a Wetland? Wetland data for W020-PSS-CATMOD2 (PSS) taken within maintained transmission line right-of-way. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) Yes High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water (B10) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Aquatic Falana (B13) Sturted or Stressed Plants (D1) High Observations: Surface Water Present? Yes No Depth (inches): United Observations (S1) Metal Hydrology Present? Yes No Depth (inches): United Observations), if available: N/A Remarks:		4		
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present?				_
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present?				
Hydrophytic Vegetation Present? Yes Vo No Hydrosol Present? Yes No Depth (inches): Hydrophytic Vegetation Present? Yes No Depth (inches): 10 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:	Are Vegetation, Soil, or Hydrology naturally	y problematic? (If needed, e	explain any answer	s in Remarks.)
Hydric Soil Present? Yes V No Within a Wetland? Yes No No Within a Wetland? Yes No No Within a Wetland? Yes No	SUMMARY OF FINDINGS – Attach site map show	ing sampling point location	ns, transects,	important features, etc.
Hydric Soil Present? Yes V No Within a Wetland? Yes No No Within a Wetland? Yes No No Within a Wetland? Yes No	Hydrophytic Vegetation Present? Yes No			
Wetland data for W020-PSS-CATMOD2 (PSS) taken within maintained transmission line right-of-way. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Hydrogen Sulfide Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Water Marks (B1) Presence of Reduced Iron (C4) Drainage Patterns (B10) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes No Depth (inches): Outland Inches): Outland Inches): Outland Hydrology Present? Wetland Hydrology Present? Yes No Depth (inches): Outland Hydrology Indicators (minimum of two required) Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Drainage Patterns (B10) Moss Trim Lines (B16) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Outlete Scapillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:		is the bumpled Area	Vos V	No
Wetland data for W020-PSS-CATMOD2 (PSS) taken within maintained transmission line right-of-way. Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Frue Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Saturation (A3) Water Table (A2) Hydrogen Sulfide Odor (C1) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Aresent? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Gautarial Photos, previous inspections), if available: N/A Remarks:			163	_ 110
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) High Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B3) Thin Muck Surface (C7) Saturation visible on Aerial Imagery (B7) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes No Depth (inches): Uniculdes capillary fringe) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:	Remarks:	I		
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) Injudy Mater Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Stunted or Stressed Plants (D1) Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) Yes No Pield Observations: Wet Table Present? Yes No Saturation Present? Yes No Depth (inches): Water Table Present? Yes	· ·	SS) taken within mainta	ined transmi	ssion line
Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Recent Iron Reduction in Tilled Soils (C6) Prift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes ✓ No Depth (inches): Other (inchdes): Other (i	HYDROLOGY			
Surface Water (A1)				
✓ High Water Table (A2)				
✓ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) ✓ Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) ✓ FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table 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	<u> </u>	, ,		
Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Microtopographic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Staturation Present? Yes No Depth (inches):				
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Surface Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:				
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Capillary fringe) Wetland Hydrology Present? Yes No Depth (inches): Water Capillary fringe) Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:				
Iron Deposits (B5)				
Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Aquatic Fauna (B13) FAC-Neutral Test (D5) FAC-Neutral Test (D5) 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 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:	Algal Mat or Crust (B4) Other (Exp	lain in Remarks)	Stunted or Str	ressed Plants (D1)
Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) FAC-Neutral Test (D5)	Iron Deposits (B5)			
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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:	<u> </u>			
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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:				
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 Depth (inches): Wetland Hydrology Present? Yes No	<u> </u>		- FAC-Neutral	Test (D5)
Water Table Present? Yes No Depth (inches):		hes).		
Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks:			Ivdrology Present	t? Yes 🗸 No
N/A Remarks:	(includes capillary fringe)	, -		
Remarks:	, , , , , , , , , , , , , , , , , , , ,	notos, previous inspections), if ava	ilable:	
Hydrology indicators are A2, A3, D2, D5.				
	Hydrology indicators are A2, A3, D2, D5.			
	· · · · · · · · · · · · · · · · · · ·			

	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: $\frac{3}{}$ (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				
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	O.	FACW species x 2 =
1 Cephalanthus occidentalis	40	Yes	OBL	FAC species x 3 =
2. Alnus glutinosa	25	Yes	FACW	FACU species x 4 =
				UPL species x 5 =
3.				
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	65			4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 r) Phalaris arundinacea	50	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
I			- TAGW	
2				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Definitions of Four Vegetation Strata.
6.				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				Harb All harbacoous (non woody) plants, regardless
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				or oles, and mosal, planto loss than oles it tall
		= 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.				
J				
				Hydrophytic
4				Vegetation
4				Present? Yes No
4		= Total Cov		

Profile Desc	ription: (Describe	to the de	pth needed to docur	ment the	indicator	or confirn	n the absence	e of indicators.)
Depth	Matrix			x Feature		- 3	_	
(inches)	Color (moist)	%	Color (moist)	%	Type'	<u>Loc²</u>	<u>Texture</u>	Remarks
0-2	10YR 4/2	100					SL	
2-16	10YR 41	70	10YR 4/6	30	С	М	SL	
	-					· ——		
	-		· -			· ——	-	
	-					· ——		
·						· ——		
¹Type: C=Co	oncentration D=De	nletion RN	/I=Reduced Matrix, M	S=Maske	d Sand Gi	ains	² I ocation: PI	L=Pore Lining, M=Matrix.
Hydric Soil		prodori, rai	T TOGGOOG MGCHX, W	o maono	u cunu ci	unio.		ators for Problematic Hydric Soils ³ :
Histosol			Dark Surface	e (S7)				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ace (S8) (I	VILRA 147,		Coast Prairie Redox (A16)
Black Hi	. , ,		Thin Dark Su				, _	(MLRA 147, 148)
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)		F	Piedmont Floodplain Soils (F19)
Stratified	d Layers (A5)		Depleted Ma	trix (F3)				(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark					Very Shallow Dark Surface (TF12)
	d Below Dark Surfa	ce (A11)	Depleted Da				(Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	fucky Mineral (S1)	(LRR N,	Iron-Mangan		ses (F12)	(LRR N,		
	147, 148)		MLRA 13		/MIDA 1	26 122\	3lpc	dicators of hydrophytic vegetation and
	Sleyed Matrix (S4) Redox (S5)		Umbric Surfa Piedmont Flo					vetland hydrology must be present,
-	Matrix (S6)		Red Parent N					unless disturbed or problematic.
	_ayer (if observed):		(/ (1	
Type: Nor		,						
Depth (in							Hydric Soil	I Present? Yes No
	Srico)						Tiyano oon	111636Ht. 163 NO
Remarks:								
Meets F3	3							

Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co.		Sampling Date: 3/11/2022		
Applicant/Owner: AEP	City/County: Muskingum Co.	State: OH	Sampling Point: Wetland 021		
Investigator(s): KLV, BLG					
	Local relief (concave, convex, nor		Slone (%). 0		
Subregion (LRR or MLRA): LRR-N Lat: 40.14305					
Soil Map Unit Name: Ne: Newark silt loam, 0 to 3 percent slopes,	frequently flooded	NIMI algorifies	Datum		
Are climatic / hydrologic conditions on the site typical for this time					
	•		_		
Are Vegetation, Soil, or Hydrology signification,			resent? Yes V No No		
Are Vegetation, Soil, or Hydrology natura	illy problematic? (If needed, e	explain any answer	's in Remarks.)		
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point location	ns, transects,	, important features, etc.		
Hydrophytic Vegetation Present? Yes No					
Hydric Soil Present? Yes ✓ No		Vos V	No		
Wetland Hydrology Present? Yes V No		163	_ 110		
Remarks:	-				
Wetland data for W021-PSS-CATMOD2 (Fight-of-way.	PSS) taken within mainta	ined transmi	ission line		
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicat	tors (minimum of two required)		
Primary Indicators (minimum of one is required; check all that a	pply)	Surface Soil (
<u> </u>	atic Plants (B14)	Sparsely Vegetated Concave Surface (B8)			
	Sulfide Odor (C1)	Drainage Pati			
	Rhizospheres on Living Roots (C3)	Moss Trim Lir			
	of Reduced Iron (C4) on Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2) Crayfish Burrows (C8)			
	k Surface (C7)		sible on Aerial Imagery (C9)		
	plain in Remarks)	· 	ressed Plants (D1)		
Iron Deposits (B5)	,	Geomorphic F	····		
Inundation Visible on Aerial Imagery (B7)		Shallow Aquit	tard (D3)		
Water-Stained Leaves (B9)		Microtopogra	phic Relief (D4)		
Aquatic Fauna (B13)		FAC-Neutral	Test (D5)		
Field Observations:	6				
Surface Water Present? Yes No Depth (in	,				
Water Table Present? Yes V No Depth (in			v		
Saturation Present? Yes Vo Depth (in (includes capillary fringe)	mches): Wetland H	lydrology Present	t? Yes No		
Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspections), if ava	ilable:			
N/A					
Remarks:					
Hydrology indicators are A1, A2, A3, D2, D	95.				

	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: $\frac{5}{}$ (A)
·				That 7 to 0 B2, 17 to 17 to 1
2				Total Number of Dominant
3				Species Across All Strata: 5 (B)
4				Descent of Deminent Creation
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
6.				That Ale Obl., I AOW, OF I AO.
				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 =
Cephalanthus occidentalis	20	Yes	OBL	FAC species x 3 =
2. Alnus glutinosa	20	Yes	FACW	FACU species x 4 =
3. Acer rubrum	20	Yes	FAC	UPL species x 5 =
-				
4. Salix nigra	10	No	OBL	Column Totals: (A) (B)
5				
6				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				∠ 2 - Dominance Test is >50%
9				
10.				3 - Prevalence Index is ≤3.0 ¹
	70	= 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 Phalaris arundinacea	45	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
1	15		FACW	
2. Scirpus cyperinus	- ——	Yes		¹ Indicators of hydric soil and wetland hydrology must
3. Scirpus polyphyllus	10	No	OBL	be present, unless disturbed or problematic.
4. Mimulus alatus	10	No	FACW	
5				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				
0				Sapling/Shrub – Woody plants, excluding vines, less
				I than 3 in DPH and greater than 3.78 ft (1 m) tall
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9 10				than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless
9				
9 10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
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		= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
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.	80	= Total Cov	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	80	= Total Cov	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.	80	= Total Cov	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. 10. 11. 12. Woody Vine Stratum (Plot size: 30' r) 1. Absent 2. 3.	80	= Total Cov	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.
9.	80	= Total Cov	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.	80	= Total Cov	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.	80	= Total Cov	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.	80	= Total Cov	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.	80	= Total Cov	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.	80	= Total Cov	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.	80	= Total Cov	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.	80 	= Total Cov	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.	80 	= Total Cov	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.	80 	= Total Cov	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.	80 	= Total Cov	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.	80 	= Total Cov	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.	80 	= Total Cov	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	80 	= Total Cov	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

Profile Desc	cription: (Describe	to the de	oth needed to docur	nent the	indicator	or confirm	n the absence o	of indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-2	10YR 4/2	100			_		SL	
2-16	10YR 41	70	10YR 4/6	30	С	М	SL	
								_
	-				_		·	_
								•
		· <u> </u>						
					_			
					_		·	
		· ——					<u> </u>	
		letion, RM	I=Reduced Matrix, M	S=Maske	d Sand G	ains.		Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indicat	ors for Problematic Hydric Soils ³ :
Histosol			Dark Surface					cm Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue Be					ast Prairie Redox (A16)
	stic (A3)		Thin Dark Su			147, 148)		(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye		(F2)			edmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma	. ,	(FC)			(MLRA 136, 147) ery Shallow Dark Surface (TF12)
	ick (A10) (LRR N) d Below Dark Surfac	ο (Δ11)	Redox Dark Depleted Da					her (Explain in Remarks)
	ark Surface (A12)	c (ATT)	Redox Depre				0.	nei (Explain in Nemarks)
	lucky Mineral (S1) (L	RR N,	Iron-Mangan			(LRR N,		
	A 147, 148)	,	MLRA 13		,	` '		
	Gleyed Matrix (S4)		Umbric Surfa		(MLRA 1	36, 122)	³ Indic	cators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo	odplain	Soils (F19)	(MLRA 1	48) we	tland hydrology must be present,
	l Matrix (S6)		Red Parent N	Material (F21) (MLF	A 127, 14	7) unl	less disturbed or problematic.
	Layer (if observed):							
Type: Nor	ne							
Depth (in	ches): <u>-</u>						Hydric Soil F	Present? Yes No
Remarks:							•	
Meets F3	3							

Project/Site: West Trinway-Ohio Co	entral	Citv/C	ounty: Muskingum Co.		Sampling Date: 3/11/2022
Applicant/Owner: AEP					Sampling Point: Wetland 022
Investigator(s): KLV, BLG		Section	on, Township, Range: C		<u> </u>
Landform (hillslope, terrace, etc.):	Depression	Local reli	ef (concave, convex, no	one): concave	Slope (%): 0
Landform (hillslope, terrace, etc.): Subregion (LRR or MLRA): LRR-N	l at:	40.141895	Long: -82	.072002	Datum: NAD83
Soil Map Unit Name: Ne: Newark	silt loam, 0 to 3 percen	t slopes, frequently flo	oded 201191	NWI classific	pation: PFO1C
Are climatic / hydrologic conditions					
Are Vegetation, Soil		-			oresent? Yes 🔽 No
Are Vegetation, Soil				explain any answe	,
SUMMARY OF FINDINGS	- Attach site ma	ap snowing sam	ipling point locati	ons, transects	, important features, etc.
Hydrophytic Vegetation Present?		No	Is the Sampled Area		
Hydric Soil Present?		No	within a Wetland?	Yes	No
Wetland Hydrology Present?	Yes	No			
Remarks:					
Wetland data for W022	2-PSS-CATMO	DD2 (PSS) tak	en within maint:	ained transm	ission line
right-of-way.	2 1 00 0/(1)WC	7D2 (1 00) tak	Cir within maint	anica transm	1331011 11110
light of way.					
HYDROLOGY					
Wetland Hydrology Indicators:				Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of c	ne is required; check	all that apply)		Surface Soil	Cracks (B6)
Surface Water (A1)		True Aquatic Plants (I	B14)	Sparsely Ve	getated Concave Surface (B8)
High Water Table (A2)		Hydrogen Sulfide Odd		Drainage Pa	tterns (B10)
Saturation (A3)			es on Living Roots (C3)		
Water Marks (B1)		Presence of Reduced			Water Table (C2)
Sediment Deposits (B2)		Recent Iron Reduction		Crayfish Bur	
Drift Deposits (B3) Algal Mat or Crust (B4)		Thin Muck Surface (C Other (Explain in Ren			isible on Aerial Imagery (C9) tressed Plants (D1)
Iron Deposits (B5)	 `	other (Explain in Ren	idiko)	✓ Geomorphic	
Inundation Visible on Aerial I	magery (B7)			Shallow Aqu	
Water-Stained Leaves (B9)				Microtopogra	aphic Relief (D4)
Aquatic Fauna (B13)				FAC-Neutral	Test (D5)
Field Observations:		10			
	es No				
	es No				V
Saturation Present? Y (includes capillary fringe)	es No	Depth (inches):	Wetland	Hydrology Preser	nt? Yes No
Describe Recorded Data (stream	gauge, monitoring w	ell, aerial photos, pre	vious inspections), if av	ailable:	
N/A					
Remarks:					
		00 00 05			
Hydrology indicators a	re A1, A2, A3,	C3, D2, D5.			

	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: $\frac{5}{}$ (A)
				(','
2				Total Number of Dominant
3				Species Across All Strata: 5 (B)
4				
				Percent of Dominant Species That Are OBL FACW or FAC: 100 (A/B)
5				That Are OBL, FACW, or FAC: $\frac{100}{100}$ (A/B)
6				Prevalence Index worksheet:
7				
8				Total % Cover of: Multiply by:
0.	•			OBL species x 1 =
Cardinar/Charle Charles (Plat sine, 15' f		= Total Cov	er	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 15'r)	00		ODI	
1. Cephalanthus occidentalis	20	Yes	OBL	FAC species x 3 =
2. Acer nugundo	20	Yes	FAC	FACU species x 4 =
3. Acer rubrum	20	Yes	FAC	UPL species x 5 =
	10	No	OBL	
4. Salix nigra	- 10	INO	OBL	Column Totals: (A) (B)
5				
				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7	- ——			1 - Rapid Test for Hydrophytic Vegetation
8				
9				2 - Dominance Test is >50%
				3 - Prevalence Index is ≤3.0 ¹
10				4 - Morphological Adaptations ¹ (Provide supporting
	70	= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)				
1. Phalaris arundinacea	40	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Lysimachia nummularia	20	Yes	FACW	
				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				· ·
				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				
				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				Mark All back as a second for a second of a last a second last
11.				Herb – All herbaceous (non-woody) plants, regardless
<u>-</u>				of size, and woody plants less than 3.28 ft tall.
12				Woody vine – All woody vines greater than 3.28 ft in
201	60	= Total Cov	er	height.
Woody Vine Stratum (Plot size: 30' r)				Troight.
1. Absent				
2.				
3				
4				
4				
45				Hydrophytic
5				Vegetation
	- —— - ——			
5	- —— - ——			Vegetation
5	0			Vegetation
5	0			Vegetation
5	0			Vegetation
5	0			Vegetation
Remarks: (Include photo numbers here or on a separate se	0 sheet.)	= Total Cov		Vegetation
5	0 sheet.)	= Total Cov		Vegetation
Remarks: (Include photo numbers here or on a separate se	0 sheet.)	= Total Cov		Vegetation
Remarks: (Include photo numbers here or on a separate se	0 sheet.)	= Total Cov		Vegetation
Remarks: (Include photo numbers here or on a separate se	0 sheet.)	= Total Cov		Vegetation
Remarks: (Include photo numbers here or on a separate se	0 sheet.)	= Total Cov		Vegetation
Remarks: (Include photo numbers here or on a separate se	0 sheet.)	= Total Cov		Vegetation
Remarks: (Include photo numbers here or on a separate se	0 sheet.)	= Total Cov		Vegetation

Profile Desc	ription: (Describe	to the de	pth needed to docur	ment the	indicator	or confirm	n the absence	of indicators.)
Depth	Matrix	0/		x Feature		1 - 2	Tt	Demonto
(inches) 0-2	Color (moist) 10YR 4/2	<u>%</u> 100	Color (moist)	<u>%</u>	Type'	Loc ²	<u>Texture</u> SL	Remarks
	10YR 41		10YR 4/6	20		M/DI		
2-16	101K 41	70	1011 4/0	30		M/PL	SL	
			·		_			
		_		_	_	-		
-			-	-	-			
		_			-			
		pletion, RN	1=Reduced Matrix, M	S=Maske	d Sand Gi	ains.		_=Pore Lining, M=Matrix.
Hydric Soil			Davis Courtes	(07)				ators for Problematic Hydric Soils ³ :
Histosol	oipedon (A2)		Dark Surface Polyvalue Be		ace (S8) (I	/II RΔ 1 <i>4</i> 7		cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16)
Black Hi			Tolyvalde Be				, 140)	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye			· · · · , · · · · ,	P	Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma	. ,				(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark					/ery Shallow Dark Surface (TF12)
	d Below Dark Surfac ark Surface (A12)	ce (A11)	Depleted Da Redox Depre				_ (Other (Explain in Remarks)
	fucky Mineral (S1) (LRR N.	Iron-Mangan			LRR N.		
	A 147, 148)		MLRA 13		,	,,		
	Sleyed Matrix (S4)		Umbric Surfa		(MLRA 1	36, 122)	³ Ind	licators of hydrophytic vegetation and
-	Redox (S5)		Piedmont Flo					vetland hydrology must be present,
	Matrix (S6)		Red Parent N	Material (I	F21) (MLF	A 127, 14	7) u	nless disturbed or problematic.
Type: Nor	Layer (if observed) ne):						
Depth (in							Usalvia Cail	Present? Yes V No No
	cries).						Hydric Soil	Present? res No
Remarks:								
Meets F3	2							
INICCIST	,							

Project/Site: West Trinway-Ohio Central City	/County: Muskingum Co. Sampling Date: 3/11/2022
Applicant/Owner: AEP	State: OH Sampling Point: Wetland 023
	tion, Township, Range: Cass Twp.
Landform (hillslope terrace etc.). Depression	elief (concave convex none): concave Slone (%): 0
Landform (hillslope, terrace, etc.): Depression Local results Later Late	Long: -82.074308 Datum: NAD83
Soil Map Unit Name: Me: Melvin silt loam, 0 to 3 percent slopes, frequently fl	looded NIM/Lagasification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly distr	
Are Vegetation, Soil, or Hydrology naturally probler	natic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	mpling 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 Wetland: 165 NO
Remarks:	
Wetland data for W023-PSS-CAT2 taken within n	naintained transmission line right-of-way.
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 O ✓ Saturation (A3) Oxidized Rhizosphe	odor (C1) Drainage Patterns (B10) eres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	
Sediment Deposits (B2) Recent Iron Reduct	
Drift Deposits (B3) Thin Muck Surface	
Algal Mat or Crust (B4) Other (Explain in Re	emarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes No Depth (inches): 4	
Water Table Present? Yes No Depth (inches): 0	
Saturation Present? Yes No Depth (inches): 0	Wetland Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, property) N/A	revious inspections), if available:
Remarks:	
Remarks.	
Hydrology indicators are A1, A2, A3, C3, D2, D5.	
11 y di biogy indicators are 7(1, 7(2, 7(3, 63, 62, 63.	

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r)		Species?		Number of Dominant Species
Absent				That Are OBL, FACW, or FAC: $\frac{5}{}$ (A)
·				matric obe, raow, or rao (A)
2				Total Number of Dominant
3				Species Across All Strata: 5 (B)
4				D
5				Percent of Dominant Species That Are OBL FACW or FAC: 100 (A/B)
				That Are OBL, FACW, or FAC: 100 (A/B)
6				Prevalence Index worksheet:
7				
8				Total % Cover of: Multiply by:
	0	= Total Cov	er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)		10101 001	01	FACW species x 2 =
1. Cephalanthus occidentalis	20	Yes	OBL	FAC species x 3 =
2. Alnus glutinosa	50	Yes	FAC	
2. Allius giuliiosa		103	170	FACU species x 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				
8				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
10				4 - Morphological Adaptations ¹ (Provide supporting
_	70	= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)				
1. Scirpus cyperinus	30	Yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Persicaria sagittata	30	Yes	FACW	
3. Alisma subcordatum	20	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must
	- —			be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
				more in diameter at breast height (DBH), regardless of
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, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Man de ador Allemande do anotar de agrecia de la compansión de la compansi
	80	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 30' r)				Height.
1. Absent				
2.				
3				
4				Hydrophytic
5				Vegetation
6.				Present? Yes No No
0				
		= Total Cov	er	
Remarks: (Include photo numbers here or on a separate s	sheet.)			
Wetland veg is present. Passes the do	minance	e test.		
- ·				

Profile Desc	ription: (Describe	to the de	pth needed to docu	ment the	indicator	or confirm	m the absence	of indicators.)		
Depth	Matrix			x Feature						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Re	emarks	
0-2	10YR 4/2	100					SL	_		
2-16	10YR 41	70	10YR 4/6	30	С	M/PL	SL			
			-					-		
		_			_			-		
				- ·						
				<u> </u>						
		_								
		-			_					-
							· -	-		
			· 				2			
		oletion, RN	M=Reduced Matrix, M	S=Maske	d Sand G	ains.		=Pore Lining, M= itors for Problen		a Caila ³ .
Hydric Soil			Davis Confees	(07)					-	
Histosol	(A1) pipedon (A2)		Dark Surface Polyvalue Be		200 (58) (1	MI DA 147		cm Muck (A10) (I oast Prairie Redo		
Black Hi			Thin Dark Su		. , .		, 146) C	MLRA 147, 148		
	en Sulfide (A4)		Loamy Gleye			147, 140)	Pi	iedmont Floodpla		9)
	d Layers (A5)		Depleted Ma		(- –)		<u> </u>	(MLRA 136, 147		-,
	ick (A10) (LRR N)		Redox Dark		(F6)		v	ery Shallow Dark		F12)
	d Below Dark Surfac	e (A11)	Depleted Da				c	ther (Explain in F	Remarks)	
	ark Surface (A12)		Redox Depre							
	Mucky Mineral (S1) (I	LRR N,	Iron-Mangan		ses (F12)	(LRR N,				
	A 147, 148) Gleyed Matrix (S4)		MLRA 13		(MI DA 1	26 122)	³ Indi	cators of hydroph	nutic vegeta	tion and
	Redox (S5)		Piedmont Flo					etland hydrology		
-	Matrix (S6)		Red Parent I					nless disturbed or		
	Layer (if observed)	<u> </u>								
Type: Nor	ne									
Depth (inc	ches):						Hydric Soil	Present? Yes		No
Remarks:							I			
Meets F3	3									
	-									

Project/Site: West Trinway-Ohio Central	City/County: Muskingum Co.	State: OH Sampling Point: Upland C			
Applicant/Owner: AEP		State: OH Sampling Point: Upland C)20-023		
	Section, Township, Range: C				
		ne): none Slope (%): 0			
Subregion (LRR or MLRA): LRR-N Lat:					
Soil Map Unit Name: Me: Melvin silt loam, 0 to 3 percent	slopes, frequently flooded	Datum: NAD83 NWI classification: N/A			
Are climatic / hydrologic conditions on the site typical for	_				
Are Vegetation, Soil, or Hydrology		Circumstances" present? Yes No _			
Are Vegetation, Soil, or Hydrology	_ naturally problematic? (If needed, e	xplain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site ma	p showing sampling point location	ns, transects, important features,	etc.		
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks:	No within a Wetland?	Yes No			
Upland data for W020-PSS-CATMOE W023-PSS-CAT2 (PSS) taken within HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two requir	ed)		
Primary Indicators (minimum of one is required; check a		Surface Soil Cracks (B6)			
	rue Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)			
	lydrogen Sulfide Odor (C1)	Drainage Patterns (B10)			
	Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4)	Moss Trim Lines (B16)			
	Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2) Crayfish Burrows (C8)			
	hin Muck Surface (C7)	Crayist Burlows (Co) Saturation Visible on Aerial Imagery (C9))		
	Other (Explain in Remarks)	Stunted or Stressed Plants (D1)	,		
Iron Deposits (B5)	(27)	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:					
	Depth (inches):				
	Depth (inches):	•	,		
	Depth (inches): Wetland H	ydrology Present? Yes No			
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring we N/A	II, aerial photos, previous inspections), if ava	ilable:			
Remarks:					
Tremains.					
Hydrology indicators are not present.					

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

Sampling Point: Upland 020-023

	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: $\frac{0}{}$ (A)
				(*,)
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: 0 (A/B)
6.				That / He OBE, 17 (OV), 01 17 (O.)
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				
451-	0	= Total Cov	er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species x 2 =
1. Rubus allegheniensis	30	Yes	FACU	FAC species x 3 =
2				FACU species x 4 =
				UPL species x 5 =
3				
4				Column Totals: (A) (B)
5				Dravalance Index = 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				
	30	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)				
1. Dactylis glomerata	30	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Dipsacus fullonum	20	Yes	FACU	
3. Cardamine hirsuta	20	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4. Glechoma hederacea	20	Yes	FACU	Definitions of Four Vegetation Strata:
5				
6.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
				more in diameter at breast height (DBH), regardless of
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
	_			of size, and woody plants less than 3.28 ft tall.
12				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	sheet)			1
Tromano. (morado prioto namboro noro or on a doparato	011001.7			
Wetland veg is not present.				
Trouding rog to flot processing				

Sampling Point: Upland 020-023

Profile Description: (Describe to	the depth ne	eded to docun	ent the in	dicator o	r confirm	the ab	sence of indicat	ors.)	
Depth Matrix		Redox	Features						
(inches) Color (moist)	% C	olor (moist)	%	Type ¹	Loc ²	Text	ure	Remarks	
0-16 10YR 4/2	100					SL			
									
									
						-			
						-			
¹ Type: C=Concentration, D=Deple	tion RM=Red	uced Matrix MS	=Masked	Sand Gra	ins	² Locatio	on: PL=Pore Lini	ing M=Matrix	_
Hydric Soil Indicators:	7.1011, 17.111 17.104	acca matrix, me	Machad	ound one		Locali	Indicators for P		vdric Soils³:
Histosol (A1)		_ Dark Surface	(S7)					(A10) (MLRA 1	
Histic Epipedon (A2)	-	_ Polyvalue Be		e (S8) (M	I RΔ 147	148)		e Redox (A16)	•
Black Histic (A3)		_ Tolyvalae Be _ Thin Dark Su				140)	(MLRA 1		
Hydrogen Sulfide (A4)		_ Loamy Gleye			,,			loodplain Soils	(F19)
Stratified Layers (A5)		_ Depleted Mat		-,			(MLRA 1		()
2 cm Muck (A10) (LRR N)		Redox Dark S		3)				w Dark Surfac	e (TF12)
Depleted Below Dark Surface	(A11)	_ Depleted Dar	•					ain in Remarks	
Thick Dark Surface (A12)	`	 _ Redox Depre							,
Sandy Mucky Mineral (S1) (LI	RR N,	_ _ Iron-Mangane			.RR N,				
MLRA 147, 148)		MLRA 136		· / •	·				
Sandy Gleyed Matrix (S4)		_ Umbric Surfa		ILRA 13	6, 122)		3Indicators of h	nydrophytic ve	getation and
Sandy Redox (S5)	<u></u>	_ Piedmont Flo	odplain So	ils (F19)	MLRA 14	l8)	wetland hyd	rology must be	e present,
Stripped Matrix (S6)	_	_ Red Parent M	laterial (F2	1) (MLR	127, 147	7)	unless distu	rbed or proble	matic.
Restrictive Layer (if observed):									
Type: None									
Depth (inches): -						Hydri	ic Soil Present?	Yes	No 🗸
Remarks:						1		<u> </u>	
Hydric soils are not pre	sent.								

APPENDIX C Ohio Rapid Assessment Method for Wetlands Data Forms



Background Information

Name:					
Kristen Vonderwish					
Date:					
3/2/2022					
Affiliation: GAI Consultants, Inc.					
Address:					
5399 Lauby Road, Suite 120, North Canton, OH 44720 Phone Number:					
234.203.0772					
e-mail address:	e-mail address:				
k.vonderwish@gaiconsulta					
Name of Wetland:	W001				
Vegetation Communit(ies): PEM					
HGM Class(es):					
Depressional	de map, address, north arrow, landmarks, distances, roads, etc.				
	attached project location map.				
	and and project to all or map.				
Lat/Long or UTM Coordinate					
	40.096388, -82.026069				
USGS Quad Name	Dresden, OH				
County	Muskingum				
Township	Cass Township				
Section and Subsection	X				
Hydrologic Unit Code	050400040305				
Site Visit	3/2/2022				
National Wetland Inventory N	^{Лар} X				
Ohio Wetland Inventory Map	X				
Soil Survey	BeD2: Berks channery silt loam, 15 to 25 percent				
Delineation report/map	Υ				

W001

Wetland Size (acres, hectares):

acres 0.161937

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 31

Category: 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Mil	lwood-Ohio	Central	Rater(s): Kristen Vonderwish		Date: 3/2/2022
2	2	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign scor >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.1) 3 to <10 acres (1.2 to <4ha X 0.3 to <3 acres (0.12 to <1.3) 0.1 to <0.3 acres (0.04 to <1.3) <p><0.1 acres (0.04ha) (0 pts)</p>	0.2ha) (5 pts) na) (4 pts) I (3 pts) 2ha) (2pts)		
7	9	Metric 2. Upland bu	ffers and surroundi	ing land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers a 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years) MODERATELY HIGH. Res	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around a 10m to <25m (32ft to <82ft) aroun average <10m (<32ft) around wetlan	erimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. llife area, etc. (7) forest. (5) ervation tillage, new fallo	ow field. (3)
13	22	Metric 3. Hydrology	. ,		
max 30 pts.	subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lab 3c. Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrological None or none apparent (12)	ce water (3) se or stream) (5) 3d. ly one and assign score. (2) cregime. Score one or double chec	Part of wetland/ul X Part of riparian or Duration inundation/sate Semi- to permane X Regularly inundat Seasonally inund Seasonally satura	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) red/saturated (3)
		X Recovered (7) Recovering (3) Recent or no recovery (1)	ditch tile dike weir stormwater input	point source (non filling/grading road bed/RR trac dredging other	
9	31	Metric 4. Habitat Al	teration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) X Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or comparent (9) Recovered (6)	one and assign score.	✓ shrub/sapling rem	noval
SI	31	Recovering (3) Recent or no recovery (1)	grazing clearcutting selective cutting woody debris removal toxic pollutants	herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

last revised 1 February 2001 jjm

Site: M	illwood-Ohio	Central	Rater(s)	Kristen Von	derwish	ite: 3/2/2022
s	31 subtotal first pa	age				
0	31	Metric 5. Specia	l Wetlands	S.		
max 10 pts.	subtotal	Check all that apply and score a Bog (10) Fen (10) Old growth forest (10) Mature forested wetla Lake Erie coastal/tribu Lake Erie coastal/tribu Lake Plain Sand Prain Relict Wet Prairies (10) Known occurrence sta Significant migratory states	nd (5) utary wetland-unre utary wetland-restr ries (Oak Openings 0) ate/federal threater songbird/water fow	icted hydrol s) (10) ned or enda l habitat or	ngered species (10) usage (10)	
0	31	Metric 6. Plant c	ommuniti	es, inte	erspersion, microtopo	graphy.
max 20 pts.	subtotal	6a. Wetland Vegetation Commi	unities. V	egetation (Community Cover Scale	
		Score all present using 0 to 3 so		0	Absent or comprises <0.1ha (0.2471 a	cres) contiguous area
		O Aquatic bed	_	1	Present and either comprises small pa	
		2 Emergent			vegetation and is of moderate quality	
		0 Shrub	_		significant part but is of low quality	
		0 Forest	_	2	Present and either comprises significa	nt part of wetland's
		Mudflats			vegetation and is of moderate quality	or comprises a small
		O Open water	<u> </u>		part and is of high quality	
		0 Other		3	Present and comprises significant part	, or more, of wetland's
		6b. horizontal (plan view) Inters	persion.		vegetation and is of high quality	
		Select only one.				
		High (5)	<u> </u>		escription of Vegetation Quality	(
		Moderately high(4)		low	Low spp diversity and/or predominance	e of nonnative or
		Moderate (3) Moderately low (2)	-	mod	disturbance tolerant native species Native spp are dominant component o	f the vegetation
		Low (1)		mou	although nonnative and/or disturbance	
		X None (0)			can also be present, and species div	
		6c. Coverage of invasive plants	Refer		moderately high, but generally w/o p	•
		to Table 1 ORAM long form for l			threatened or endangered spp	Cochoc of faic
		or deduct points for coverage	_	high	A predominance of native species, with	n nonnative spp
		Extensive >75% cove	r (-5)	J	and/or disturbance tolerant native sp	
		X Moderate 25-75% cov	ver (-3)		absent, and high spp diversity and of	iten, but not always,
		Sparse 5-25% cover ([-1)		the presence of rare, threatened, or	endangered spp
		Nearly absent <5% co	over (0)			
		Absent (1)	<u>N</u>	ludflat and	Open Water Class Quality	
		6d. Microtopography.	_	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 so	_	1	Low 0.1 to <1ha (0.247 to 2.47 acres)	
		1 Vegetated hummucks		2	Moderate 1 to <4ha (2.47 to 9.88 acre	<u>s)</u>
		Coarse woody debris		3	High 4ha (9.88 acres) or more	
		O Standing dead >25cm		licrotopog	ranhy Coyor Scalo	
		O Amphibian breeding p	oulo <u>I</u>	0	Absent	
			_	1	Present very small amounts or if more	common
				į	of marginal quality	OGMINION
			-	2	Present in moderate amounts, but not	of highest
				-	quality or in small amounts of highes	
			_	3	Present in moderate or greater amoun	-
	7				and of highest quality	
31			_		·	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
g	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	31	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	_	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	(Category 2)	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

-		
Name: Kristen Vonderwish		
Date: 3/2/2022		
Affiliation:		
GAI Consultants, Inc.		
Address: 5399 Lauby Road, Suite 12	0, North Canton, OH 44720	
Phone Number:	o, Horar Carlon, Cit 41725	
234.203.0772		
e-mail address: k.vonderwish@gaiconsultar	nts.com	
Name of Wetland:		
Vegetation Communit(ies): PEM		
HGM Class(es):		
Depressional		
Location of Wetland: include	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the a	attached project location map.	
Lat/Long or UTM Coordinate	40.096777, -82.026638	
	40.090777, -02.020030	
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040305	
Site Visit	3/2/2022	
National Wetland Inventory N		
,	^{nap} X	
Ohio Wetland Inventory Map	X	
Soil Survey	GfC2: Glenford silt loam, 8 to 15 percent slopes	
Delineation report/map		
1 ' '	X	

W002

Wetland Size (acres, hectares):

acres 0.01715

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 38

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Millwood-Ohio Central			Rater(s): Kristen Vonderwish		Date: 3/2/2022
1	1	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign scolors (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1. 0.1 to <0.3 acres (0.04 to < X <0.1 acres (0.04ha) (0 pts)	0.2ha) (5 pts) ha) (4 pts)) (3 pts) 2ha) (2pts)		
7	8	Metric 2. Upland bu	ffers and surroundi	ing land use.	
max 14 pts.	subtotal	X MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth o X LOW. Old field (>10 years) MODERATELY HIGH. Res	m (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around e 10m to <25m (32ft to <82ft) around average <10m (<32ft) around wetlan	erimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. llife area, etc. (7) forest. (5) ervation tillage, new fallo	ow field. (3)
17	24	Metric 3. Hydrology	'-		
max 30 pts.	subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surfa X Perennial surface water (la 3c. Maximum water depth. Select or >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologi None or none apparent (12	ce water (3) ke or stream) (5) 3d. sly one and assign score. (2) c regime. Score one or double chec	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat X Seasonally inundat Seasonally satura	in (1) lake and other human use (1) pland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3)
		X Recovered (7) Recovering (3) Recent or no recovery (1)	ditch tile dike weir stormwater input	point source (non filling/grading road bed/RR track dredging other	,
12	36	Metric 4. Habitat Al	teration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score on None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or one or one or one or one apparent (9)	/ one and assign score.		
sı	36 lbtotal this pa	Recovered (6) X Recovering (3) Recent or no recovery (1)	mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	✓ shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	ttic bed removal

last revised 1 February 2001 jjm

Site: Mil	lwood-Ohio	Central	Rater(s): Kristen Vo	nderwish Da	te: 3/2/2022
SI	36 ubtotal first pa	age			
0	36	Metric 5. Special V	Vetlands.		
max 10 pts.	subtotal	Check all that apply and score as in Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (Lake Erie coastal/tributary Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/ff Significant migratory song	(5) y wetland-unrestricted hydro y wetland-restricted hydro (Oak Openings) (10) federal threatened or end	angered species (10)	
		Category 1 Wetland. See			
4	38	Metric 6. Plant cor	nmunities, int	erspersion, microtopo	graphy.
max 20 pts.	subtotal	6a. Wetland Vegetation Communiti	es. Vegetation	Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 ac	
		Aquatic bedEmergent	1	Present and either comprises small par vegetation and is of moderate quality	
		O Shrub		significant part but is of low quality	, or compliced a
		0 Forest	2	Present and either comprises significar	
		0 Mudflats		vegetation and is of moderate quality	or comprises a small
		Open water	3	part and is of high quality Present and comprises significant part,	or more, of wetland's
		Other 6b. horizontal (plan view) Interspers		vegetation and is of high quality	of more, or welland's
		Select only one.		regetation and to or might quality	
		High (5)	Narrative D	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predominance	of nonnative or
		Moderate (3) Moderately low (2)	mod	disturbance tolerant native species Native spp are dominant component of	the vegetation
		Low (1)	mod	although nonnative and/or disturbance	-
		X None (0)		can also be present, and species dive	
		6c. Coverage of invasive plants. R		moderately high, but generally w/o pr	esence of rare
		to Table 1 ORAM long form for list. or deduct points for coverage	high	threatened or endangered spp A predominance of native species, with	nonnativo enn
		Extensive >75% cover (-5	•	and/or disturbance tolerant native sp	• • •
		Moderate 25-75% cover (absent, and high spp diversity and of	•
		Sparse 5-25% cover (-1)		the presence of rare, threatened, or e	endangered spp
		Nearly absent <5% cover		d Onen Water Class Ovelity	
		X Absent (1) 6d. Microtopography.	0	d Open Water Class Quality Absent <0.1ha (0.247 acres)	_
		Score all present using 0 to 3 scale.		Low 0.1 to <1ha (0.247 to 2.47 acres)	
		O Vegetated hummucks/tus	sucks 2	Moderate 1 to <4ha (2.47 to 9.88 acre-	s)
		Coarse woody debris >15		High 4ha (9.88 acres) or more	
		O Standing dead >25cm (10	,	ranhy Cover Scale	
		1 Amphibian breeding pools	s <u>wiicrotopoç</u>	raphy Cover Scale Absent	
			1	Present very small amounts or if more	common
				of marginal quality	
			2	Present in moderate amounts, but not of quality or in small amounts of highest	
	1		3	Present in moderate or greater amount and of highest quality	s
38					

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
Ü	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	38	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	(Category 1)	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name		
Name: Kristen Vonderwish		
Date:		
3/2/2022		
Affiliation: GAI Consultants, Inc.		
Address:		
	20, North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address: k.vonderwish@gaiconsulta	nte com	
Name of Wetland:		
Vegetation Communit(ies): PEM		
HGM Class(es):		
Depressional	de map, address, north arrow, landmarks, distances, roads, etc.	
	attached project location map.	
Lat/Long or UTM Coordinate	40.097413, -82.027553	
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040305	
Site Visit	3/2/2022	
National Wetland Inventory N	^{Map} X	
Ohio Wetland Inventory Map	X	
Soil Survey	GfC2: Glenford silt loam, 8 to 15 percent slopes	
Delineation report/map	Υ	

Wetland Size (acres, hectares):

acres 0.228652

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score :

36

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category o status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
ou.	vegetation communities, although non-native or disturbance tolerant	120	110
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	Matlemateles de la contra	Commission
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Occupation Occupation	
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Millwood-Ohio Central			Rater(s): Kristen Vonderwish		Date: 3/2/2022
1	1	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign scor >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.11 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2 X 0.1 to <0.3 acres (0.04 to <1.2 <0.1 acres (0.04ha) (0 pts)	0.2ha) (5 pts) na) (4 pts) (3 pts) 2ha) (2pts)		
7	8	Metric 2. Upland bu	ffers and surroundi	ng land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers a 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years) MODERATELY HIGH. Res	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) around everage <10m (<32ft) around wetlan	erimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallo	ow field. (3)
17	25	Metric 3. Hydrology	•	` '	
max 30 pts.	subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface X Perennial surface water (lak 3c. Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1)	ce water (3) te or stream) (5) 3d. Ily one and assign score. (2) tregime. Score one or double chec	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat X Seasonally inundat Seasonally satura	in (1) ake and other human use (1) bland (e.g. forest), complex (1) cupland corridor (1) curation. Score one or dbl check ently inundated/saturated (4) ced/saturated (3) ated (2) ated in upper 30cm (12in) (1) stormwater)
7	32	Metric 4. Habitat Alt	teration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or comparent (9) Recovered (6) X Recovering (3)	one and assign score. Touble check and average. Check all disturbances observed mowing grazing	shrub/sapling rem	
SU	32 ubtotal this pa	Recent or no recovery (1)	clearcutting selective cutting woody debris removal toxic pollutants	sedimentation dredging farming nutrient enrichme	nt

last revised 1 February 2001 jjm

Site: Mil	llwood-Ohio	Central Ra	ter(s): Kristen Voi	nderwish	Date: 3/2/2022
SI	32 ubtotal first pa	Ť	I I.		
0	32	Metric 5. Special Wet	ands.		
max 10 pts.	subtotal	Check all that apply and score as indicated Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetla Lake Erie coastal/tributary wetla Lake Plain Sand Prairies (Oak of Relict Wet Prairies (10) Known occurrence state/federa Significant migratory songbird/w Category 1 Wetland. See Ques	and-unrestricted hydro and-restricted hydro Openings) (10) I threatened or enda vater fowl habitat or stion 1 Qualitative R	angered species (10) usage (10) lating (-10)	
4	36	Metric 6. Plant comm	unities, int	erspersion, microto	opography.
max 20 pts.	subtotal	Sa. Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	471 acres) contiguous area
		Aquatic bed	1	Present and either comprises sm	, <u> </u>
		2 Emergent		vegetation and is of moderate of	quality, or comprises a
		0 Shrub		significant part but is of low qua	•
		O Forest	2	Present and either comprises sig	
		0 Mudflats		vegetation and is of moderate	quality or comprises a small
		Open water		part and is of high quality	
		0 Other	3	Present and comprises significan	
		6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	/
		Select only one.	Normative D	and the second s	
		High (5)		escription of Vegetation Quality	inanae of nannative or
		Moderately high(4) Moderate (3)	low	Low spp diversity and/or predom disturbance tolerant native spe	
		Moderately low (2)	mod	Native spp are dominant compor	
		Low (1)	mod	although nonnative and/or distu	
		X None (0)		can also be present, and speci-	
		6c. Coverage of invasive plants. Refer		moderately high, but generally	•
		to Table 1 ORAM long form for list. Add		threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native specie	s, with nonnative spp
		Extensive >75% cover (-5)		and/or disturbance tolerant nat	
		Moderate 25-75% cover (-3)		absent, and high spp diversity	
		Sparse 5-25% cover (-1)		the presence of rare, threatene	d, or endangered spp
		Nearly absent <5% cover (0)			
		X Absent (1)		d Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres) Low 0.1 to <1ha (0.247 to 2.47 a	orog)
		Score all present using 0 to 3 scale. O Vegetated hummucks/tussucks		Moderate 1 to <4ha (2.47 to 9.88	
		O Coarse woody debris >15cm (6		High 4ha (9.88 acres) or more	o acres)
		O Standing dead >25cm (10in) db	, <u> </u>	Trigit 4nd (5.00 deres) of more	
		1 Amphibian breeding pools		raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if of marginal quality	more common
			2	Present in moderate amounts, but quality or in small amounts of h	•
	7		3	Present in moderate or greater a	
36				and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
Ü	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	36	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	(Category 1)	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/2/2022		
Affiliation:		
GAI Consultants, Inc. Address:		
-	20, North Canton, OH 44720	
Phone Number: 234.203.0772		
e-mail address: k.vonderwish@gaiconsulta	nts com	
Name of Wetland:		
Vegetation Communit(ies):		
PEM		
HGM Class(es): Depressional		
	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	40,000,000,000,000,000,000	
USGS Quad Name	40.090002, -02.020374	
	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040305	
Site Visit	3/2/2022	
National Wetland Inventory N	^{Лар} X	
Ohio Wetland Inventory Map	X	
Soil Survey	GfC2: Glenford silt loam, 8 to 15 percent slopes	
Delineation report/map	Υ	

W004

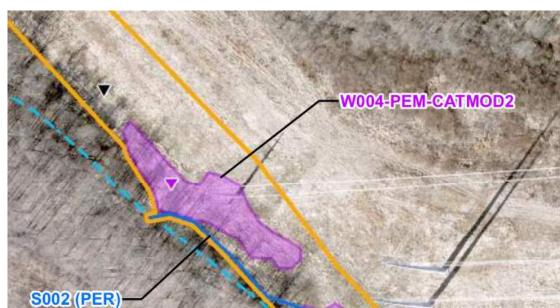
Wetland Size (acres, hectares):

acres 0.286572

 ${\bf Sketch: Include\ north\ arrow,\ relationship\ with\ other\ surface\ waters,\ vegetation\ zones,\ etc.}$

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 38

Catego

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Millwood-Ohio Central			Rater(s): Kristen Vonderwish		Date: 3/2/2022
1 1 max 6 pts. s		Metric 1. Wetland A	, ,		
max o pis.		Select one size class and assign score	0.2ha) (5 pts) na) (4 pts) (3 pts) 2ha) (2pts) 0.12ha) (1 pt)		
7 8	N	letric 2. Upland but	ffers and surroundi	ng land use.	
max 14 pts. s		WIDE. Buffers average 50n X MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers a Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years) MODERATELY HIGH. Res	Select only one and assign score. Don (164ft) or more around wetland per 25m to <50m (82 to <164ft) around to 210m to <25m (32ft to <82ft) around to 210m to <25m (32ft to <82ft) around to 210m to <32ft) around wetland Select one or double check and avolder forest, prairie, savannah, wildle, shrub land, young second growth for idential, fenced pasture, park, conseen pasture, row cropping, mining, con	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) /erage. life area, etc. (7) orest. (5) ervation tillage, new fallo	w field. (3)
17 2	₅ N	letric 3. Hydrology			
max 30 pts. s	subtotal 3a	a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surfac X Perennial surface water (lak	ce water (3)	Part of wetland/up Y Part of riparian or	
	30	 Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) 		Regularly inundat X Seasonally inund	ated (2)
	3e		Cregime. Score one or double chec Check all disturbances observed ditch tile dike weir stormwater input		,
10 3	₅ N	/letric 4. Habitat Alt	eration and Develo	pment.	
max 20 pts. s	subtotal 4a	a. Substrate disturbance. Score one None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1)	or double check and average.		
		Excellent (7) Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) Habitat alteration. Score one or development.			
	5 otal this page	None or none apparent (9) X Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed w mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

last revised 1 February 2001 jjm

Site: Millwood-Ohio Central		Rater(s): Kristen V	onderwish	Date: 3/2/2022	
s	35 ubtotal first pa	age			
0	35	Metric 5. Special	Wetlands.		
max 10 pts.	subtotal	Lake Erie coastal/tributa Lake Plain Sand Prairie Relict Wet Prairies (10) Known occurrence state Significant migratory so	d (5) ary wetland-unrestricted h ary wetland-restricted hydi	dangered species (10) or usage (10)	
3	38	Metric 6. Plant co	mmunities, in	terspersion, microt	opography.
max 20 pts.	subtotal	Metland Vegetation Commun	nities Venetation	n Community Cover Scale	
		Score all present using 0 to 3 scal		Absent or comprises <0.1ha (0.	2471 acres) contiguous area
		Aquatic bed	1	Present and either comprises si	
		2 Emergent		vegetation and is of moderate	
		0 Shrub		significant part but is of low qu	uality
		0 Forest	2	Present and either comprises si	gnificant part of wetland's
		Mudflats		vegetation and is of moderate	quality or comprises a small
		Open water		part and is of high quality	
		0 Other	3	Present and comprises signification	
		6b. horizontal (plan view) Interspe	ersion.	vegetation and is of high qual	ity
		Select only one.			
		High (5)		Description of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predor	
		Moderate (3)		disturbance tolerant native sp	
		Moderately low (2)	mod	Native spp are dominant compo	_
		Low (1) None (0)		although nonnative and/or dis	
		6c. Coverage of invasive plants.	Pefer	moderately high, but generally	•
		to Table 1 ORAM long form for lis		threatened or endangered sp	•
		or deduct points for coverage	high	A predominance of native speci	
		Extensive >75% cover	_	and/or disturbance tolerant na	• • • • • • • • • • • • • • • • • • • •
		Moderate 25-75% cove	r (-3)	absent, and high spp diversity	and often, but not always,
		Sparse 5-25% cover (-1)	the presence of rare, threaten	ed, or endangered spp
		Nearly absent <5% cov X Absent (1)		nd Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale		Low 0.1 to <1ha (0.247 to 2.47	acres)
		Vegetated hummucks/to		Moderate 1 to <4ha (2.47 to 9.8	38 acres)
		O Coarse woody debris >		High 4ha (9.88 acres) or more	 ,
		O Standing dead >25cm (10in) dbh		
		O Amphibian breeding po		graphy Cover Scale	
			0	Absent	
			1	Present very small amounts or i of marginal quality	f more common
			2	Present in moderate amounts, to quality or in small amounts of	
T	7		3	Present in moderate or greater	
38				and of highest quality	
	1				

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
Ü	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	38	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category					
Choose one	Category 1	(Category 2)	Category 3		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/2/2022		
Affiliation: GAI Consultants, Inc.		
Address: 5399 Lauby Road, Suite 12	0. North Canton, OH 44720	
Phone Number:	o, Notifi Canton, Off 44720	
234.203.0772 e-mail address:		
k.vonderwish@gaiconsultar		
Name of Wetland:	W005	
Vegetation Communit(ies): PEM		
HGM Class(es): Depressional		
	le map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the a	attached project location map.	
Lat/Long or UTM Coordinate	40.100474, -82.031298	
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040305	
Site Visit	3/2/2022	
National Wetland Inventory M	^{lap} X	
Ohio Wetland Inventory Map	X	
Soil Survey	Omu1C1: Omulga silt loam, 6 to 12 percent slope	
Delineation report/map	X	

W005

Wetland Size (acres, hectares):

acres 0.123404

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 36

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Mi	illwood-Ohio	Central Rater(s): Kris	ten Vonderwish	Date: 3/2/2022
0	0	Metric 1. Wetland Area (size).		
max 6 pts.	subtotal	Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) x <0.1 acres (0.04ha) (0 pts)		
11	11	Metric 2. Upland buffers and	surrounding land use	-
max 14 pts.	subtotal	2a. Calculate average buffer width. Select only one and WiDE. Buffers average 50m (164ft) or more a MEDIUM. Buffers average 25m to <50m (82 NARROW. Buffers average 10m to <25m (33 VERY NARROW. Buffers average <10m (<32 NARROW. Buffers average <	around wetland perimeter (7) to <164ft) around wetland perimeter (4) 2ft to <82ft) around wetland perimeter (1) 2ft) around wetland perimeter (0) buble check and average. ie, savannah, wildlife area, etc. (7) g second growth forest. (5) asture, park, conservation tillage, new fal	
12	23	Metric 3. Hydrology.		
max 30 pts.	subtotal	3a. Sources of Water. Score all that apply. High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2)	Part of wetland/\(\frac{\fir\f{\frac{\fir\f{\frac{\frac}\frac{\frac{\frac{\frac{\frac{\	ain (1) Alake and other human use (1) Alake and other human use (1) Alay upland (e.g. forest), complex (1) Alay upland corridor (1) Alay turation. Score one or dbl check Alay inundated/saturated (4) Alay ated/saturated (3)
		 X < 0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic regime. Score of the score of the	Seasonally satu	rated in upper 30cm (12in) (1)
		None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1) Check all disturb ditch dike weir stormwate	bances observed point source (no filling/grading road bed/RR tradredging other other transports of the filling filling filling filling filling filling other filling	
10	33	Metric 4. Habitat Alteration a	nd Development.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or double check None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)	and average.	
		4b. Habitat development. Select only one and assign s Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2)	core.	
		4c. Habitat alteration. Score one or double check and a None or none apparent (9) Check all disturb	average. bances observed	
	33	X Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) woody del toxic pollu	shrub/sapling re herbaceous/aqu sedimentation dredging bris removal	atic bed removal
	subtotal this pa d 1 Februa	age ary 2001 jjm		

7

Site: Mi	llwood-Ohio	Central	Rater	(s): Kristen Voi	nderwish	Date: 3/2/2022
s	33 ubtotal first pa	nge				
0	33	Metric 5. S	pecial Wetlan	ds.		
max 10 pts.	subtotal	Bog (10) Fen (10) Old growth Mature fore Lake Erie of Lake Plain Relict Wet Known occ Significant	and score as indicated. I forest (10) ested wetland (5) coastal/tributary wetland-r Sand Prairies (Oak Open Prairies (10) currence state/federal thre migratory songbird/water Wetland. See Question	estricted hydro ings) (10) atened or end fowl habitat or	angered species (10)	
3	36	Metric 6. P	lant commun	ities, int	erspersion, microto	opography.
max 20 pts.	subtotal	』 6a. Wetland Vegetat	tion Communities.	Vegetation	Community Cover Scale	
		Score all present usin Aquatic be Emergent	=	0	Absent or comprises <0.1ha (0.2 Present and either comprises sm vegetation and is of moderate	nall part of wetland's
		0 Shrub			significant part but is of low qua	
		0 Forest		2	Present and either comprises sig	•
		0 Mudflats			vegetation and is of moderate	
		Open wate	r		part and is of high quality	
		0 Other		3	Present and comprises significar	nt part, or more, of wetland's
		6b. horizontal (plan	view) Interspersion.		vegetation and is of high qualit	y
		Select only one.			·	
		High (5)		Narrative D	escription of Vegetation Quality	
		Moderately Moderate (low	Low spp diversity and/or predom disturbance tolerant native spe	
		Moderately		mod	Native spp are dominant compor	
		Low (1)	, ,		although nonnative and/or distr	
		X None (0)			can also be present, and speci	es diversity moderate to
		6c. Coverage of inva	sive plants. Refer		moderately high, but generally	w/o presence of rare
		to Table 1 ORAM Ion	g form for list. Add		threatened or endangered spp	
		or deduct points for d	•	high	A predominance of native specie	• • • • • • • • • • • • • • • • • • • •
			>75% cover (-5)		and/or disturbance tolerant nat	
			25-75% cover (-3)		absent, and high spp diversity	
			25% cover (-1)		the presence of rare, threatene	d, or endangered spp
			ent <5% cover (0)	Manual Class and	d O	
		X Absent (1)			d Open Water Class Quality	
		6d. Microtopography		0	Absent <0.1ha (0.247 acres)	
		Score all present usin		1	Low 0.1 to <1ha (0.247 to 2.47 a	
			hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.8	s acres)
		<u> </u>	ody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
			ead >25cm (10in) dbh	Microtopos	graphy Cover Scale	
		U	breeding pools		Absent	
				<u>0</u> 1	Present very small amounts or if	more common
				-	of marginal quality	
				2	Present in moderate amounts, but quality or in small amounts of h	
	1			3	Present in moderate or greater a and of highest quality	mounts
36					1 2 4	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
J	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	36	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	(Category 1)	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/2/2022		
Affiliation:		
GAI Consultants, Inc. Address:		
-	0, North Canton, OH 44720	
Phone Number: 234.203.0772		
e-mail address:	ata aam	
k.vonderwish@gaiconsultar Name of Wetland:		
Vegetation Communit(ies):	VV006	
PEM		
HGM Class(es): Depressional		
	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the a	attached project location map.	
Lat/Long or UTM Coordinate		
Laveoring of OTM Coordinate	40.102594, -82.033873	
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040305	
Site Visit	3/2/2022	
National Wetland Inventory N	^{flap} X	
Ohio Wetland Inventory Map	X	
Soil Survey	WuD2: Westmoreland-Guernsey silt loams, 15 to	
Delineation report/map	X	
1	/\	l

W006

Wetland Size (acres, hectares):

acres 0.021403

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score :

38

Category: Modified 2

Scoring Boundary Worksheet

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Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
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End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Millwood-Ohio Central			Rater(s): Kristen Vonderwish	Date: 3/2/2022	
0	0	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign score	0.2ha) (5 pts) na) (4 pts) (3 pts) tha) (2pts)		
8	8	Metric 2. Upland but	ffers and surroundi	ng land use.	
max 14 pts.	subtotal	X MEDIUM. Buffers average and NARROW. Buffers average VERY NARROW. Buffers average VERY NARROW. Buffers average very very very very very very very ver	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around v 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallo	w field. (3)
16	24	Metric 3. Hydrology	•		
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) X Seasonal/Intermittent surface Perennial surface water (lak 3c. Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic	e water (3) e or stream) (5) 3d. ly one and assign score. (2)	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane X Regularly inundat Seasonally inundat Seasonally satura	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) red/saturated (3)
			Check all disturbances observed ditch tile dike weir stormwater input	point source (non filling/grading road bed/RR track dredging other	,
10	34	Metric 4. Habitat Alt	eration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)	or double check and average.		
		4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or development.			
SI	34	None or none apparent (9) X Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed wowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

last revised 1 February 2001 jjm

Site: M	illwood-Ohio	Central Rat	ter(s): Kristen Vo	nderwish	Date: 3/2/2022
s	34 subtotal first pa	a			
0	34	Metric 5. Special Wetl	ands.		
max 10 pts.	subtotal	Check all that apply and score as indicated Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetla Lake Erie coastal/tributary wetla Lake Plain Sand Prairies (Oak C Relict Wet Prairies (10) Known occurrence state/federal Significant migratory songbird/w Category 1 Wetland. See Ques	nd-unrestricted hydro nd-restricted hydro Openings) (10) threatened or enda ater fowl habitat or	angered species (10) usage (10)	
4	38	Metric 6. Plant commu	unities, int	erspersion, microt	opography.
max 20 pts.	subtotal	Ga. Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
		Score all present using 0 to 3 scale. Aquatic bed Emergent	1	Absent or comprises <0.1ha (0.2 Present and either comprises sr vegetation and is of moderate	nall part of wetland's
		O Shrub Forest	2	significant part but is of low queen Present and either comprises significant and either comprises significant and extensions.	gnificant part of wetland's
		Mudflats Open water		vegetation and is of moderate part and is of high quality	quality of comprises a small
		0 Other	3	Present and comprises significa	
		6b. horizontal (plan view) Interspersion. Select only one.		vegetation and is of high quali	ty
		High (5)	Narrative D	escription of Vegetation Quality	
		Moderately high(4) Moderate (3)	low	Low spp diversity and/or predom disturbance tolerant native spe	
		Moderately low (2) Low (1)	mod	Native spp are dominant compo although nonnative and/or dist	turbance tolerant native spp
		None (0) 6c. Coverage of invasive plants. Refer		can also be present, and spec moderately high, but generally	•
		to Table 1 ORAM long form for list. Add		threatened or endangered spp)
		extensive >75% cover (-5)	high	A predominance of native specie and/or disturbance tolerant na	tive spp absent or virtually
		Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity the presence of rare, threaten	
		Nearly absent <5% cover (0)	_		<u> </u>
		Absent (1)		d Open Water Class Quality	
		6d. Microtopography. Score all present using 0 to 3 scale.	<u>0</u> 1	Absent <0.1ha (0.247 acres) Low 0.1 to <1ha (0.247 to 2.47 a	acros)
		O Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.8	
		O Coarse woody debris >15cm (6i		High 4ha (9.88 acres) or more	<u> </u>
		Standing dead >25cm (10in) dbl	n		
		1 Amphibian breeding pools		graphy Cover Scale	
			<u>0</u> 1	Absent Present very small amounts or it	f more common
			2	of marginal quality Present in moderate amounts, b quality or in small amounts of	
	7		3	Present in moderate or greater a and of highest quality	
38			-		

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
J	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	38	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fina	al Category			
Choose one Category 1 Category 2 Category 3					

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/2/2022		
Affiliation:		
GAI Consultants, Inc. Address:		
5399 Lauby Road, Suite 12	0, North Canton, OH 44720	
Phone Number: 234.203.0772		
e-mail address:	4	
k.vonderwish@gaiconsultar Name of Wetland:		
Vegetation Communit(ies):	VV007	
PEM		
HGM Class(es): Depressional		
1 .	le map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the a	attached project location map.	
Lat/Long or UTM Coordinate		
LavLorig or OTIVI Coordinate	40.103177, -82.034498	
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040305	
Site Visit	3/2/2022	
National Wetland Inventory M	lap X	
Ohio Wetland Inventory Map	X	
Soil Survey	AfC2- Alford silt loam 8 to 15% slopes	
Delineation report/map	X	

W007

Wetland Size (acres, hectares):

acres 0.008466

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 26

Category: 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Mil	llwood-Ohio	Central	Rater(s): Kristen Vonderwish Date: 3/2/2022				
0	0	Metric 1. Wetland Ar	ea (size).				
max 6 pts.	subtotal	Select one size class and assign score >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.1h 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2 0.1 to <0.3 acres (0.04 to <0 X	.2ha) (5 pts) a) (4 pts) (3 pts) ha) (2pts)				
5	5	Metric 2. Upland buf	fers and surroundi	ing land use.			
max 14 pts.	subtotal	MEDIUM. Buffers average 2 X NARROW. Buffers average 2 VERY NARROW. Buffers average 2 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years), X MODERATELY HIGH. Resi	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetland	erimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. llife area, etc. (7) forest. (5) ervation tillage, new fallo	w field. (3)		
15	20	Metric 3. Hydrology.		, ,			
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) X Seasonal/Intermittent surface Perennial surface water (lake 3c. Maximum water depth. Select only >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (1) 3e. Modifications to natural hydrologic None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1)	e water (3) e or stream) (5) 3d. y one and assign score. 2) regime. Score one or double chec	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat X Seasonally inundat Seasonally satura	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ed/saturated (3) ated (2) ated in upper 30cm (12in) (1) stormwater)		
10	30	Metric 4. Habitat Alt	eration and Develo	pment.			
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or do None or none apparent (9) X Recovered (6) Recovering (3) Recent or no recovery (1)	one and assign score.	shrub/sapling rem herbaceous/aqua sedimentation dredging			
SI	30 ubtotal this pa	ge	woody debris removal toxic pollutants	farming nutrient enrichme	nt		

last revised 1 February 2001 jjm

Site: Mil	lwood-Ohio	Central	Rater	(s): Kristen Vo	nderwish	Date: 3/2/2022
sı.	30 abtotal first pa	Ť	ic 5. Special Wetlan	nds.		
U	30		•			
max 10 pts.	subtotal		that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-Lake Erie coastal/tributary wetland-Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thresignificant migratory songbird/water Category 1 Wetland. See Question	restricted hydronings) (10) eatened or ender fowl habitat or 1 Qualitative F	angered species (10) r usage (10) Rating (-10)	
-4	26	Metr	ic 6. Plant commun	ities, int	erspersion, microto	pography.
max 20 pts.	subtotal	」 −6a. Wetl	and Vegetation Communities.	Vegetation	Community Cover Scale	
			present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	471 acres) contiguous area
		0	Aquatic bed	1	Present and either comprises sm	
		1	Emergent		vegetation and is of moderate of	quality, or comprises a
		0	Shrub		significant part but is of low qua	-
		0	Forest	2	Present and either comprises sig	
		0	Mudflats		vegetation and is of moderate of	juality or comprises a small
		0	Open water		part and is of high quality	
		0	Other	3	Present and comprises significan	
			zontal (plan view) Interspersion.		vegetation and is of high quality	<u>/</u>
		Select or	T	Narrativo D	Description of Vegetation Quality	
			High (5) Moderately high(4)	low	Low spp diversity and/or predomi	nance of nonnative or
			Moderate (3)	low	disturbance tolerant native spec	
			Moderately low (2)	mod	Native spp are dominant compon	
			Low (1)		although nonnative and/or distu	_
		X	None (0)		can also be present, and specie	• • • • • • • • • • • • • • • • • • • •
		6c. Cove	erage of invasive plants. Refer		moderately high, but generally	w/o presence of rare
		to Table	1 ORAM long form for list. Add		threatened or endangered spp	
		or deduc	t points for coverage	high	A predominance of native species	
		Х	Extensive >75% cover (-5)		and/or disturbance tolerant nati	
			Moderate 25-75% cover (-3)		absent, and high spp diversity a	•
			Sparse 5-25% cover (-1)		the presence of rare, threatene	a, or endangered spp
			Nearly absent <5% cover (0) Absent (1)	Mudfloton	d Open Water Class Quality	
		6d Micro	otopography.	0	Absent <0.1ha (0.247 acres)	
			present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)	cres)
		00010 4.11	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	
		0	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	7 40100)
		ŏ	Standing dead >25cm (10in) dbh		3	
		Ŏ	Amphibian breeding pools	Microtopog	graphy Cover Scale	
				0	Absent	
				1	Present very small amounts or if	more common
					of marginal quality	description of the second
				2	Present in moderate amounts, bu	_
					quality or in small amounts of h	
	1			3	Present in moderate or greater a	HOUNTS
26					and of highest quality	
20	Ī					

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
Ü	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	26	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fina	al Category	
Choose one	(Category 1)	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name							
Name: Kristen Vonderwish							
Date:							
3/3/2022							
Affiliation: GAI Consultants, Inc.							
Address:							
5399 Lauby Road, Suite 12	20, North Canton, OH 44720						
Phone Number:							
234.203.0772 e-mail address:							
k.vonderwish@gaiconsulta	nts.com						
Name of Wetland:	W008						
Vegetation Communit(ies): PEM							
HGM Class(es):							
Depressional							
	de map, address, north arrow, landmarks, distances, roads, etc.						
Please refer to the	attached project location map.						
Lat/Long or UTM Coordinate	10.10.1071 00.000100						
	40.104871, -82.036433						
USGS Quad Name	Dresden, OH						
County	Muskingum						
Township	Cass Township						
Section and Subsection	X						
Hydrologic Unit Code	050400040305						
Site Visit	3/3/2022						
National Wetland Inventory Map X							
Ohio Wetland Inventory Map	Х						
Soil Survey	WuD-2- Westmoreland-Guernsey silt loam						
Delineation report/map	Υ						

W008

Wetland Size (acres, hectares):

acres 0.032733

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 36

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Mil	lwood-Ohio	Central	Rater(s): Kristen Vonderwish		Date: 3/2/2022
0	0	Metric 1. Wetland Ar	ea (size).		
max 6 pts.	subtotal	Select one size class and assign score	.2ha) (5 pts) a) (4 pts) (3 pts) ha) (2pts)		
8	8	Metric 2. Upland but	fers and surroundi	ng land use.	
max 14 pts.	subtotal	X MEDIUM. Buffers average 2 NARROW. Buffers average 2 VERY NARROW. Buffers average 2 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or LOW. Old field (>10 years), X MODERATELY HIGH. Resi	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. ife area, etc. (7) perst. (5) ervation tillage, new fallo	ow field. (3)
16	24	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) X Seasonal/Intermittent surfactory Perennial surface water (lake) 3c. Maximum water depth. Select only >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (1) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic	e water (3) e or stream) (5) 3d. y one and assign score.	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane X Regularly inundat Seasonally inund Seasonally satura	in (1) lake and other human use (1) pland (e.g. forest), complex (1) rupland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3)
			Check all disturbances observed ditch tile dike weir stormwater input	point source (non filling/grading road bed/RR trac dredging other	,
10	34	Metric 4. Habitat Alt	eration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)	or double check and average.		
		4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or determine the selection of the sel	·		
SI	34 ubtotal this pa	None or none apparent (9) X Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed wmowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

7

last revised 1 February 2001 jjm

Site: Mi	illwood-Ohio	Central	Rater	(s): Kristen Vor	nderwish	Date: 3/3/2022
s	34 subtotal first pa	Ť				
0	34	Metric	5. Special Wetlan	ids.		
max 10 pts.	subtotal	B FF OO MM Late Late Late Late Late Late Late Late	nat apply and score as indicated. og (10) en (10) old growth forest (10) lature forested wetland (5) ake Erie coastal/tributary wetland- ake Erie coastal/tributary wetland- ake Plain Sand Prairies (Oak Oper elict Wet Prairies (10) nown occurrence state/federal thre ignificant migratory songbird/water rategory 1 Wetland. See Question	restricted hydronings) (10) eatened or endate fowl habitat or 1 Qualitative R	angered species (10) usage (10) atting (-10)	
2	36	Metric	6. Plant commun	ities, int	erspersion, microto	opography.
max 20 pts.	subtotal	6a. Wetland	d Vegetation Communities.	Vegetation	Community Cover Scale	
		0 A	esent using 0 to 3 scale. quatic bed mergent	1	Absent or comprises <0.1ha (0.2 Present and either comprises sm vegetation and is of moderate of	all part of wetland's
		<u>0</u> s	hrub		significant part but is of low qua	•
			orest	2	Present and either comprises sig	
		<u> </u>	ludflats		vegetation and is of moderate of	quality or comprises a small
			pen water		part and is of high quality	
			other	3	Present and comprises significan	
			tal (plan view) Interspersion.		vegetation and is of high quality	/
		Select only		Norrativa D	econintian of Variation Quality	
		——	igh (5)		escription of Vegetation Quality	inanae of nannative or
			loderately high(4) loderate (3)	low	Low spp diversity and/or predom disturbance tolerant native spe	
			loderate (3)	mod	Native spp are dominant compor	
		——	ow (1)	mod	although nonnative and/or distu	•
			one (0)		can also be present, and speci-	
			ge of invasive plants. Refer		moderately high, but generally	•
			DRAM long form for list. Add		threatened or endangered spp	•
		or deduct po	oints for coverage	high	A predominance of native specie	
		E	xtensive >75% cover (-5)		and/or disturbance tolerant nat	ve spp absent or virtually
		M	loderate 25-75% cover (-3)		absent, and high spp diversity	•
		x S	parse 5-25% cover (-1)		the presence of rare, threatene	d, or endangered spp
			early absent <5% cover (0)			
			bsent (1)		d Open Water Class Quality	
		6d. Microto		0	Absent <0.1ha (0.247 acres)	
			esent using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	
			egetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	3 acres)
			coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
			tanding dead >25cm (10in) dbh	Microtopoo	graphy Cover Scale	
		ША	mphibian breeding pools	0	Absent	
				1	Present very small amounts or if of marginal quality	more common
				2	Present in moderate amounts, but quality or in small amounts of h	ighest quality
20	7			3	Present in moderate or greater a and of highest quality	mounts
36						

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
Ü	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	36	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	
Choose one	Category 1	(Category 2)	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/3/2022		
Affiliation:		
GAI Consultants, Inc. Address:		
-	0, North Canton, OH 44720	
Phone Number: 234.203.0772		
e-mail address: k.vonderwish@gaiconsulta	nts com	
Name of Wetland:		
Vegetation Communit(ies):		
PEM HGM Class(es):		
Depressional		
	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	40.111125, -82.042903	
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040305	
Site Visit	3/3/2022	
National Wetland Inventory N		
Ohio Wetland Inventory Map		
Soil Survey	WhC2: Wellston silt loam, 8 to 15 percent slopes	
Delineation report/map	Y	

W009

Wetland Size (acres, hectares):

acres 0.122144

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 32

Category: 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Millwood-Ohio Central			Rater(s): Kristen Vonderwish Date: 3/3/2022		
1	1	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign score >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.1h 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2 X 0.1 to <0.3 acres (0.04 to <0.2 <0.1 acres (0.04ha) (0 pts)	0.2ha) (5 pts) la) (4 pts) (3 pts) lha) (2pts)		
8	8	Metric 2. Upland but	fers and surroundi	ng land use.	
max 14 pts.	subtotal	X MEDIUM. Buffers average 2 NARROW. Buffers average 2 VERY NARROW. Buffers a 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years), X MODERATELY HIGH. Resi	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around the 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallo	ow field. (3)
12	21	Metric 3. Hydrology		` '	
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lak 3c. Maximum water depth. Select onlessing selections (2.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X < 0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1)	e water (3) e or stream) (5) 3d. y one and assign score. (2) regime. Score one or double chec Check all disturbances observed ditch tile dike	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat X Seasonally inundat Seasonally saturate and average. point source (non filling/grading road bed/RR track	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) red/saturated (3) ated (2) ated in upper 30cm (12in) (1) stormwater)
		Matria 4 Habitat Alt	stormwater input	dredging other	
10	31	Metric 4. Habitat Alt		pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or d Recovered (6) Recovering (2)	ouble check and average. Check all disturbances observed mowing	shrub/sapling rem	
SI	31 ubtotal this pa	Recovering (3) Recent or no recovery (1)	grazing clearcutting selective cutting woody debris removal toxic pollutants	herbaceous/aqua sedimentation dredging farming nutrient enrichme	

last revised 1 February 2001 jjm

Site: Mil	lwood-Ohio	Central	Rater((S): Kristen Vor	nderwish	Date: 3/3/2022
SI	31 ubtotal first pa	1				
0	31	Metric 5. Spec	ial Wetlan	ds.		
max 10 pts.	subtotal	Lake Erie coastal/ Lake Plain Sand F Relict Wet Prairies Known occurrence Significant migrate Category 1 Wetlan	(10) retland (5) tributary wetland-u tributary wetland-re Prairies (Oak Openis s (10) e state/federal threa bry songbird/water nd. See Question	estricted hydro ings) (10) atened or enda fowl habitat or 1 Qualitative R	angered species (10) usage (10) atting (-10)	
1	32	Metric 6. Plant	communi	ties, int	erspersion, microto	opography.
max 20 pts.	subtotal	6a. Wetland Vegetation Co	mmunities.	Vegetation	Community Cover Scale	
		Score all present using 0 to Aquatic bed Emergent	3 scale.	<u>0</u>	Absent or comprises <0.1ha (0.2 Present and either comprises sm vegetation and is of moderate	all part of wetland's quality, or comprises a
		O Shrub Forest Mudflats		2	significant part but is of low qua Present and either comprises sig vegetation and is of moderate	nificant part of wetland's
		Open water			part and is of high quality	
		Other		3	Present and comprises significar	
		6b. horizontal (plan view) In	iterspersion.		vegetation and is of high qualit	У
		Select only one.		Narrativo D	asseriation of Vogotation Quality	
		High (5) Moderately high(4)	low	Low spp diversity and/or predom	inance of nonnative or
		Moderate (3)	,		disturbance tolerant native spe	
		Moderately low (2)	mod	Native spp are dominant compor	
		Low (1)			although nonnative and/or distr	• • • • • • • • • • • • • • • • • • • •
		None (0)	onto Bofor		can also be present, and speci	•
		6c. Coverage of invasive plate to Table 1 ORAM long form			moderately high, but generally threatened or endangered spp	
		or deduct points for coverag		high	A predominance of native specie	
		Extensive >75% c	over (-5)	_	and/or disturbance tolerant nat	ive spp absent or virtually
		Moderate 25-75%	cover (-3)		absent, and high spp diversity	and often, but not always,
		X Sparse 5-25% cov	` '		the presence of rare, threatene	d, or endangered spp
		Nearly absent <59	% cover (0)			
		Absent (1)			d Open Water Class Quality	
		6d. Microtopography. Score all present using 0 to	3 scale	<u>0</u>	Absent <0.1ha (0.247 acres) Low 0.1 to <1ha (0.247 to 2.47 a	croc)
		O Vegetated hummi		2	Moderate 1 to <4ha (2.47 to 9.8	
		O Coarse woody del		3	High 4ha (9.88 acres) or more	o acres)
		0 Standing dead >2			Triigit ina (e.ee delee) et mere	
		Amphibian breedi		Microtopog	raphy Cover Scale	
		,	- •	0	Absent	
				1	Present very small amounts or if of marginal quality	more common
				2	Present in moderate amounts, be quality or in small amounts of h	ighest quality
	1			3	Present in moderate or greater a	mounts
32				-	and of highest quality	
~	I					

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
ŭ	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	32	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	
Choose one	Category 1	(Category 2)	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish					
Date: 3/3/2022					
Affiliation: GAI Consultants, Inc.					
Address: 5399 Lauby Road, Suite 12	0, North Canton, OH 44720				
Phone Number:	5, Notal Saliton, 511 1 17 25				
234.203.0772					
e-mail address: k.vonderwish@gaiconsultar	nts.com				
Name of Wetland:					
Vegetation Communit(ies): PSS					
HGM Class(es):					
Depressional Location of Wetland: include	de map, address, north arrow, landmarks, distances, roads, etc.				
	attached project location map.				
	. ,				
Lat/Long or UTM Coordinate	40.112619, -82.044267				
USGS Quad Name	Dresden, OH				
County	Muskingum				
Township	Cass Township				
Section and Subsection	X				
Hydrologic Unit Code	050400060602				
Site Visit	3/3/2022				
National Wetland Inventory Map X					
Ohio Wetland Inventory Map	X				
Soil Survey	WuD2- Westmoreland-Guernsey silt loam				
Delineation report/map	V				

W010

Wetland Size (acres, hectares):

acres 0.058938

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 36

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Millwood-Ohio	Central	Rater(s): Kristen Vonderwish		Date: 3/3/2022
1 1	Metric 1. Wetland Ar	ea (size).		
max 6 pts. subtotal	Select one size class and assign score >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.1h: 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2 X 0.1 to <0.3 acres (0.04 to <0 <0.1 acres (0.04ha) (0 pts)	.2ha) (5 pts) a) (4 pts) (3 pts) ha) (2pts)		
8 8	Metric 2. Upland buf	fers and surround	ing land use.	
max 14 pts. subtotal	MEDIUM. Buffers average 2 NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. 2nd growth or	(164ft) or more around wetland p 5m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetlar	erimeter (7) wetland perimeter (4) nd wetland perimeter (1) nd perimeter (0) werage. dlife area, etc. (7) forest. (5) ervation tillage, new fallo	ow field. (3)
16 24	Metric 3. Hydrology.			
max 30 pts. subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) X Seasonal/Intermittent surface Perennial surface water (lake 3c. Maximum water depth. Select only >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (X <0.4m (-15.7in) (1)	e water (3) e or stream) (5) 3d. y one and assign score. 2)	Part of wetland/ul X Part of riparian or Duration inundation/sate Semi- to permane X Regularly inundat Seasonally inund Seasonally satura	in (1) lake and other human use (1) cland (e.g. forest), complex (1) cupland corridor (1) curation. Score one or dbl check ently inundated/saturated (4) ted/saturated (3)
- In .	3e. Modifications to natural hydrologic None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1) Metric 4. Habitat Altered	Check all disturbances observed ditch tile dike weir stormwater input	point source (non filling/grading road bed/RR trac dredging other_	•
7 31	_		pinent.	
max 20 pto. Subtotal	4a. Substrate disturbance. Score one None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1)			
	4c. Habitat alteration. Score one or do			
31 subtotal this p	· ·	Check all disturbances observed w mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

Site: Mil	llwood-Ohio) Central	Rater(s): Kristen Vo	nderwish	Date: 3/3/2022
SI	31 ubtotal first pa	i i	Votlands		
0	31	Metric 5. Special V	velianus.		
max 10 pts.	subtotal	Check all that apply and score as inc Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/ff Significant migratory song Category 1 Wetland. See	5) y wetland-unrestricted hy y wetland-restricted hydro (Oak Openings) (10) ederal threatened or end bird/water fowl habitat or Question 1 Qualitative F	angered species (10) r usage (10) Rating (-10)	
5	36	Metric 6. Plant con	nmunities, int	erspersion, microto	ppography.
max 20 pts.	subtotal	Sa. Wetland Vegetation Communition	es Venetation	Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	471 acres) contiguous area
		O Aquatic bed	1	Present and either comprises sm	, ,
		1 Emergent		vegetation and is of moderate of	' '
		2 Shrub		significant part but is of low qua	•
		O Forest	2	Present and either comprises sig	
		Mudflats Open water		vegetation and is of moderate of	quality of comprises a small
		Open water Other	3	part and is of high quality Present and comprises significan	t nart or more of wetland's
		6b. horizontal (plan view) Interspers		vegetation and is of high quality	
		Select only one.		vegetation and is of high quality	<u> </u>
		High (5)	Narrative D	Description of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predom	nance of nonnative or
		Moderate (3)		disturbance tolerant native spe-	cies
		Moderately low (2)	mod	Native spp are dominant compon	
		Low (1)		although nonnative and/or distu	
		None (0)	,	can also be present, and specie	•
		6c. Coverage of invasive plants. Reto Table 1 ORAM long form for list.		moderately high, but generally threatened or endangered spp	•
		or deduct points for coverage	high	A predominance of native specie	
		Extensive >75% cover (-5		and/or disturbance tolerant nati	
		Moderate 25-75% cover (,	absent, and high spp diversity a	
		Sparse 5-25% cover (-1)	-,	the presence of rare, threatene	
		Nearly absent <5% cover	(0)	· ·	<u> </u>
		X Absent (1)	Mudflat an	d Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	
		Vegetated hummucks/tus		Moderate 1 to <4ha (2.47 to 9.88	3 acres)
		O Coarse woody debris >15		High 4ha (9.88 acres) or more	
		O Standing dead >25cm (10		graphy Cover Scale	
		1 Amphibian breeding pools	0	graphy Cover Scale Absent	
			1	Present very small amounts or if	more common
			•	of marginal quality	
			2	Present in moderate amounts, bu	t not of highest
				quality or in small amounts of h	ighest quality
	-		3	Present in moderate or greater a	mounts
20				and of highest quality	
36					

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
Ü	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	36	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	(Category 1)	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:					
Kristen Vonderwish					
Date:					
3/3/2022					
Affiliation: GAI Consultants, Inc.					
Address:					
5399 Lauby Road, Suite 12	20, North Canton, OH 44720				
Phone Number:					
234.203.0772 e-mail address:					
k.vonderwish@gaiconsulta	nts.com				
Name of Wetland:	W011				
Vegetation Communit(ies): PEM					
HGM Class(es):					
Depressional					
	de map, address, north arrow, landmarks, distances, roads, etc.				
Please refer to the	attached project location map.				
Lat/Long or UTM Coordinate					
	40.11474, -82.047968				
USGS Quad Name	Dresden, OH				
County	Muskingum				
Township	Cass Township				
Section and Subsection	Х				
Hydrologic Unit Code	050400060602				
Site Visit	3/3/2022				
National Wetland Inventory Map X					
Ohio Wetland Inventory Map	Х				
Soil Survey	Ne- Newark silt loam, 0 to 3% slopes				
Delineation report/map	Υ				

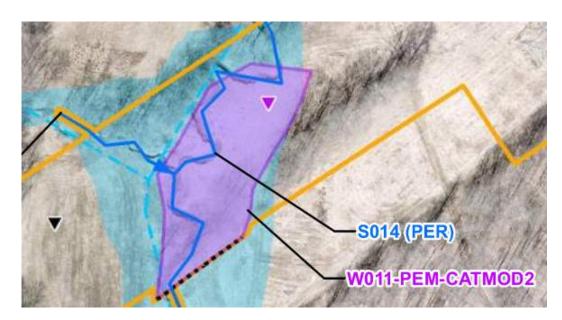
Wetland Size (acres, hectares):

acres 0.626302

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.







Comments, Narrative Discussion, Justification of Category Changes:

Final score: 42

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Mil	lwood-Ohio	Central	Rater(s): Kristen Vonderwish	Date: 3/3/2022	
2	2	Metric 1. Wetland Ar	ea (size).		
max 6 pts.	subtotal	Select one size class and assign score	.2ha) (5 pts) a) (4 pts) (3 pts) ha) (2pts)		
8	10	Metric 2. Upland but	fers and surroundi	ng land use.	
max 14 pts.	subtotal	X MEDIUM. Buffers average 2 NARROW. Buffers average 2 VERY NARROW. Buffers average 2 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or LOW. Old field (>10 years), X MODERATELY HIGH. Resi	n (164ft) or more around wetland per 25m to <50m (82 to <164ft) around v 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. ife area, etc. (7) perst. (5) ervation tillage, new fallo	w field. (3)
21	31	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) X Seasonal/Intermittent surfactor action (2) 3c. Maximum water depth. Select onlice (2) >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) X < 0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic	e water (3) e or stream) (5) 3d. 1 y one and assign score.	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane X Regularly inundat Seasonally inundat Seasonally satura	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) red/saturated (3)
		X Recovered (7) Recovering (3) Recent or no recovery (1)	ditch tile dike weir stormwater input	point source (non- filling/grading road bed/RR track dredging other	,
11	42	Metric 4. Habitat Alt	eration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) Habitat development. Select only Excellent (7)			
		Very good (6) Good (5) Moderately good (4) Fair (3) X Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or do	ouble check and average.		
SI	42	None or none apparent (9) X Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed w mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

last revised 1 February 2001 jjm

Site: Mi	llwood-Ohio	Central	Rater	(S): Kristen Vo	nderwish	Date: 3/3/2022
s	42 ubtotal first pa	Ť	5 Special Wetlan	nde		
0	42	Metric	5. Special Wetlar	ius.		
max 10 pts.	subtotal	Bo Fe OI Mi La La Re Kr	at apply and score as indicated. og (10) en (10) d growth forest (10) ature forested wetland (5) ake Erie coastal/tributary wetland- ake Erie coastal/tributary wetland- ake Plain Sand Prairies (Oak Oper elict Wet Prairies (10) nown occurrence state/federal thre gnificant migratory songbird/water ategory 1 Wetland. See Question	restricted hydronings) (10) eatened or ender fowl habitat or	angered species (10) usage (10)	
0	42	Metric	6. Plant commun	ities, int	erspersion, microto	ppography.
max 20 pts.	subtotal	6a. Wetland	Vegetation Communities.	Vegetation	Community Cover Scale	
		0 Ad 2 Er	esent using 0 to 3 scale. quatic bed mergent	1	Absent or comprises <0.1ha (0.2 Present and either comprises sm vegetation and is of moderate of	all part of wetland's quality, or comprises a
		0 Fo	orest udflats	2	Present and either comprises signed vegetation and is of moderate of the properties	nificant part of wetland's
		<u> </u>	pen water ther	3	part and is of high quality Present and comprises significan	t part, or more, of wetland's
			al (plan view) Interspersion.	J	vegetation and is of high quality	
		Select only of	one.			
		-	gh (5)		escription of Vegetation Quality	
			oderately high(4) oderate (3)	low	Low spp diversity and/or predomit disturbance tolerant native spe	
		-	oderately low (2)	mod	Native spp are dominant compon	_
			ow (1)		although nonnative and/or distu	· · ·
			one (0) ge of invasive plants. Refer		can also be present, and species moderately high, but generally	•
			RAM long form for list. Add		threatened or endangered spp	•
			ints for coverage	high	A predominance of native specie	
			ktensive >75% cover (-5)		and/or disturbance tolerant nati absent, and high spp diversity	
			oderate 25-75% cover (-3) parse 5-25% cover (-1)		the presence of rare, threatene	•
			early absent <5% cover (0)			, , , , , , , , , , , , , , , , , , , ,
			osent (1)		d Open Water Class Quality	
		6d. Microtop		0	Absent <0.1ha (0.247 acres)	
			esent using 0 to 3 scale. Egetated hummucks/tussucks	2	Low 0.1 to <1ha (0.247 to 2.47 a) Moderate 1 to <4ha (2.47 to 9.88	
			parse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	<u> </u>
			anding dead >25cm (10in) dbh		, , ,	
		1 Ar	mphibian breeding pools		graphy Cover Scale	
				0 1	Absent Present very small amounts or if	more common
					of marginal quality	
				2	Present in moderate amounts, bu quality or in small amounts of h	ighest quality
	1			3	Present in moderate or greater at and of highest quality	mounts
42				-	and or mignest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
ŭ	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	21	
	Metric 4. Habitat	11	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	42	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	(Category 2)	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/3/2022		
Affiliation: GAI Consultants, Inc.		
Address: 5399 Lauby Road, Suite 12	0. North Canton, OH 44720	
Phone Number:	5, Notal Gallon, 511 111 25	
234.203.0772		
e-mail address: k.vonderwish@gaiconsultar	nts.com	
Name of Wetland:	W012	
Vegetation Communit(ies): PUB		
HGM Class(es): Depressional		
	le map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the a	attached project location map.	
Lat/Long or UTM Coordinate	40.115968, -82.047442	
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400060602	
Site Visit	3/3/2022	
National Wetland Inventory M	^{lap} X	
Ohio Wetland Inventory Map	X	
Soil Survey	WuD2- Westmoreland-Guernset silt loam	
Delineation report/map	X	

W012

Wetland Size (acres, hectares):

acres 0.173749

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.







Comments, Narrative Discussion, Justification of Category Changes:

Final score: 45

Category: 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Milly	wood-Ohio	Central	Rater(s): Kristen Vonderwish	Date: 3/3/2022	
1	1	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign score	9.2ha) (5 pts) na) (4 pts) (3 pts) tha) (2pts)		
9	10	Metric 2. Upland but	fers and surroundi	ng land use.	
max 14 pts.	subtotal	X MEDIUM. Buffers average 2 NARROW. Buffers average 2 VERY NARROW. Buffers at 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years), MODERATELY HIGH. Resi	n (164ft) or more around wetland per 25m to <50m (82 to <164ft) around v 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallo	ow field. (3)
17	27	Metric 3. Hydrology.	•		
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) X Seasonal/Intermittent surfactory Perennial surface water (lake) 3c. Maximum water depth. Select onl >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (1) 20.4m (15.7 io) (4)	e water (3) e or stream) (5) 3d. I y one and assign score.	Part of wetland/up X Part of riparian or Duration inundation/satu X Semi- to permane Regularly inundat Seasonally inundat	in (1) lake and other human use (1) cland (e.g. forest), complex (1) cupland corridor (1) curation. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) ated (2)
		X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)			,
11	38	Metric 4. Habitat Alt	eration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)	or double check and average.		
		4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) X Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or detections and the selection of th			
L	38	None or none apparent (9) X Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

last revised 1 February 2001 jjm

Site: Mi	illwood-Ohio	Central Ra	ter(s): Kristen Vor	nderwish	Date: 3/3/2022
s	38 ubtotal first pa	age			
0	42	Metric 5. Special Wet	lands.		
max 10 pts.	subtotal	Check all that apply and score as indicated Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetla Lake Erie coastal/tributary wetla Lake Plain Sand Prairies (Oak of Relict Wet Prairies (10) Known occurrence state/federa Significant migratory songbird/words (2000) Category 1 Wetland. See Questing (10)	and-unrestricted hydro and-restricted hydro Openings) (10) I threatened or enda vater fowl habitat or	angered species (10) usage (10)	
3	45	Metric 6. Plant comm	unities, int	erspersion, microt	opography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
		Score all present using 0 to 3 scale. Aquatic bed Emergent	1	Absent or comprises <0.1ha (0.2) Present and either comprises sr vegetation and is of moderate	mall part of wetland's
		O Shrub Forest	2	significant part but is of low queries and either comprises si	gnificant part of wetland's
		Mudflats Open water	3	vegetation and is of moderate part and is of high quality	
		O Other 6b. horizontal (plan view) Interspersion. Select only one.		Present and comprises significa vegetation and is of high quali	
		High (5)	Narrative D	escription of Vegetation Quality	
		Moderately high(4) Moderate (3)	low	Low spp diversity and/or predon disturbance tolerant native spe	
		Moderately low (2) Low (1)	mod	Native spp are dominant compo although nonnative and/or dist	turbance tolerant native spp
		None (0) 6c. Coverage of invasive plants. Refer		can also be present, and spec moderately high, but generally	w/o presence of rare
		to Table 1 ORAM long form for list. Add or deduct points for coverage	high	A predominance of native species	es, with nonnative spp
		Extensive >75% cover (-5) X		and/or disturbance tolerant na absent, and high spp diversity the presence of rare, threaten	and often, but not always,
		Nearly absent <5% cover (0)	B4	d Out on Water Ole as Out life.	
		Absent (1)	Mudilat and	Absent <0.1ha (0.247 acres)	
		6d. Microtopography. Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	acres)
		Vegetated hummucks/tussucks		Moderate 1 to <4ha (2.47 to 9.8	·
		O Coarse woody debris >15cm (6		High 4ha (9.88 acres) or more	,
		O Standing dead >25cm (10in) db			
		2 Amphibian breeding pools		graphy Cover Scale	
			<u>0</u> 1	Absent Present very small amounts or i of marginal quality	f more common
			2	Present in moderate amounts, be quality or in small amounts of	ě .
	7		3	Present in moderate or greater a and of highest quality	
45					

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
J	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	11	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	45	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category					
Choose one	Category 1	(Category 2)	Category 3		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/8/2022		
Affiliation: GAI Consultants, Inc.		
Address:	10. North Conton, Old 44700	
Phone Number:	0, North Canton, OH 44720	
234.203.0772		
e-mail address: k.vonderwish@gaiconsulta	nts.com	
Name of Wetland:	W013	
Vegetation Communit(ies): PEM		
HGM Class(es): Depressional		
	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	40.115968,-82.047442	
USGS Quad Name	·	
County	Dresden, OH	
-	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400060602	
Site Visit	3/8/2022	
National Wetland Inventory N	^{Nap} X	
Ohio Wetland Inventory Map	Х	
Soil Survey	Ne: Newark silt loam, 0 to 3 percent slopes	
Delineation report/map	Υ	

W013

Wetland Size (acres, hectares):

acres 0.138933

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 36

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Mil	lwood-Ohio	Central	Rater(s): Kristen Vonderwish		Date: 3/8/2022
1	1	Metric 1. Wetland Ar	ea (size).		
max 6 pts.	subtotal	Select one size class and assign score >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20. 10 to <25 acres (4 to <10.1ha 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2la) X 0.1 to <0.3 acres (0.04 to <0.40.1 acres (0.04 to <0.40.1 acres (0.04ha) (0 pts)	.2ha) (5 pts) a) (4 pts) (3 pts) ha) (2pts)		
8	9	Metric 2. Upland buf	fers and surroundi	ng land use.	
max 14 pts.	subtotal	X MEDIUM. Buffers average 2 NARROW. Buffers average VERY NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. 2nd growth or of the company of the	(164ft) or more around wetland pe 5m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallo	ow field. (3)
17	26	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface X Perennial surface water (lake 3c. Maximum water depth. Select only >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (3) 4. <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1)	e water (3) e or stream) (5) 3d. v one and assign score.	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat X Seasonally inundat Seasonally satura	in (1) ake and other human use (1) bland (e.g. forest), complex (1) cupland corridor (1) curation. Score one or dbl check ently inundated/saturated (4) ced/saturated (3) ated (2) ated in upper 30cm (12in) (1) stormwater)
10	36	Metric 4. Habitat Alto	eration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only of Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or do None or none apparent (9) X Recovered (6) Recovering (3) Recent or no recovery (1)	one and assign score.	shrub/sapling rem herbaceous/aqua sedimentation	
sı	36 ubtotal this pa		selective cutting woody debris removal toxic pollutants	dredging farming nutrient enrichme	nt

last revised 1 February 2001 jjm

Site: Mi	llwood-Ohic	Central	Rater	(s): Kristen Vor	nderwish	Date: 3/8/2022
SI	36 ubtotal first pa	age				
0	36	7	c 5. Special Wetlar	nds.		
max 10 pts.	subtotal		hat apply and score as indicated. Bog (10) Fen (10) Did growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland- Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	restricted hydro nings) (10) eatened or enda fowl habitat or	angered species (10) usage (10)	
0	36	Metri	c 6. Plant commun	ities, int	erspersion, microto	opography.
max 20 pts.	subtotal	」 6a. Wetlar	nd Vegetation Communities.	Vegetation	Community Cover Scale	
		0	resent using 0 to 3 scale. Aquatic bed Emergent	0	Absent or comprises <0.1ha (0.2 Present and either comprises sm vegetation and is of moderate	nall part of wetland's
			Shrub		significant part but is of low qua	
			Forest	2	Present and either comprises sig	nificant part of wetland's
			Mudflats		vegetation and is of moderate	quality or comprises a small
		<u> </u>	Open water	-	part and is of high quality	
			Other	3	Present and comprises significar	
			ntal (plan view) Interspersion.		vegetation and is of high qualit	У
		Select only		Norrativa D	acceptation of Vagatation Quality	
			High (5) Moderately high(4)	low	Low spp diversity and/or predom	inance of nonnative or
			Moderate (3)	IOW	disturbance tolerant native spe	
			Moderately low (2)	mod	Native spp are dominant compor	
			_ow (1)		although nonnative and/or dist	
		1 X	None (0)		can also be present, and speci	es diversity moderate to
			age of invasive plants. Refer		moderately high, but generally	
			ORAM long form for list. Add		threatened or endangered spp	
			points for coverage	high	A predominance of native specie	
			Extensive >75% cover (-5)		and/or disturbance tolerant nat	
			Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity the presence of rare, threatene	
			Nearly absent <5% cover (0)		the presence of fare, threatene	a, or endangered spp
			Absent (1)	Mudflat and	d Open Water Class Quality	
		6d. Microt	` '	0	Absent <0.1ha (0.247 acres)	
			resent using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	cres)
		0	/egetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.8	8 acres)
		0	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
		0	Standing dead >25cm (10in) dbh			
		1_/	Amphibian breeding pools		raphy Cover Scale	
				0	Absent	
				1	Present very small amounts or if of marginal quality	more common
				2	Present in moderate amounts, be quality or in small amounts of h	
	1			3	Present in moderate or greater a and of highest quality	
36				-	and or mignoot quality	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
J	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	36	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	
Choose one	Category 1	(Category 2)	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:						
Kristen Vonderwish						
Date:						
3/8/2022						
GAI Consultants, Inc.	Affiliation: GAL Consultants Inc					
Address:						
5399 Lauby Road, Suite 12	20, North Canton, OH 44720					
Phone Number:						
234.203.0772 e-mail address:						
k.vonderwish@gaiconsulta	nts.com					
Name of Wetland:						
Vegetation Communit(ies): PEM						
HGM Class(es):						
Depressional						
	de map, address, north arrow, landmarks, distances, roads, etc.					
Please refer to the	attached project location map.					
Lat/Langar LITM Coordinate						
Lat/Long or UTM Coordinate	40.117755, -82.049102					
USGS Quad Name	Dresden, OH					
County	Muskingum					
Township	Cass Township					
Section and Subsection	X					
Hydrologic Unit Code	050400060602					
Site Visit	3/8/2022					
National Wetland Inventory N	^{Лар} X					
Ohio Wetland Inventory Map	X					
Soil Survey	WtD2: Westmoreland silt loam, 15 to 25 percent s					
Delineation report/map	Υ					

W014

Wetland Size (acres, hectares):

acres 0.0464

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 35

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Mil	lwood-Ohio	Central	Rater(s): Kristen Vonderwish		Date: 3/8/2022
0	0	Metric 1. Wetland Ar	ea (size).		
max 6 pts.	subtotal	Select one size class and assign score >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.1h 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2 0.1 to <0.3 acres (0.04 to <0 X	.2ha) (5 pts) a) (4 pts) (3 pts) ha) (2pts)		
12	12	Metric 2. Upland buf	fers and surroundi	ing land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average 2 NARROW. Buffers average VERY NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. 2nd growth or X LOW. Old field (>10 years), MODERATELY HIGH. Resi	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetland	erimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. llife area, etc. (7) forest. (5) ervation tillage, new fallo	w field. (3)
12	24	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lake) 3c. Maximum water depth. Select onlessing solution (3) 0.4 to 0.7m (15.7 to 27.6in) (1) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic None or none apparent (12)	e water (3) e or stream) (5) 3d. y one and assign score. 2) regime. Score one or double chec	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat X Seasonally inundat Seasonally saturack and average.	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ed/saturated (3) ated (2) ated in upper 30cm (12in) (1)
		X Recovered (7) Recovering (3) Recent or no recovery (1)	ditch tile dike weir stormwater input	point source (non in filling/grading road bed/RR track dredging other	,
10	34	Metric 4. Habitat Alt	eration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) Recent or no recovery (1) Labitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or de None or none apparent (9) Recovered (6) Recovering (3)	one and assign score.	shrub/sapling rem	
SI	34 ubtotal this pa	Recent or no recovery (1)	clearcutting selective cutting woody debris removal toxic pollutants	sedimentation dredging farming nutrient enrichme	

7

last revised 1 February 2001 jjm

Site: Mi	illwood-Ohio	Central	Rater	(S): Kristen Voi	nderwish	Date: 3/8/2022
s	34 ubtotal first pa	Ť		_		
0	34	Metric 5.	Special Wetlan	ids.		
max 10 pts.	subtotal	Bog (10 Fen (10 Old grov Mature Lake Er Lake Er Lake Pla Relict W Known of Significa Categor	wth forest (10) forested wetland (5) ie coastal/tributary wetland-r ie coastal/tributary wetland-r iein Sand Prairies (Oak Open /et Prairies (10) occurrence state/federal thre ant migratory songbird/water ry 1 Wetland. See Question	estricted hydronings) (10) eatened or end- fowl habitat or 1 Qualitative R	angered species (10) t usage (10) Rating (-10)	
1	35	Metric 6.	Plant commun	ities, int	erspersion, microto	ppography.
max 20 pts.	subtotal	6a. Wetland Vege	etation Communities.	Vegetation	Community Cover Scale	
		Score all present of Aquatic Emerge	bed	<u> </u>	Absent or comprises <0.1ha (0.2d) Present and either comprises sm vegetation and is of moderate of	all part of wetland's
		0 Shrub			significant part but is of low qua	•
		O ForestO Mudflats	6	2	Present and either comprises sig vegetation and is of moderate of	
		0 Open w	ater		part and is of high quality	
		O Other_		3	Present and comprises significan	
			an view) Interspersion.		vegetation and is of high quality	<u> </u>
		Select only one. High (5)		Narrative D	escription of Vegetation Quality	
			tely high(4)	low	Low spp diversity and/or predomi disturbance tolerant native spe	
			tely low (2)	mod	Native spp are dominant compon	
		Low (1)	•		although nonnative and/or distu	<u> </u>
		X None (0			can also be present, and specie	•
			nvasive plants. Refer long form for list. Add		moderately high, but generally	w/o presence of rare
		or deduct points for	-	high	threatened or endangered spp A predominance of native species	s with nonnative spp
			ve >75% cover (-5)	9	and/or disturbance tolerant nati	
		Modera	te 25-75% cover (-3)		absent, and high spp diversity a	•
		· ·	5-25% cover (-1)		the presence of rare, threatene	d, or endangered spp
		Nearly a	absent <5% cover (0)	Mudflat and	d Open Water Class Quality	
		6d. Microtopograp	` '	0	Absent <0.1ha (0.247 acres)	
		Score all present		1	Low 0.1 to <1ha (0.247 to 2.47 ac	cres)
			ed hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	3 acres)
		<u></u>	woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
			g dead >25cm (10in) dbh ian breeding pools	Microtopoo	graphy Cover Scale	
		LU JAMPIND	.a Drooming pools	0	Absent	
				1	Present very small amounts or if of marginal quality	more common
				2	Present in moderate amounts, bu quality or in small amounts of h	ighest quality
	1			3	Present in moderate or greater and of highest quality	mounts
35						

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
Ü	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	35	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	
Choose one	Category 1	(Category 2)	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:		
Kristen Vonderwish Date:		
3/9/2022		
Affiliation:		
GAI Consultants, Inc.		
Address: 5399 Lauby Road, Suite 120, North Canton, OH 44720		
Phone Number:		
234.203.0772		
e-mail address: k.vonderwish@gaiconsultants.com		
Name of Wetland: W015		
Vegetation Communit(ies):		
PEM		
HGM Class(es):		
Depressional Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.		
Please refer to the attached project location map.		
l lease refer to the attached project location map.		
Lat/Long or UTM Coordinate	40.134981, -82.065259	
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township		
	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040204	
Site Visit	3/9/2022	
National Wetland Inventory M		
Ohio Wetland Inventory Map		
	X	
Soil Survey	GfC2: Glenford silt loam, 8 to 15 percent slopes	
Delineation report/map	X	

W015

Wetland Size (acres, hectares):

acres 0.028661

 ${\bf Sketch: Include\ north\ arrow,\ relationship\ with\ other\ surface\ waters,\ vegetation\ zones,\ etc.}$

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 31

Category:

2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Millwood-0	nio Central	Rater(s): Kristen Vonderwish	Date: 3/9/2022	
1 1	Metric 1. Wetland A	rea (size).		
max 6 pts. subto	Select one size class and assign scor >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.11 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2 1 0.1 to <0.3 acres (0.04 to <0.4 acres (0.04 to)))))))	0.2ha) (5 pts) na) (4 pts) (3 pts) 2ha) (2pts)		
4 5	Metric 2. Upland bu	ffers and surroundi	ng land use.	
max 14 pts. subto	WIDE. Buffers average 50r MEDIUM. Buffers average X NARROW. Buffers average VERY NARROW. Buffers a 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years) MODERATELY HIGH. Res	n (164ft) or more around wetland per 25m to <50m (82 to <164ft) around ver 10m to <25m (32ft to <82ft) around overage <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallo	w field. (3)
12 17	Metric 3. Hydrology	. ,	,	
max 30 pts. subto	High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lak 3c. Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in)	te water (3) te or stream) (5) Ily one and assign score.	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat X Seasonally inundat	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ed/saturated (3) ated (2)
	X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)			,
10 27	Metric 4. Habitat Alt	teration and Develo	pment.	
max 20 pts. subto	4a. Substrate disturbance. Score one None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1)	e or double check and average.		
	4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or compared to the selection of the			
27	None or none apparent (9) X Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

7

last revised 1 February 2001 jjm

Site: Millwood-Or	nio Central Ra	ater(s): Kristen Vo	nderwish	Date: 3/9/2022
27 subtotal first	page Metric 5. Special We	tlands.		
max 10 pts. subtota	Check all that apply and score as indicated Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wet Lake Erie coastal/tributary wet Lake Plain Sand Prairies (Oak Relict Wet Prairies (10) Known occurrence state/feder	tland-unrestricted hydratland-restricted hydratland-restricted hydratland-restricted hydratland (10)	angered species (10)	
	Significant migratory songbird Category 1 Wetland. See Que			
4 31	Metric 6. Plant comm			topography.
max 20 pts. subtota	our rrouding rogotation communition		Community Cover Scale	
	Score all present using 0 to 3 scale. Aquatic bed Emergent	<u>0</u> 1	Absent or comprises <0.1ha (0 Present and either comprises s vegetation and is of moderate	small part of wetland's e quality, or comprises a
	2 Shrub O Forest Mudflats	2	significant part but is of low q Present and either comprises s vegetation and is of moderate	
	Open water	3	part and is of high quality Present and comprises signific	ant part or mare of watland's
	6b. horizontal (plan view) Interspersion.		vegetation and is of high qua	
	Select only one.	Namedia B	and a second a second and a second a second and a second a second and a second and a second and a second and	
	High (5) Moderately high(4) Moderate (3)	low	Low spp diversity and/or predo disturbance tolerant native sp	minance of nonnative or
	X Moderately low (2) Low (1)	mod	Native spp are dominant comp although nonnative and/or dis	onent of the vegetation,
	None (0)		can also be present, and spe	cies diversity moderate to
	6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add		moderately high, but general threatened or endangered sp	•
	or deduct points for coverage	high	A predominance of native spec	ies, with nonnative spp
	Extensive >75% cover (-5) Moderate 25-75% cover (-3)		and/or disturbance tolerant n absent, and high spp diversit	
	X Sparse 5-25% cover (-1)		the presence of rare, threater	
	Nearly absent <5% cover (0) Absent (1)	Mudflet en	d Open Water Class Quality	
	6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47	acres)
	O Vegetated hummucks/tussuck		Moderate 1 to <4ha (2.47 to 9	.88 acres)
	Coarse woody debris >15cm (` '	High 4ha (9.88 acres) or more	
	Standing dead >25cm (10in) of Amphibian breeding pools		graphy Cover Scale	
	O	0	Absent	
		1	Present very small amounts or of marginal quality	
		2	Present in moderate amounts, quality or in small amounts or	f highest quality
04		3	Present in moderate or greater and of highest quality	amounts
31				_

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
ŭ	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	31	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	_	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	(Category 2)	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/9/2022		
Affiliation: GAI Consultants, Inc.		
Address:	10 North Conton OH 44720	
Phone Number:	20, North Canton, OH 44720	
234.203.0772		
e-mail address: k.vonderwish@gaiconsultar	nts.com	
Name of Wetland:	W016	
Vegetation Communit(ies): PEM		
HGM Class(es): Depressional		
Location of Wetland: include	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	40.136903, -82.067345	
LISCS Ouad Nama		
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040204	
Site Visit	3/9/2022	
National Wetland Inventory N	^{/lap} X	
Ohio Wetland Inventory Map	X	
Soil Survey	GfC2: Glenford silt loam, 8 to 15 percent slopes	
Delineation report/map	X	

W016

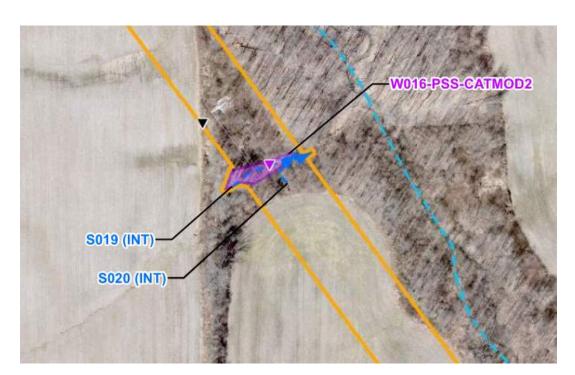
Wetland Size (acres, hectares):

acres 0.049293

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 37

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Mill	lwood-Ohio	Central	Rater(s): Kristen Vonderwish		Date: 3/9/2022
1	1	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign score >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.1 to <40 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2 1 0.1 to <0.3 acres (0.04 to <0.1 acres (0.04 to <0.1 acres (0.04 to) <0.1 acres (0.04ha) (0 pts)	0.2ha) (5 pts) na) (4 pts) (3 pts) 2ha) (2pts)		
4	5	Metric 2. Upland bu	ffers and surroundi	ing land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average X NARROW. Buffers average VERY NARROW. Buffers a 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years) MODERATELY HIGH. Res	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) aroun verage <10m (<32ft) around wetlan	erimeter (7) wetland perimeter (4) ad wetland perimeter (1) ad perimeter (0) verage. dlife area, etc. (7) forest. (5) ervation tillage, new fallo	w field. (3)
15	20	Metric 3. Hydrology	•		
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) X Seasonal/Intermittent surface Perennial surface water (lak 3c. Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (1) 3e. Modifications to natural hydrologic None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1)	ce water (3) le or stream) (5) 3d. ly one and assign score. (2) Check all disturbances observed ditch tile dike weir stormwater input	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat X Seasonally inund: Seasonally satura ck and average. point source (non filling/grading road bed/RR track dredging other	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ed/saturated (3) ated (2) ated in upper 30cm (12in) (1) stormwater)
10	30	Metric 4. Habitat Alt	teration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or development. Select only Recovered (6) Recovering (3) Recent or no recovery (1)	one and assign score.	shrub/sapling rem herbaceous/aqua sedimentation dredging	
SU	30 ubtotal this pa	ge e	woody debris removal toxic pollutants	farming nutrient enrichme	nt

last revised 1 February 2001 jjm

Site: Mi	llwood-Ohio	Central	Rater(s): Kristen Vond	lerwish	Date: 3/9/2022
]			1
	30 ubtotal first pa				
0	30	Metric 5. Special V	Vetlands.		
max 10 pts.	subtotal	Check all that apply and score as in Bog (10)	dicated.		
		Fen (10)			
		Old growth forest (10) Mature forested wetland (5)		
		·	wetland-unrestricted hydr		
		Lake Plain Sand Prairies	/ wetland-restricted hydrolo (Oak Openings) (10)	ogy (5)	
		Relict Wet Prairies (10)			
			ederal threatened or endar bird/water fowl habitat or u		
			Question 1 Qualitative Ra		
4	31	Metric 6. Plant con	nmunities, inte	erspersion, microto	pography.
max 20 pts.	subtotal	J 6a. Wetland Vegetation Communition	es. Vegetation C	Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	, <u> </u>
		Aquatic bedEmergent	1	Present and either comprises small vegetation and is of moderate of	
		2 Shrub		significant part but is of low qua	•
		0 Forest	2	Present and either comprises sign	•
		Mudflats		vegetation and is of moderate of	uality or comprises a small
		Open water	3	part and is of high quality	t part or mare of watland's
		Other 6b. horizontal (plan view) Interspers		Present and comprises significan vegetation and is of high quality	
		Select only one.		1	
		High (5)		scription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predomi disturbance tolerant native spec	
		Moderate (3) Moderately low (2)	mod	Native spp are dominant component	
		X Low (1)		although nonnative and/or distu	
		None (0)		can also be present, and specie	es diversity moderate to
		6c. Coverage of invasive plants. Re		moderately high, but generally w	
		to Table 1 ORAM long form for list. or deduct points for coverage	high	threatened or endangered spp A predominance of native species	
		Extensive >75% cover (-5	•	and/or disturbance tolerant native	
		Moderate 25-75% cover (<i>'</i>	absent, and high spp diversity a	• • • • • • • • • • • • • • • • • • • •
		Sparse 5-25% cover (-1)		the presence of rare, threatened	d, or endangered spp
		Nearly absent <5% cover X Absent (1)	* *	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	cres)
		O Vegetated hummucks/tus		Moderate 1 to <4ha (2.47 to 9.88	acres)
		O Coarse woody debris >15		High 4ha (9.88 acres) or more	
		O Standing dead >25cm (10) Amphibian breeding pools	•	aphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if of marginal quality	more common
			2	Present in moderate amounts, bu quality or in small amounts of hi	
			3	Present in moderate or greater ar	-
27				and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
Ü	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	7	
	TOTAL SCORE	37	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Final Category				
Choose one	Category 1	(Category 2)	Category 3		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/11/2022		
Affiliation:		
GAI Consultants, Inc. Address:		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
Phone Number: 234.203.0772		
e-mail address: k.vonderwish@gaiconsulta	nte com	
Name of Wetland:		
Vegetation Communit(ies):		
PEM		
HGM Class(es): Depressional		
	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	40.44400 00.074557	
USGS Quad Name	40.14426, -62.074557	
	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040204	
Site Visit	3/11/2022	
National Wetland Inventory	Map X	
Ohio Wetland Inventory Map	X	
Soil Survey	Me: Melvin silt loam, 0 to 3 percent slopes	
Delineation report/map	Y	

W020

Wetland Size (acres, hectares):

acres 0.829713

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 41

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: M	illwood-Ohio	Central	Rater(s): Kristen Vonderwish		Date: 3/11/2022
2	3	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign scor >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <2) 10 to <25 acres (4 to <10.1) X 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1.1) 0.1 to <0.3 acres (0.04 to < <0.1 acres (0.04ha) (0 pts)	e. 0.2ha) (5 pts) ha) (4 pts)) (3 pts) 2ha) (2pts)		
8	11	Metric 2. Upland bu	ffers and surround	ling land use.	
max 14 pts.	subtotal	X MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. 2nd growth or X LOW. Old field (>10 years) X MODERATELY HIGH. Res	m (164ft) or more around wetland p 25m to <50m (82 to <164ft) around a 10m to <25m (32ft to <82ft) arou average <10m (<32ft) around wetla	perimeter (7) If wetland perimeter (4) Ind wetland perimeter (1) Ind perimeter (0) Ind perimeter (0) Ind perimeter (7) Ind perimeter (7) Ind perimeter (7) Ind perimeter (8) Ind perimeter (9) Ind perimeter (1) I	ow field. (3)
15	26	Metric 3. Hydrology	•		
max 30 pts.	subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lake)	ce water (3) se or stream) (5)	X Part of wetland/u X Part of riparian or Duration inundation/sati	in (1) lake and other human use (1) pland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check
		3c. Maximum water depth. Select on >0.7 (27.6in) (3)	(2) c regime. Score one or double che	X Regularly inundar Seasonally inund Seasonally satura	* *
		None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1)	Check all disturbances observed ditch tile dike weir stormwater input	point source (non point source (non filling/grading road bed/RR trac dredging other_	·
12	38	Metric 4. Habitat Al	teration and Develo	opment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score on None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1)	e or double check and average.		
		4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) X Fair (3) Poor to fair (2) Poor (1)	one and assign score.		
		4c. Habitat alteration. Score one or control None or none apparent (9) X Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting	shrub/sapling ren herbaceous/aqua sedimentation	
	38 subtotal this p	age	selective cutting woody debris removal toxic pollutants	dredging farming nutrient enrichme	ent
iasi revised	u i rebrua	ary 2001 jjm			

Site: Millwood-Ohio Central			Rat	Rater(s): Kristen Vonderwish		Date: 3/11/2022
O max 10 pts.	38 38 subtotal	Met	ric 5. Special Wetland that apply and score as indicated Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland Lake Plain Sand Prairies (Oak Common Relict Wet Prairies (10) Known occurrence state/federal Significant migratory songbird/weight	nd-unrestricted hydr nd-restricted hydrolo Openings) (10) threatened or endar	ogy (5) ngered species (10)	
3	41	Met	Category 1 Wetland. See Questric 6. Plant commu	tion 1 Qualitative Ra	ating (-10)	ppography.
] ,,,				
max 20 pts.	subtotal		tland Vegetation Communities.		Community Cover Scale	471 cores) continuous ores
		_	Il present using 0 to 3 scale. Aquatic bed	0	Absent or comprises <0.1ha (0.24) Present and either comprises sm	
		0	Emergent	'	vegetation and is of moderate of	•
		2	Shrub		significant part but is of low qua	
		$\frac{2}{0}$	Forest	2	Present and either comprises sign	•
		0	Mudflats	2	vegetation and is of moderate of	
		0	Open water		part and is of high quality	quality of complises a small
		<u>V</u>	Other	3	Present and comprises significan	t part or more of wetland's
		6h hor	izontal (plan view) Interspersion.	3	vegetation and is of high quality	
					vegetation and is of high quality	/
		Select	only one.	Norrativa Da	sorintian of Vagatation Quality	
		-	High (5)		scription of Vegetation Quality	nance of nannative or
		-	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predomi	
		· ·	⊣ `.` (≈)		disturbance tolerant native spec	
		X		mod	Native spp are dominant compon	=
			Low (1)		although nonnative and/or distu	
		0 - 0 -	None (0)		can also be present, and specie	
			verage of invasive plants. Refer		moderately high, but generally	w/o presence or rare
			e 1 ORAM long form for list. Add	hiah	threatened or endangered spp	a with nannative ann
		or dedu	ct points for coverage	high	A predominance of native species	
			Extensive >75% cover (-5)		and/or disturbance tolerant nati	• • • • • • • • • • • • • • • • • • • •
		X	Moderate 25-75% cover (-3)		absent, and high spp diversity a	•
			Sparse 5-25% cover (-1)		the presence of rare, threatene	a, or endangered spp
			Nearly absent <5% cover (0)	Modellatand	Onen Water Class Ovelity	
			Absent (1)		Open Water Class Quality	
			rotopography.	0	Absent <0.1ha (0.247 acres)	
			Il present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	
		0	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	acres)
		0	Coarse woody debris >15cm (6ii		High 4ha (9.88 acres) or more	
		Ň	Standing dead >25cm (10in) dbh		anh. Carra Caal-	
		1	Amphibian breeding pools		aphy Cover Scale	
				0	Absent	
				1	Present very small amounts or if of marginal quality	more common
				2	Present in moderate amounts, but	ut not of highest
				۷	quality or in small amounts of h	
	1			3	Present in moderate or greater ar	nounts

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
_	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	41	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category						
Choose one	Category 1	(Category 2)	Category 3			

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/11/2022		
Affiliation:		
GAI Consultants, Inc. Address:		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
Phone Number: 234.203.0772		
e-mail address: k.vonderwish@gaiconsulta	nts.com	
Name of Wetland:		
Vegetation Communit(ies):		
PSS		
HGM Class(es): Depressional		
	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	40.14305, -82.073339	
USGS Quad Name	<u> </u>	
County	Dresden, OH	
	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040204	
Site Visit	3/11/2022	
National Wetland Inventory	Map X	
Ohio Wetland Inventory Map	X	
Soil Survey	Ne: Newark silt loam, 0 to 3 percent slopes	
Delineation report/map	Υ	

Wetland Size (acres, hectares):

acres 0.915918

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 40

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category o status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
ou.	vegetation communities, although non-native or disturbance tolerant	120	110
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Co to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	Matlemal alequidates	Commission
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Occupation Occupation	
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Millwood-Ohio Central			Rater(s): Kristen Vonderwish	Date: 3/11/2022	
3	3	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign score >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.1h X	0.2ha) (5 pts) na) (4 pts) (3 pts) tha) (2pts)		
8	11	Metric 2. Upland but	ffers and surroundi	ng land use.	
max 14 pts.	subtotal	X MEDIUM. Buffers average 2 NARROW. Buffers average 2 VERY NARROW. Buffers a 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years), X MODERATELY HIGH. Resi	n (164ft) or more around wetland per 25m to <50m (82 to <164ft) around v 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. ife area, etc. (7) perst. (5) ervation tillage, new fallo	w field. (3)
15	26	Metric 3. Hydrology	•		
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lak 3c. Maximum water depth. Select onlessing selections (2.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrological None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1)	e water (3) e or stream) (5) 3d. I y one and assign score. (2) regime. Score one or double check	Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat Seasonally inundat Seasonally satura	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ed/saturated (3) ated (2) ated in upper 30cm (12in) (1) stormwater)
12	38	Metric 4. Habitat Alt	eration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) X Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or d None or none apparent (9) X Recovered (6) Recovering (3) Recent or no recovery (1)	one and assign score. ouble check and average. Check all disturbances observed mowing grazing clearcutting selective cutting	shrub/sapling rem herbaceous/aqua sedimentation dredging	
SI	38 ubtotal this pa	ae	woody debris removal toxic pollutants	farming nutrient enrichme	nt

7

last revised 1 February 2001 jjm

Site: Mi	llwood-Ohio	Central	Rater	(S): Kristen Vo	nderwish	Date: 3/11/2022
SI	38 ubtotal first pa	age				
0	38	Metr	ric 5. Special Wetlar	nds.		
max 10 pts.	subtotal		Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	restricted hydronings) (10) eatened or end r fowl habitat or 1 Qualitative F	angered species (10) r usage (10) Rating (-10)	
2	40	Metr	ric 6. Plant commun	ities, int	erspersion, microt	opography.
max 20 pts.	subtotal	6a. Wet	tland Vegetation Communities.	<u>Vegetation</u>	Community Cover Scale	
		Score al	I present using 0 to 3 scale. Aquatic bed Emergent	1	Absent or comprises <0.1ha (0.2 Present and either comprises sm vegetation and is of moderate	nall part of wetland's
		2	Shrub		significant part but is of low qua	ality
		0	Forest	2	Present and either comprises sig	gnificant part of wetland's
		0	Mudflats		vegetation and is of moderate	quality or comprises a small
		0	Open water		part and is of high quality	
		0	Other	3	Present and comprises significant	
			zontal (plan view) Interspersion.		vegetation and is of high qualit	у
		Select o	≒ `			
			High (5)		Description of Vegetation Quality	
			Moderately high(4)	low	Low spp diversity and/or predom	
			Moderate (3)		disturbance tolerant native spe	
		<u></u>	Moderately low (2)	mod	Native spp are dominant compor	
		X	Low (1) None (0)		although nonnative and/or dist can also be present, and speci	· · ·
		6c Cov	rerage of invasive plants. Refer		moderately high, but generally	•
			1 ORAM long form for list. Add		threatened or endangered spp	
			ct points for coverage	high	A predominance of native specie	
			Extensive >75% cover (-5)	9	and/or disturbance tolerant nat	
		Х	Moderate 25-75% cover (-3)		absent, and high spp diversity	
			Sparse 5-25% cover (-1)		the presence of rare, threatene	
			Nearly absent <5% cover (0)		<u> </u>	
			Absent (1)	Mudflat and	d Open Water Class Quality	
		6d. Mic	 rotopography.	0	Absent <0.1ha (0.247 acres)	
		Score al	present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	cres)
		0	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.8	8 acres)
		0	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
		0	Standing dead >25cm (10in) dbh			
		1	Amphibian breeding pools		graphy Cover Scale	
				0	Absent	
				1	Present very small amounts or if of marginal quality	
				2	Present in moderate amounts, b quality or in small amounts of h	nighest quality
	7			3	Present in moderate or greater a	imounts
40					and of highest quality	
40						

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
Ü	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	40	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	(Category 2)	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/11/2022		
Affiliation:		
GAI Consultants, Inc.		
Address: 5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
Phone Number: 234.203.0772		
e-mail address:		
k.vonderwish@gaiconsulta		
Name of Wetland:		
Vegetation Communit(ies): PSS		
HGM Class(es): Depressional		
	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
L till		
Lat/Long or UTM Coordinate	40.141895, -82.072002	
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040204	
Site Visit	3/11/2022	
National Wetland Inventory M	^{Лар} X	
Ohio Wetland Inventory Map	X	
Soil Survey	Me: Melvin silt loam, 0 to 3 percent slopes	
Delineation report/map	Υ	

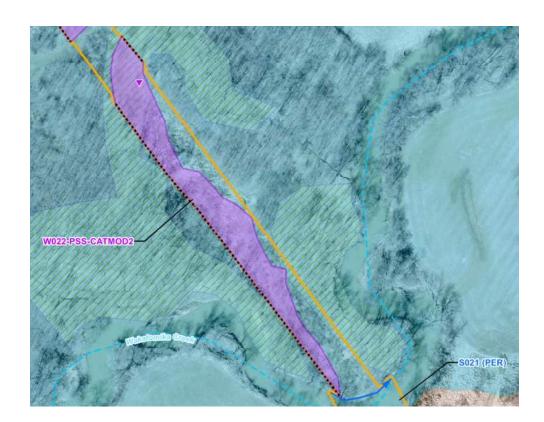
Wetland Size (acres, hectares):

acres 1.456376

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 42

Category: Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Mil	Site: Millwood-Ohio Central Rater(s): Kristen Vonderwish Date: 3/11/2022				
3	3	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign score	0.2ha) (5 pts) na) (4 pts) (3 pts) 2ha) (2pts)		
7	10	Metric 2. Upland bu	ffers and surround	ing land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers a 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years) MODERATELY HIGH. Res	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) aroun verage <10m (<32ft) around wetlar	erimeter (7) wetland perimeter (4) nd wetland perimeter (1) nd perimeter (0) everage. dlife area, etc. (7) forest. (5) ervation tillage, new fallo	ow field. (3)
15	25	Metric 3. Hydrology	•		
max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lak 3c. Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1)	te water (3) te or stream) (5) tly one and assign score. (2) tregime. Score one or double check	X Part of wetland/u X Part of riparian or Duration inundation/sate Semi- to permane X Regularly inundat Seasonally inundat Seasonally satura	in (1) lake and other human use (1) pland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) ated (2) ated in upper 30cm (12in) (1) stormwater)
12	37	Metric 4. Habitat Alt	eration and Develo	other	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) X Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or described in the second secon	one and assign score.		
sı	37 ubtotal this pa	X Recovered (6) Recovering (3) Recent or no recovery (1)	mowing grazing clearcutting v selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

7

last revised 1 February 2001 jjm

Site: Mil	lwood-Ohio	Central R	ater(s): Kristen Vond	derwish	Date: 3/11/2022
0.001	1	1	(0):		
	37				
SU	ıbtotal first pa	1	411-		
0	37	Metric 5. Special We	tlands.		
max 10 pts.	subtotal	Check all that apply and score as indica	ited.		
		Bog (10)			
		Fen (10) Old growth forest (10)			
		Mature forested wetland (5)			
		Lake Erie coastal/tributary we	tland-unrestricted hydr	ology (10)	
		Lake Erie coastal/tributary we	•	ogy (5)	
		Lake Plain Sand Prairies (Oa	k Openings) (10)		
		Relict Wet Prairies (10) Known occurrence state/fede	ral threatened or endar	ngered species (10)	
		Significant migratory songbird			
		Category 1 Wetland. See Qu		= : :	
5	40	Metric 6. Plant comn	nunities, inte	erspersion, microto	pography.
5	42		,	, , , , , , , , , , , , , , , , , , , ,	
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.	Vegetation C	Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	
		O Aquatic bed 1 Emergent	1	Present and either comprises small	
		2 Shrub		vegetation and is of moderate q significant part but is of low qual	
		1 Forest	2	Present and either comprises sign	-
		Mudflats		vegetation and is of moderate q	
		Open water		part and is of high quality	
		O Other	3	Present and comprises significant	
		6b. horizontal (plan view) Interspersion Select only one.	•	vegetation and is of high quality	
		High (5)	Narrative De	scription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predomin	
		Moderate (3)		disturbance tolerant native spec	
		Moderately low (2) Low (1)	mod	Native spp are dominant compone although nonnative and/or distu	
		None (0)		can also be present, and specie	
		6c. Coverage of invasive plants. Refer		moderately high, but generally v	•
		to Table 1 ORAM long form for list. Add		threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native species	
		Extensive >75% cover (-5) Moderate 25-75% cover (-3)		and/or disturbance tolerant native absent, and high spp diversity a	
		Sparse 5-25% cover (-1)		the presence of rare, threatened	
		Nearly absent <5% cover (0)			
		Absent (1)	Mudflat and	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale. O Vegetated hummucks/tussuc	1 ks 2	Low 0.1 to <1ha (0.247 to 2.47 ac Moderate 1 to <4ha (2.47 to 9.88	<u> </u>
		1 Coarse woody debris >15cm		High 4ha (9.88 acres) or more	acicsj
		O Standing dead >25cm (10in)	` '	,	
		1 Amphibian breeding pools		aphy Cover Scale	
			0	Absent Present year camell amounts or if r	
			1	Present very small amounts or if r of marginal quality	
			2	Present in moderate amounts, but quality or in small amounts of hi	
	_		3	Present in moderate or greater an	
10				and of highest quality	

42

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
Ū	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	42	Category based on score breakpoints Mod 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	
Choose one	Category 1	(Category 2)	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date: 3/11/2022		
Affiliation:		
GAI Consultants, Inc. Address:		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
Phone Number: 234.203.0772		
e-mail address: k.vonderwish@gaiconsulta	nts com	
Name of Wetland:		
Vegetation Communit(ies):		
PSS HGM Class(es):		
Depressional		
	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Lang or LITM Coordinate		
Lat/Long or UTM Coordinate	40.144361, -82.074308	
USGS Quad Name	Dresden, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040204	
Site Visit	3/11/2022	
National Wetland Inventory N	Map X	
Ohio Wetland Inventory Map	X	
Soil Survey	Me: Melvin silt loam, 0 to 3 percent slopes	
Delineation report/map	Υ	

W023

Wetland Size (acres, hectares):

acres 0.343047

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

North





Comments, Narrative Discussion, Justification of Category Changes:

Final score: 45

Category: 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	х	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	Х	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		Х

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3 YES	(NO)
J	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	(NO)
•	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	Oo to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	N/ 41 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: Mil	lwood-Ohio	Central	Rater(s): Kristen Vonderwish Date: 3/11/2022			
2	2	Metric 1. Wetland A	rea (size).			
max 6 pts.	subtotal	Select one size class and assign scor >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.1) 3 to <10 acres (1.2 to <4ha X 0.3 to <3 acres (0.12 to <1.3 0.1 to <0.3 acres (0.04 to <1.3 <0.1 acres (0.04ha) (0 pts)	0.2ha) (5 pts) na) (4 pts) I (3 pts) 2ha) (2pts)			
7	9	Metric 2. Upland bu	ffers and surroundi	ing land use.		
max 14 pts.	subtotal	X MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers a 2b. Intensity of surrounding land use. VERY LOW. 2nd growth or X LOW. Old field (>10 years) MODERATELY HIGH. Res	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around a 10m to <25m (32ft to <82ft) around average <10m (<32ft) around wetlan	erimeter (7) wetland perimeter (4) ad wetland perimeter (1) ad perimeter (0) verage. dlife area, etc. (7) forest. (5) ervation tillage, new fallo	ow field. (3)	
15	24	Metric 3. Hydrology	•			
max 30 pts.	subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surfac Perennial surface water (lal 3c. Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1)	ce water (3) se or stream) (5) 3d. ly one and assign score. (2) cregime. Score one or double chec	X Part of wetland/up X Part of riparian or Duration inundation/satu Semi- to permane X Regularly inundat Seasonally inundat Seasonally satura	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) red/saturated (3) ated (2) ated in upper 30cm (12in) (1) stormwater)	
r	1		weir stormwater input	dredging other		
12	36	Metric 4. Habitat Al	teration and Develo	pment.		
max 20 pts.	subtotal	4a. Substrate disturbance. Score on None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) X Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or comparent (9) X Recovered (6) Recovering (3)	one and assign score.	shrub/sapling rem		
SU	36 ubtotal this pa	Recent or no recovery (1)	clearcutting v selective cutting woody debris removal toxic pollutants	sedimentation dredging farming nutrient enrichme		

last revised 1 February 2001 jjm

Site: Mil	lwood-Ohio	Central	Rater	(s): Kristen Vo	nderwish	Date: 3/11/2022
SI	36 ubtotal first pa					
0	36	Ť	ric 5. Special Wetlan	ıds.		
max 10 pts.	subtotal	Check a	Il that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-take Erie coastal/tributary wetland-rake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal three Significant migratory songbird/water Category 1 Wetland. See Question	restricted hydronings) (10) eatened or end fowl habitat or	angered species (10)	
9	45	Metr	ric 6. Plant commun	ities, int	erspersion, microto	opography.
max 20 pts.	subtotal	6a. Wet	land Vegetation Communities.	Vegetation	Community Cover Scale	
		Score al	present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	471 acres) contiguous area
		0	Aquatic bed	1	Present and either comprises sm	all part of wetland's
		2	Emergent		vegetation and is of moderate of	
		2	Shrub		significant part but is of low qua	•
		1	Forest	2	Present and either comprises sig	
		0	Mudflats		vegetation and is of moderate of	quality or comprises a small
		0	Open water		part and is of high quality	t mant an man and a few attack
		Ch hari	_Other	3	Present and comprises significan	
			zontal (plan view) Interspersion.		vegetation and is of high quality	/
		Select o	High (5)	Narrative D	Description of Vegetation Quality	
			Moderately high(4)	low	Low spp diversity and/or predom	inance of nonnative or
			Moderate (3)	1000	disturbance tolerant native spe	
		х	Moderately low (2)	mod	Native spp are dominant compon	
		^	Low (1)		although nonnative and/or distu	_
			None (0)		can also be present, and specie	
		6c. Cov	erage of invasive plants. Refer		moderately high, but generally	w/o presence of rare
		to Table	1 ORAM long form for list. Add		threatened or endangered spp	
		or deduc	ct points for coverage	high	A predominance of native specie	s, with nonnative spp
			Extensive >75% cover (-5)		and/or disturbance tolerant nati	ve spp absent or virtually
			Moderate 25-75% cover (-3)		absent, and high spp diversity a	and often, but not always,
			Sparse 5-25% cover (-1)		the presence of rare, threatene	d, or endangered spp
			Nearly absent <5% cover (0)			
		X	Absent (1)	Mudflat and	d Open Water Class Quality	
			rotopography.	0	Absent <0.1ha (0.247 acres)	
		Score al	I present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	
		0	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	3 acres)
		<u>0</u>	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
		0	Standing dead >25cm (10in) dbh	Minustana	waanku Causa Caala	
		[1_	Amphibian breeding pools		graphy Cover Scale	
				<u>0</u>	Absent Procent year small amounts or if	more common
				ı	Present very small amounts or if of marginal quality	more common
				2	Present in moderate amounts, but	ut not of highest
				2	quality or in small amounts of h	•
				3	Present in moderate or greater a	
	1			3	and of highest quality	mounto
45					The condition downs	
	I					

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
3	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	9	
	TOTAL SCORE	45	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to Narrative Rating No. 5	3 status YES Wetland is categorized as a Category 1 wetland	NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	
Choose one	Category 1	(Category 2)	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

APPENDIX D Primary Headwater Habitat Evaluation Data Forms



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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3

Ohio Environmental Protection Agency HHEI Score (sum of metrics 1+2+	3) 💮
SITE NAME/LOCATION Trinway-Ohio Central	
SITE NUMBER S001 RIVER BASIN 050400040305 RIVER CODE DRAINAGE AREA (m	Z) <1
220.00 40.00000 20.00004	. ,
DATE 03/02/2022 SCORER KLV COMMENTS SOH-KLV-001	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for	r Instructions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECEN	T OR NO RECOVERY
THE STATE OF THE S	TORNO RECOVER
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A 8 TYPE PERCENT TYPE PERCENT SILT [3 pt] BUDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of DISTRIBUTION OF PROJECT OF STATE O	Metric Points Substrate Max = 40
Bior Slabs, Boulder, Cobble, Bedrock (A)	4 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Yone box):	Bankfull
> 4.0 meters (> 13') [30 pts]	Width Max=30
> 3.0 m - 4.0 m (> 9' 7"-13") [25 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH (meters)	4'
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downst	ream*
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)	
LR (Per Bank) LR LR	
Wide >10m	ial ow Crop
COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	ermittent)
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None	
STREAM GRADIENT ESTIMATE	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Muskingum River Distance from Evaluated Stream 1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Dresden</u> NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/01/2022 Quantity:<.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 90
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form

Protection Agency HHEI Score (sum of metrics 1+2+3)	40
SITE NAME/LOCATION Trinway-Ohio Central	
SITE NUMBER S002 RIVER BASIN 050400040305 RIVER CODE DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft) 592.00 LAT 40.097513 LONG -82.027603 RIVER MILE _	
DATE 03/02/2022 SCORER KLV COMMENTS SOH-KLV-002	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for In	structions
STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OF	NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE SILT [3 pt] BULDER (>256 mm) [16 pts] BEDROCK [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] 25 MUCK [0 pts]	HHEI Metric Points Substrate Max = 40
SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]	16
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 15 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 4	A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the	Pool Depth
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts]	Max = 30
> 22.5 - 30 cm [30 pts] < 5 cm [5pts]	15
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts]	
COMMENTS MAXIMUM POOL DEPTH (centimeters): 5	
BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Bankfull Width Max=30
BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <i>ONLY</i> one box): > 4.0 meters (> 13') [30 pts]	Width
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check <i>ONLY</i> one box): > 4.0 meters (> 13') [30 pts]	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13") [30 pts]	Width Max=30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13") [30 pts]	Width Max=30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13") [30 pts]	Width Max=30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13") [30 pts]	Width Max=30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13") [30 pts]	Width Max=30 15
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts]	Width Max=30 15
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) 4' This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstrean RIPARIAN WIDTH L R (Per Bank) L R Wide > 10 m	Width Max=30 15
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts]	Width Max=30 15
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstrean RIPARIAN WIDTH L R (Per Bank) L R Wide > 10m	Width Max=30 15
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information mustalso be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstrean RIPARIAN WIDTH L R (Per Bank) L R (Per Bank) L R (Per Bank) L R (Per Bank) Residential, Park, New Field None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 3.0 None 1.0 3.0	Width Max=30 15
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) AVERAGE BANKFULL WIDTH (meters) Initial information mustals of becompleted RIPARIAN ZONE AND FLOODPLAIN QUALITY ** NOTE: River Left (L) and Right (R) as looking downstrean RIPARIAN WIDTH L R (Per Bank) L R Wide > 10 m	Width Max=30 15

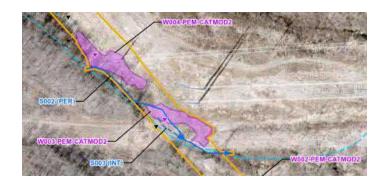
ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Muskingum River Distance from Evaluated Stream _<1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Dresden NRCS Soil Map Page:NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/01/2022 Quantity:<.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 50
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form

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Protection Agency HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Trinway-Ohio Central	
SITE NUMBER S003 RIVER BASIN 050400040305 RIVER CODE DRAINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) 119.00 LAT 40.097319 LONG -82.027493 RIVER MILE	
DATE 03/02/2022 SCORER KLV COMMENTS SOH-KLV-003	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins	tructions
·	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR N	IO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 45 BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10 BEDROCK [16 pts] FINE DETRITUS [3 pts] COBBLE (65-256 mm) [12 pts] 20 CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] 25 MUCK [0 pts] ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 20 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 4	A + B
Aximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): 30 centimeters [20 pts]	Pool Depth Max = 30
BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Yone box):	Bankfull
> 4.0 meters (> 13') [30 pts] > 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3'	15
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R	
✓ ✓ Wide >10m ☐ Mature Forest, Wetland ☐ Conservation Tillage ☐ Moderate 5-10m ☐ Immature Forest, Shrub or Old Field ☐ Urban or Industrial ☐ Narrow <5m	-
COMMENTS	_
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	 :nt)
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	— ÷nt) —

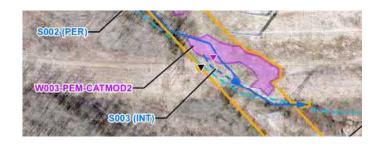
ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Muskingum River Distance from Evaluated Stream _<1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Dresden NRCS Soil Map Page:NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/01/2022 Quantity:<.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): Y Canopy (% open): 45
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

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Protection Agency	2+3)
SITE NAME/LOCATION Trinway-Ohio Central	
SITE NUMBER S004 RIVER BASIN 050400040305 RIVER CODE DRAINAGE AREA	(mi²)<1
LENGTH OF STREAM REACH (ft) 110.00 LAT 40.100533 LONG -82.031051 RIVER IN	MILE
DATE 03/02/2022 SCORER KLV COMMENTS SOH-KLV-004	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual"	for Instructions
·	
STREAM CHANNEL MODIFICATIONS: None/Natural Channel Recovered Recovering Recov	ENT OR NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes. TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 60 BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 15 BEDROCK [16 pts] FINE DETRITUS [3 pts] COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] 25 SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 0 (B)	Metric Points Substrate Max = 40 15
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES:	3
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters):	Max = 30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3° - 4' 8°)[15 pts] > 3.0 m - 4.0 m (> 9' 7°-13') [25 pts] ✓ ≤ 1.0 m (≤ 3' 3°) [5 pts]	Width Max=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH (meters)	3'
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking down	istream*
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) LR (Per Bank) LR	
✓ ✓ Wide >10m ☐ Mature Forest, Wetland ☐ Conservation ☐ Moderate 5-10m ✓ ✓ Immature Forest, Shrub or Old Field ☐ Urban or Indu ☐ Narrow <5m	strial
None Fenced Pasture Mining or Con	
COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS	intermittent)
SINUO SITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3	
STREAM GRADIENT ESTIMATE Flat (0.5 8/100 fb)	rere (10 fl/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Muskingum River Distance from Evaluated Stream 1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Dresden</u> NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/01/2022 Quantity:<.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 75
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2

Protection Agency HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Trinway-Ohio Central SITE NUMBER S005 RIVER BASIN 050400040305 RIVER CODE DRAINAGE AREA (mi²) <	<u> </u>
LENGTH OF STREAM REACH (ff) 64.00 LAT 40.100469 LONG -82.031064 RIVER MILE	
DATE 03/02/2022 SCORER KLV COMMENTS SOH-KLV-005	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instruc	ctions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO F	RECOVERY
TYPE PERCENT TYPE PERCENT TYPE 50 PERCENT 50 PERCENT Sull relate score is sull of back A & b PERCENT TYPE 50 PERCENT 50 PERCENT Sull relate score is sull of back A & b PERCENT Sull relate score is sull re	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 0 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 3	A + B
	ool Depth Max = 30
BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull
2 4.6 meters (2 16 / [66 pts]	Width Max=30
> 3.0 m - 4.0 m (> 9' 7°-13') [25 pts]	WIAX-30
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3'	5
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH <u>FLOODPLAIN QUALITY</u> (Most Predominant per Bank) L R (Per Bank) L R L R	
Wide >10m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	
Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) COMMENTS Moist Channel, isolated pools, no flow (intermittent) Dry channel, no water (ephemeral)	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
None □ 1.0 □ 2.0 □ 3.0 □ 0.5 □ 1.5 □ 2.5 □ >3	
STREAM GRADIENT ESTIMATE Flat (0.5 %100 %) Flat to Moderate Moderate (2 %100 %) Moderate to Severe Severe (10 %100 %)	fi)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
✓ WWH Name: Muskingum River Distance from Evaluated Stream 1 mile
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Dresden</u> NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/01/2022 Quantity:<.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): _N Canopy (% open):50
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form

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Protection Agency HHEI Score (sum of metrics 1	1+2+3)
SITE NAME/LOCATION Trinway-Ohio Central	
SITE NUMBER S006 RIVER BASIN 050400040305 RIVER CODE DRAINAGE ARE	EA (mi²)<1
	R MILE
DATE 03/02/2022 SCORER KLV COMMENTS SOH-KLV-006	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual	al" for Instructions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING REC	DECENT OF NO DECOVERY
STREAM CHANNEL MODIFICATIONS. PRODE NATURAL CHANNEL PRECOVERED PRECOVERING PR	RECENT OR NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE box (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of box TYPE PERCENT	EENT Metric Points
	B) A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TITES.	3
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 2 < 5 cm [5pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeter	Max = 30
BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width Max=30
> 3.0 m - 4.0 m (> 9' 7°-13') [25 pts] ≤1.0 m (≤ 3' 3°) [5 pts] > 1.5 m - 3.0 m (> 4' 8° - 9' 7°) [20 pts]	Widx-50
COMMENTS AVERAGE BANKFULL WIDTH (mete	4' 15
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking do	wnstream*
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R	
✓ Wide >10m	ndustrial
Narrow <5m Residential, Park, New Field Open Past None Fenced Pasture Mining or C COMMENTS	Construction
None Fenced Pasture Mining or C COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	Construction
None	Construction

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Muskingum River Distance from Evaluated Stream 1 mile 1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Dresden</u> NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/01/2022 Quantity:<.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 50
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Protection Agency

Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+

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SITE NAME/LOCATION Trinway-Ohio Central		
	RIVER CODE DRAINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) 139.00 LAT 40.1	02682 LONG82.033785 RIVER MILE	
DATE 03/02/2022 SCORER KLV COMMEN	ITS SOH-KLV-007	
NOTE: Complete All Items On This Form - Refer to "He	adwater Habitat Evaluation Index Field Manual" for Instru	ctions
STREAM CHANNEL MODIFICATIONS: NONE / NATURA	AL CHANNEL RECOVERED RECOVERING RECENT OR NO	RECOVERY
(Max of 32). Add total number of significant substrate ty	PERCENT SILT [3 pt] LEAF PACKWOODY DEBRIS [3 pts] INF. DETRITUS [3 pts]	HHEI Metric Points Substrate Max = 40
SAND (<2 mm) [6 pts] 15	ARTIFICIAL [3 pts]	17
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock	1 10	A + B
<u> </u>		ool Depth
time of evaluation. Avoid plunge pools from road culver > 30 centimeters [20 pts]	ts or storm water pipes) (Check O/VL 7 one box):	Max = 30
> 22.5 - 30 cm [30 pts]	< 5 cm [5pts]	5
> 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [Opts]	
COMMENTS	MAXIMUM POOL DEPTH (centimeters): <3	
 BANK FULL WIDTH (Measured as the average of 3 - > 4.0 meters (> 13") [30 pts] 	4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Bankfull Width
> 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]		Max=30
> 1.5 m - 3.0 m (> 4' 8° - 9' 7°)[20 pts]		15
COMMENTS	AVERAGE BANKFULL WIDTH (meters) 4'	. •
This infor	mation must also be completed	
	mation must also be completed **NOTE: River Left (L) and Right (R) as looking downstream*	_
RIPARIAN WIDTH FLOO	* NOTE: River Left (L) and Right (R) as looking downstream* ODPLAIN QUALITY (Most Predominant per Bank)	_
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH FLOO L R (Per Bank) L R	* NOTE: River Left (L) and Right (R) as looking downstream* **DDPLAIN QUALITY* (Most Predominant per Bank) L R	
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) L R WWW Wide > 10m	* NOTE: River Left (L) and Right (R) as looking downstream* ODPLAIN QUALITY (Most Predominant per Bank)	_
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m Resi	* NOTE: River Left (L) and Right (R) as looking downstream* DOPLAIN QUALITY (Most Predominant per Bank) L R	_
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH	* NOTE: River Left (L) and Right (R) as looking downstream* DOPLAIN QUALITY (Most Predominant per Bank) L R	_
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH	* NOTE: River Left (L) and Right (R) as looking downstream* ODPLAIN QUALITY (Most Predominant per Bank) L R	_
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH	* NOTE: River Left (L) and Right (R) as looking downstream* ODPLAIN QUALITY (Most Predominant per Bank) L R	
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) W Wide > 10m Moderate 5-10m Narrow < 5m None COMMENTS FLOW REGIME (At Time of Evaluation) (Check Stream Flowing Subsurface flow with isolated pools (interstitial)	* NOTE: River Left (L) and Right (R) as looking downstream* DPLAIN QUALITY (Most Predominant per Bank) L R	
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Matu Moderate 5-10m Resi Narrow <5m Resi None COMMENTS FLOW REGIME (At Time of Evaluation) (Check Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) None 1.0	* NOTE: River Left (L) and Right (R) as looking downstream* DOPLAIN QUALITY (Most Predominant per Bank) L R	
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Matu Moderate 5-10m Resi Narrow <5m Resi None Fence COMMENTS FLOW REGIME (At Time of Evaluation) (Check Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft)	* NOTE: River Left (L) and Right (R) as looking downstream* DOPLAIN QUALITY (Most Predominant per Bank) L R	

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Att	ach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)	
_	Distance from Evaluated Stream 1 mile
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AF	REA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Dresden</u> NRCS Soil Map Page: _	NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS T	WP
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/01/2022	Quantity:<.25"
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): N Canopy (% open): 50	
Were samples collected for waterchemistry? (Y/N): N Lab Sample # or ID	(attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) \underline{Y} f not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS (Record all observations below)	
Fish Observed? (Y/N) N Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):	
Salamanders Observed? (Y/N) N Species observed (if known):	
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):	
Comments Regarding Biology:	

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form

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Protection Agency HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Trinway-Ohio CentrAL	_
SITE NUMBER S008 RIVER BASIN 050400040305 RIVER CODE DRAINAGE AREA (mi²) <1	
LENGTH OF STREAM REACH (ft) 160.00 LAT 40.103153 LONG -82.034248 RIVER MILE	
DATE 03/02/2022 SCORER KLV COMMENTS SOH-KLV-008	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instruct	ions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RE	COVERY
SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.	HEI
(max of 32). Add total number of significant substrate types round (max of 6). Final metric score is sum of boxes A & B	etric
BLDR SLABS [16 pts] SILT [3 pt] 50 Pc	oints
BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts]10_ BEDROCK [16 pts] FINE DETRITUS [3 pts] Su	bstrate
COBBLE (65-256 mm) [12 pts] 15 CLAY or HARDPAN [0 pt]	ax = 40
GRAVEL (2-64 mm) [9 pts] 25 MUCK [0 pts]	
SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]	16
Total of Percentages of 15	+ B
Bidr Slabs, Boulder, Cobble, Bedrock (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 4	+ D
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the	ol Depth
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):	ax = 30
> 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts]	
> 10 - 22.5 cm [35 pts] NO WATER OR MOIST CHANNEL [0pts]	5
COMMENTS MAXIMUM POOL DEPTH (centimeters): <5	
BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Yone box): Bank Full Width (Measured as the average of 3 - 4 measurements) (Check ONL Yone box): Bank Full Width (Measured as the average of 3 - 4 measurements) (Check ONL Yone box): Bank Full Width (Measured as the average of 3 - 4 measurements) (Check ONL Yone box): Bank Full Width (Measured as the average of 3 - 4 measurements) (Check ONL Yone box): Bank Full Width (Measured as the average of 3 - 4 measurements) (Check ONL Yone box): Bank Full Width (Measured as the average of 3 - 4 measurements) (Check ONL Yone box): Bank Full Width (Measured as the average of 3 - 4 measurements) (Check ONL Yone box): Bank Full Width (Measured as the average of 3 - 4 measurements) (Check ONL Yone box):	nkfull
2 1.0 m 2 1.5 m (2 5 5 4 6)[15 pts]	/idth ax=30
> 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] NII > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	IX-30
at	15
COMMENTS AVERAGE BANKFULL WIDTH (meters) 4	
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R L R	
☐ Wide >10m ☐ Mature Forest, Wetland ☐ Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction	
COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	
✓ Stream Flowing	
COMMENTS	
COMMENTO	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 2.0 3.0	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Muskingum River Distance from Evaluated Stream 1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Dresden</u> NRCS Soil Map Page: <u>-</u> NRCS Soil Map Stream Order: <u>-</u>
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/01/2022 Quantity:<.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 80
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS
(Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

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SITE NAMELOCATION	Protection Agency	
SITE NUMBER SO09	SITE NAME/LOCATION Trinway-Ohio Central	
LENGTH OF STREAM REACH (ft) 220.00		<1
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY 1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum or boxes A & B FERCENT 1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum or boxes A & B HHEI TYPE BLDR SLABS (16pts) COBBLE (65-256 mm) (16 pts) BEDROCK (16pts) COBBLE (65-256 mm) (12 pts) SAID (<2 mm) (6 pts) ARTIFICIAL (3 pts) LCAY or NARDDAN (0 pt) MUCK (0 pts) ARTIFICIAL (3 pts) ARTIFICIAL (3 pts) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SCOMENTS AXAIMUM POOL DEPTH (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): SCOMENTS AXIMUM POOL DEPTH (centimeters) SCOMENTS AXERGE BANKFULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): AXERGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*. RIPARIAN WIDTH RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*. RIPARIAN WIDTH RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*. RIPARIAN WIDTH RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*. RIPARIAN WIDTH RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*. RIPARIAN WIDTH RIPA		
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT ROO RECOVERY 1. SUBSTRATE (fastimate percent of every type present), Check ONL / Ywo predominant substrate TYPE boxes. (Max of 32), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes 4.8.8 PERCENT PRESENT SIGNATE (Percent Property). SLT [3 pt] PERCENT PRESENT SIGNATE (Points Substrate System) [16 pts] SLT [3 pt] SLT [
1. SUBSTRATE (fastimate percent of every type present), Check ONL / two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A 8 B PERCENT PYPE	NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inc.	tructions
1. SUBSTRATE (fastimate percent of every type present), Check ONL / two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A 8 B PERCENT PYPE	STREAM CHANNEL MODIFICATIONS: COMPANY ANATHRAL CHANNEL DESCOVERED DESCOVERING DESCOVER	NO DECOVEDY
Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE	STREAM CHANNEL MODIFICATIONS. NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OF	NO RECOVERY
Bildr Slabs, Boulder, Cobble, Bedrock	(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 40 BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10 BEDROCK [16 pts] FINE DETRITUS [3 pts] COBBLE (65-256 mm) [12 pts] 15 CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] 20 MUCK [0 pts]	Metric Points Substrate Max = 40
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): 30 centimeters [20 pts]	Bidr Slabs, Boulder, Cobble, Bedrock (A) (B)	A + B
30 centimeters [20 pts]	<u> </u>	
No WATER OR MOIST CHANNEL [0pts] 15	> 30 centimeters [20 pts] 5 cm - 10 cm [15 pts]	l max = 30
SANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):		15
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9" 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4" 8" - 9" 7") [20 pts] This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R L R Wide > 10m Mature Forest, Wetland Conservation Tillage Urban or Industrial Urban or Industrial Open Pasture, Row Crop None Residential, Park, New Field Open Pasture, Row Crop Mining or Construction COMMENTS Moist Channel, isolated pools, no flow (intermittent) COMMENTS Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 >3 None 1.0 2.0 3.0 >3 None 1.0 2.0 3.0 >3	10	
> 4.0 meters (> 13') [30 pts]		Rankfull
> 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	, (, (
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide > 10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Field Urban or Industrial Open Pasture, Row Crop None Residential, Park, New Field Open Pasture, Row Crop Mining or Construction COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 O.5 3.0 O.5 3.0 O.5 3.0		Max=30
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m Residential, Park, New Field Open Pasture, Row Crop None Residential, Park, New Field Open Pasture, Row Crop Stream Flowing Moist Channel, isolated pools, no flow (intermittent) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 3.0 0.5 3.0 0.5 3.0 0.5 3.0 0.5 3.0 0.5 3.5 3.0 0.5 0.5	> 1.5 iii - 5.0 iii (> 4 6 - 9 7)[20 pts]	5
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH	COMMENTS AVERAGE BANKFULL WIDTH (meters) 3'	
RIPARIAN WIDTH (Per Bank) L R Wide >10m Mature Forest, Wetland Moderate 5-10m Mining or Conservation Tillage Moderate 5-10m Narrow <5m Residential, Park, New Field Open Pasture, Row Crop Fenced Pasture COMMENTS FLOW REGIME (At Time of Evaluation) Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3		
L R (Per Bank) L R Wide >10m	RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream	k
Wide >10m	(B B1)	
Moderate 5-10m		
None		
COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing		rop
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	None Fenced Pasture Mining or Construction	n
Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 3.0 >3.0		
SINUO SITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3		_
None 1.0 2.0 3.0 0.5 1.5 2.5 >3	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	ent)
STREAM GRADIENT ESTIMATE	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermit Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS	ent)
Flat (0.5 m/100 m) Flat to Moderate Moderate (2 m/100 m) Moderate to Severe Severe (10 m/100 m)	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	ent)

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Muskingum River Distance from Evaluated Stream 1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Dresden NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/02/2022 Quantity:0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 50
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

26	

Protection Agency	HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Trinway-Ohio Central		
	0040305 RIVER CODE DRAINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) 158.00 LAT_		
	COMMENTS SOH-KLV-010	
	r to "Headwater Habitat Evaluation Index Field Manual" for Instr	uctione
NOTE. Complete All Items Oil This Form - Rele	i to neadwater nabitat Evaluation lindex rield Maindai Tor ilisti	ucuons
STREAM CHANNEL MODIFICATIONS: NONE	ANATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO	RECOVERY
	pe present). Check ONLY two predominant substrate TYPE boxes.	HHEI
(Max of 32). Add total number of significant su TYPE PERCENT	bstrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT	Metric
BLDR SLABS [16 pts]	SILT [3 pt] 45	Points
BOULDER (>256 mm) [16 pts] BEDROCK [16 pts]	LEAF PACK/WOODY DEBRIS [3 pts]10	Substrate
COBBLE (65-256 mm) [12 pts]	FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt]	Max = 40
GRAVEL (2-64 mm) [9 pts] 25	MUCK [0 pts]	
SAND (<2 mm) [6 pts] 20	ARTIFICIAL [3 pts]	16
Total of Percentages of		
Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE	(B) (B) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	A + B
	um pool depth within the 61 meter (200 feet) evaluation reach at the ad culverts or storm water pipes) (Check ONLY one box):	Pool Depth Max = 30
> 30 centimeters [20 pts]	5 cm - 10 cm [15 pts]	
> 22.5 - 30 cm [30 pts]	< 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts]	5
> 10 - 22.5 cm [25 pts]	15	
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
_	age of 3 - 4 measurements) (Check ONL Yone box):	Bankfull
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] < 1.0 m (< 3' 3")[5 pts]	Width Max=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts]		
COMMENTS	AVERAGE BANKFULL WIDTH (meters) 3'	5
COMMENTS	AVERAGE DANKFOLL WIDTH (Hieleis)	
	his information mustalso be completed QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
<u>RIPARIAN WIDTH</u> LR (PerBank) LR	FLOODPLAIN QUALITY (Most Predominant per Bank) L R	
✓ Wide >10m		
☐ Moderate 5-10m	Immature Forest, Shrub or Old Field Urban or Industrial	
Narrow <5m	Residential, Park, New Field Open Pasture, Row Cro	р
None	Fenced Pasture Mining or Construction	
COMMENTS		
FLOW REGIME (At Time of Evaluation	 (Check ONLY one box): Moist Channel, isolated pools, no flow (intermitter 	.4\
 Stream Flowing Subsurface flow with isolated pools (interested pools) 		11.)
COMMENTS		
SINUOSITY (Number of bends per 61	m (200 ft) of channel) (Check ONLY one box):	
None 1.0	2.0 🔲 3.0	
0.5	2.5 >3	
STREAM GRADIENT ESTIMATE		
Flat (0.5 ft/100 ft) Flat to Moderate N	foderate (2 fi/100 ft) Moderate to Severe Severe Severe (10 fi/10	0.60

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)		
DOWNSTREAM DESIGNATED USE(S)		
WWH Name: Muskingum River Distance from Evaluated Stream 1 mile		
CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream		
EWH Name: Distance from Evaluated Stream		
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.		
USGS Quadrangle Name: <u>Dresden</u> NRCS Soil Map Page: NRCS Soil Map Stream Order:		
County: Muskingum Township/City: CASS TWP		
MISCELLANEOUS		
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/02/2022 Quantity:0.25"		
Photo-documentation Notes:		
Elevated Turbidity?(Y/N): N Canopy (% open): 90		
Were samples collected for waterchemistry? (Y/N): N Lab Sample # or ID (attach results):		
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)		
Is the sampling reach representative of the stream (Y/N) Y f not, explain:		
Additional comments/description of pollution impacts:		
BIOLOGICAL OBSERVATIONS (Record all observations below)		
Fish Observed? (Y/N) N Species observed (if known):		
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):		
Salamanders Observed? (Y/N) N Species observed (if known):		
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):		
Comments Regarding Biology:		

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+

52	
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SITE NAME/LOCATION Trinway-Ohio Central		
	02 RIVER CODE DRAINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) 207.00 LAT 40.	.112428 LONG -82.043995 RIVER MILE	
DATE 03/03/2022 SCORER KLV COMME	NTS SOH-KLV-011	
NOTE: Complete All Items On This Form - Refer to "H	eadwater Habitat Evaluation Index Field Manual" for Inst	ructions
STREAM CHANNEL MODIFICATIONS:		
STREAM CHANNEL MODIFICATIONS. NONE/NATUR	RAL CHANNEL RECOVERED RECOVERING RECENT OR N	O RECOVERY
(Max of 32). Add total number of significant substrate: TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] Total of Percentages of	types found (Max of 8). Final metric score is sum of boxes A & B TYPE SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
	A) S: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 5	A + B
2. Maximum Pool Depth (Measure the maximum pool time of evaluation. Avoid plunge pools from road culve > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] COMMENTS	of depth within the 61 meter (200 feet) evaluation reach at the erts or storm water pipes) (Check ONLY one box): 5 cm - 10 cm [15 pts] < 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts] MAXIMUM POOL DEPTH (centimeters):	Pool Depth Max = 30
BANK FULL WIDTH (Measuredas the average of 3	3-4 measurements) (Check ONL Yone box):	Bankfull
> 4.0 meters (> 13') [30 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width Max=30
> 3.0 m - 4.0 m (> 9'7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	≤ 1.0 m (≤ 3' 3")[5 pts]	IVIAX-30
		20
COMMENTS	AVERAGE BANKFULL WIDTH (meters) 6'	
This info	ormation <u>must</u> also be completed	
This info	ormation must also be completed TY * NOTE: River Left (L) and Right (R) as looking downstream*	<u> </u>
This info RIPARIAN ZONE AND FLOODPLAIN QUALIT	ormation mustalso be completed IY * NOTE: River Left (L) and Right (R) as looking downstream* DODPLAIN QUALITY (Most Predominant per Bank)	
This info RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m	ormation must also be completed TY * NOTE: River Left (L) and Right (R) as looking downstream*	-
This info RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R W Wide >10m	mation must also be completed IY * NOTE: River Left (L) and Right (R) as looking downstream* DODPLAIN QUALITY (Most Predominant per Bank) L R ture Forest, Wetland	-
This info RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R W Wide >10m Mar Moderate 5-10m Mar Narrow <5m Res None Fer COMMENTS FLOW REGIME (At Time of Evaluation) (Che	mation must also be completed IY * NOTE: River Left (L) and Right (R) as looking downstream* DODPLAIN QUALITY (Most Predominant per Bank) L R ture Forest, Wetland	-
This info RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Mai Moderate 5-10m Imm Narrow <5m Res None Fer COMMENTS FLOW REGIME (At Time of Evaluation) (Che	prmation must also be completed TY * NOTE: River Left (L) and Right (R) as looking downstream* DODPLAIN QUALITY (Most Predominant per Bank) L R ture Forest, Wetland	-
This info RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Mai Moderate 5-10m Mai Narrow <5m Res None Fer COMMENTS FLOW REGIME (At Time of Evaluation) (Che Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) None 1.0 None 1.5 STREAM GRADIENT ESTIMATE	promation must also be completed TY * NOTE: River Left (L) and Right (R) as looking downstream* DODPLAIN QUALITY (Most Predominant per Bank) L R ture Forest, Wetland	nt)

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)			
DOWNSTREAM DESIGNATED USE(S)			
✓ WWH Name: Big Run Distance from Evaluated Stream <1 mile			
CWH Name: Distance from Evaluated Stream			
EWH Name: Distance from Evaluated Stream			
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.			
USGS Quadrangle Name: <u>Dresden</u> NRCS Soil Map Page: NRCS Soil Map Stream Order:			
County: Muskingum Township/City: CASS TWP			
MISCELLANEOUS			
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/02/2022 Quantity: 0.25"			
Photo-documentation Notes:			
Elevated Turbidity?(Y/N): N Canopy (% open): 50			
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):			
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)			
Is the sampling reach representative of the stream (Y/N) Y f not, explain:			
Additional comments/description of pollution impacts:			
BIOLOGICAL OBSERVATIONS (Record all observations below)			
Fish Observed? (Y/N) N Species observed (if known):			
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):			
Salamanders Observed? (Y/N)_N Species observed (if known):			
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):			
Comments Regarding Biology:			

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+

22	

SITE NAME/LOCATION Trinway-Ohio Central		
	0602 RIVER CODE DRAINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) 69.00 LAT	40.112331 LONG -82.044013 RIVER MILE	
DATE 03/03/2022 SCORER KLV COM	IMENTS SOH-KLV-012	
NOTE: Complete All Items On This Form - Refer to	"Headwater Habitat Evaluation Index Field Manual" for Inst	ructions
STREAM CHANNEL MODIFICATIONS: NONE/NA	TURAL CHANNEL RECOVERED RECOVERING RECENT OR N	O RECOVERY
(Max of 32). Add total number of significant substratives TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] 15	resent). Check ONLY two predominant substrate TYPE boxes. ate types found (Max of 8). Final metric score is sum of boxes A & B TYPE SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock15 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TY	(A) 12 TOTAL NUMBER OF SUBSTRATE TYPES: 5	A + B
-	ool depth within the 61 meter (200 feet) evaluation reach at the ulverts or storm water pipes) (Check ONLY one box): 5 cm - 10 cm [15 pts] < 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts] MAXIMUM POOL DEPTH (centimeters):	Pool Depth Max = 30
BANK FULL WIDTH (Measured as the average of the state of the stat	of 3 - 4 measurements) (Check ONL Yone box):	Bankfull
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	of 3 - 4 measurements) (Check <i>ONL</i> Y one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≥ 1.0 m (≤ 3' 3")[5 pts]	Bankfull Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (meters)	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This in	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (meters) 3'	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This ir RIPARIAN ZONE AND FLOODPLAIN QUA	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (meters)	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This in RIPARIAN ZONE AND FLOODPLAIN QUA RIPARIAN WIDTH L R (Per Bank) L R Wide > 10m Moderate 5-10m Narrow < 5m	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (< 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (meters) AVERAGE BANKFULL WIDTH (meters) The street of the str	Width Max=30 5
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7'-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This in RIPARIAN ZONE AND FLOODPLAIN QUA RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Moderate 5-10m Narrow <5m None	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ∠ 1.0 m (< 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (meters) AVERAGE BANKFULL WIDTH (meters) Information mustalso be completed ALITY * NOTE: River Left (L) and Right (R) as looking downstream* FLOODPLAIN QUALITY (Most Predominant per Bank) L R Mature Forest, Wetland Immature Forest, Shrub or Old Field Immature Forest, Shrub or Old Field Immature Forest, New Field Open Pasture, Row Cr Fenced Pasture Check ONLY one box): Moist Channel, isolated pools, no flow (intermitted)	Width Max=30 5
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7'-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This in RIPARIAN ZONE AND FLOODPLAIN QUA RIPARIAN WIDTH L R (Per Bank) L R Wide > 10m Moderate 5-10m Narrow < 5m None COMMENTS FLOW REGIME (At Time of Evaluation) (0 Stream Flowing Subsurface flow with isolated pools (interstititic COMMENTS SINUOSITY (Number of bends per 61 m (20 None 0.5 STREAM GRADIENT ESTIMATE	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ∠ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (meters) AVERAGE BANKFULL WIDTH (meters) 3' Information mustalso be completed ALITY * NOTE: River Left (L) and Right (R) as looking downstream* FLOODPLAIN QUALITY (Most Predominant per Bank) L R Mature Forest, Wetland Immature Forest, Shrub or Old Field Immature Forest, Shrub or Old Field Immature Forest, New Field Residential, Park, New Field Fenced Pasture Check ONLY one box): Moist Channel, isolated pools, no flow (intermitted) Dry channel, no water (ephemeral)	Width Max=30 5

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Big Run Distance from Evaluated Stream <1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Dresden NRCS Soil Map Page:NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/02/2022 Quantity:0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 50
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+

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52	

Protection Agency	THILL Score (sum of metrics 1.2.0)
SITE NAME/LOCATION Trinway-Ohio Central	
	2 RIVER CODE DRAINAGE AREA (mi²)<1
LENGTH OF STREAM REACH (ft) 144.00 LAT 40.	112662 LONG -82.044244 RIVER MILE
	ITS SOH-KLV-013
NOTE: Complete All Items On This Form - Refer to "He	adwater Habitat Evaluation Index Field Manual" for Instructions
STREAM CHANNEL MODIFICATIONS: NONE/NATUR	AL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
A SUBSTRATE (F. II.)	10.01 - 1.01/1/4
	ent). Check ONLY two predominant substrate TYPE boxes. /pes found (Max of 8). Final metric score is sum of boxes A & B
	YPE PERCENT Metric SILT (3 pt) 40 Points
BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts]	LEAF PACK/WOODY DEBRIS [3 pts] 10
BEDROCK [16 pts]	FINE DETRITUS [3 pts] Substrate Max = 40
COBBLE (65-256 mm) [12 pts] 15 GRAVEL (2-64 mm) [9 pts] 20	CLAY or HARDPAN [0 pt]
GRAVEL (2-64 mm) [9 pts]	MUCK [0 pts] 17
Total of Percentages of	
Bldr Slabs, Boulder, Cobble, Bedrock (A	1 12
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES	: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 5
 Maximum Pool Depth (Measure the maximum pool time of evaluation. Avoid plunge pools from road culve 	depth within the 61 meter (200 feet) evaluation reach at the
> 30 centimeters [20 pts]	rts or storm water pipes) (Check ONLY one box): Max = 30 5 cm - 10 cm [15 pts]
> 22.5 - 30 cm [30 pts]	< 5 cm [5pts]
> 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [Opts]
COMMENTS	MAXIMUM POOL DEPTH (centimeters):
3. BANK FULL WIDTH (Measured as the average of 3	
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] Width ≤ 1.0 m (< 3' 3")[5 pts] Width
> 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts]	20
COMMENTS	AVERAGE BANKFULL WIDTH (meters) 6'
	mation <u>must</u> also be completed Y * NOTE: River Left (L) and Right (R) as looking downstream*
	DDPLAIN QUALITY (Most Predominant per Bank)
L R (Per Bank) L R	L R
	ure Forest, Wetland Conservation Tillage
== ==	ature Forest, Shrub or Old Field Urban or Industrial
	idential, Park, New Field
COMMENTS	
FLOW REGIME (At Time of Evaluation) (Che	ck ONLY one box):
Stream Flowing	Moist Channel, isolated pools, no flow (intermittent)
Subsurface flow with isolated pools (interstitial)	Dry channel, no water (ephemeral)
COMMENTS	Anfichannelly (Check ONLY one hox):
SINGUSTE (Number of beings per of fill (200 ii	, or channel, (check ONE) one box,
None ☐ 1.0	☐ 2.0 ☐ 3.0
☐ None ☐ 1.0 ☐ 0.5 ☐ 1.5	□ 2.0 □ 3.0 □ 2.5 □ >3
	2.5

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
✓ WWH Name: Big Run Distance from Evaluated Stream <1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Dresden</u> NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/02/2022 Quantity:0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 50
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

65	

SITE NAME/LOCATION
STE NUMBER SO15
LENGTH OF STREAM REACH (ft) 168.00 LAT 40.114609 LONG -82.048624 RIVER MILE
DATE 03/03/2022 SCORER KLV COMMENTS SOH-KLV-015
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE BLDR SLABS [16 pts]
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B PERCENT TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [1
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B PERCENT TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [1
Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B PERCENT TYPE PERCENT TYPE DECENT DE
Bidr Slabs, Boulder, Cobble, Bedrock 13 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 5 2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] < 5 cm [5pts] < 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts] 25 COMMENTS
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts]
> 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] 25 cm - 10 cm [15 pts] 25 cm - 10 cm [15 pts] 25 cm [50 pts] 25 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 25 25 25 25 25 25 25 2
NO WATER OR MOIST CHANNEL [0pts] 25
COMMENTS
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <i>ONL</i> Y one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] Width > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] Max=30 > 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts]
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
> 3.0 m - 4.0 m (> 9'7"-13') [25 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] ✓ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
COMMENTS AVERAGE BANKFULL WIDTH (meters) 5'
This information must also be completed
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)
LR (Per Bank) LR LR ☑ Conservation Tillage
Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial
Narrow <5m Residential, Park, New Field Dpen Pasture, Row Crop
None Fenced Pasture Mining or Construction
COMMENTS
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing
SINUO SITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):
None 1.0 2.0 3.0 0.5 1.5 2.5 >3
STREAM GRADIENT ESTIMATE Flat (0.5 fb/100 ft) Flat to Moderate Moderate (2 fb/100 ft) Moderate to Severe Severe (10 fb/100 ft)

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Big Run Distance from Evaluated Stream 0
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Dresden NRCS Soil Map Page:NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/02/2022 Quantity:0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 50
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N), N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form

Chio Environmental Protection Agency HHEI Score (sum of	metrics 1+2+3)	<u> </u>
SITE NAME/LOCATION Trinway-Ohio Central		
SITE NUMBER S017 RIVER BASIN 050400040204 RIVER CODE DR	AINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) 228.00 LAT 40.128003 LONG -82.05888		
DATE 03/08/2022 SCORER KLV COMMENTS SOH-KLV-017		
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index	Field Manual" for Instr	uctions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOV	/ERING RECENT OR NO	DECOVERY
THORE MADE IN THE TOTAL OF THE TENER OF THE	ALCOLAT ON NO	/ NECOVER 1
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] Total of Percentages of Blds Slabs Boulder (Cabba Boulder Cabba Boulder 15) Total of Percentages of Boulder (Cabba Boulder Cabba Boulder 15)	is sum of boxes A & B PERCENT 40 13 pts] 10	HHEI Metric Points Substrate Max = 40
Bldr Slabs, Boulder, Cobble, Bedrock (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBST	RATE TYPES: 5	A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evitime of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL > 30 centimeters [20 pts]	Yone box): NEL [0pts]	Pool Depth Max = 30
COMMENTS MAXIMUM POOL DEPTH	(centimeters): 0	
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY on	(centimeters).	Bankfull
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")	ebox):	Width
BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY on the control of the control o	ebox):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13') [30 pts]	e box): [15 pts]	Width
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13") [30 pts]	e box): [15 pts]	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13") [30 pts]	e box): [15 pts] WIDTH (meters)	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13') [30 pts]	e box): [15 pts] WIDTH (meters) 4 as looking downstream*	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13") [30 pts]	e box): [15 pts] WIDTH (meters) as looking downstream* ber Bank)	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13") [30 pts]	e box): [15 pts] WIDTH (meters) as looking downstream* ber Bank) Conservation Tillage	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13") [30 pts]	e box): [15 pts] WIDTH (meters) as looking downstream* ber Bank)	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13") [30 pts]	e box): [15 pts] WIDTH (meters) as looking downstream* ber Bank) Conservation Tillage Urban or Industrial	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13") [30 pts]	e box): [15 pts] width (meters) 4 as looking downstream* ber Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13") [30 pts]	e box): [15 pts] WIDTH (meters) 4 as looking downstream* per Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction pools, no flow (intermitten)	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL You > 4.0 meters (> 13') [30 pts]	e box): [15 pts] WIDTH (meters) 4 as looking downstream* per Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction pools, no flow (intermitten)	Width Max=30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY on > 4.0 meters (> 13') [30 pts]	e box): [15 pts] width (meters) 4 as looking downstream* per Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Cro Mining or Construction pools, no flow (intermittent (ephemeral)	Width Max=30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY on > 4.0 meters (> 13") [30 pts]	e box): [15 pts] WIDTH (meters) 4 as looking downstream* per Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction pools, no flow (intermittent (ephemeral)	Width Max=30

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
✓ WWH Name: Big Run Distance from Evaluated Stream 1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/07/2022 Quantity:2"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open):
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N)_N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N). N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form

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	<u> </u>
SITE NAME/LOCATION Trinway-Ohio Central	
SITE NUMBER S018 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) 183.00 LAT 40.129292 LONG -82.060135 RIVER MILE	
DATE 03/08/2022 SCORER KLV COMMENTS SOH-KLV-018	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for I	structions
·	
STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL RECOVERED ☐ RECOVERING ☐ RECENT OF	R NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT SILT [3 pt] BUDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] DIM MUCK [0 pts]	HHEI Metric Points Substrate Max = 40
SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts]	16
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 10 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 4	A + B
 Maximum Pool Depth (Measure the <u>maximum</u> pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): 	Pool Depth
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts]	Max = 30
> 22.5 - 30 cm [30 pts]	5
	111
COMMENTS MAXIMUM FOOL BEFTI (certaineters).	4
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Yone box): > 4.0 meters (> 13") [30 pts] > 1.0 m - 1.5 m (> 3" 3" - 4" 8")[15 pts]	Bankfull Width
> 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] ≤ 1.0 m (< 3' 3") [5 pts]	Max=30
> 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] ≤ 1.0 m (< 3' 3") [5 pts]	Max=30
> 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	
> 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] ≤ 1.0 m (< 3' 3") [5 pts] ≤ 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) 4'	15
> 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreas RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)	15
> 3.0 m - 4.0 m (> 9' 7"-13") [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreases. RIPARIAN WIDTH L R (Per Bank) L R L R	15 m*
> 3.0 m - 4.0 m (> 9' 7"-13") [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstreases. RIPARIAN WIDTH L R (Per Bank) L R L R	15 m*
> 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreases. RIPARIAN WIDTH L R (Per Bank) L R Wide > 10m Mature Forest, Wetland Conservation Tillage.	15 m*
> 3.0 m - 4.0 m (> 9' 7"-13") [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreat RIPARIAN WIDTH L R (Per Bank) L R Wide > 10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Selection 1.0 m (≤ 3' 3") [5 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] 4' AVERAGE BANKFULL WIDTH (meters) 4' AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) 4' Moderate 5-10 m (≤ 10 m (≤ 10	15
> 3.0 m - 4.0 m (> 9' 7"-13") [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreat RIPARIAN WIDTH L R (Per Bank) L R Wide > 10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Mature Forest, Shrub or Old Field Narrow < 5m None Residential, Park, New Field Open Pasture, Row None COMMENTS	15
> 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstrea RIPARIAN WIDTH L R (Per Bank) L R Wide > 10 m Mature Forest, Wetland Moderate 5-10 m Moderate 5-10 m Moderate 5-10 m Narrow < 5 m None Residential, Park, New Field Open Pasture, Row Mining or Construct	15 m*
> 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	15 m*
> 3.0 m - 4.0 m (> 9' 7"-13") [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	15 m*
> 3.0 m - 4.0 m (> 9' 7"-13") [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	15 m*

QHEI PERFORMED? ☐Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
✓ WWH Name: Big Run Distance from Evaluated Stream 1 mile 1 mile 1 mile 1 mile 2 mile 2 mile 2 mile 3 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/07/2022 Quantity:2"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 80
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2

Protection Agency HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Trinway-Ohio Central SITE NUMBER S019 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) 159.00 LAT 40.136906 LONG -82.06733 RIVER MILE DATE 03/09/2022 SCORER KLV COMMENTS SOH-KLV-019	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for In	structions
STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OF	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT SILT [3 pt] BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10	HHEI Metric Points
BEDROCK [16 pts]	Max = 40
GRAVEL (2-64 mm) [9 pts] 30 MUCK [0 pts] 40 ARTIFICIAL [3 pts]	19
Total of Percentage of	
Bidr Slabs, Boulder, Cobble, Bedrock (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4	A + B
 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Yone box): 	Pool Depth Max = 30
> 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 2 < 5 cm [5pts]	
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts]	5
COMMENTS MAXIMUM POOL DEPTH (centimeters): <5	$\perp =$
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check <i>ONLY</i> one box): > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7°-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8° - 9' 7°) [20 pts] (Check <i>ONLY</i> one box): > 1.0 m - 1.5 m (> 3' 3° - 4' 8°) [15 pts] ≤ 1.0 m (≤ 3' 3°) [5 pts]	Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters) 4'	15
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstrean	
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)	•
LR (Per Bank) LR LR ☑☑ Wide >10m ☐☐ Mature Forest, Wetland ☐☐ Conservation Tillage	
✓ Wide >10m ✓ Mature Forest, Wetland Conservation Tillage ✓ Moderate 5-10m ✓ ✓ Immature Forest, Shrub or Old Field Urban or Industrial	
Narrow <5m Residential, Park, New Field Den Pasture, Row None Fenced Pasture Mining or Construction	•
COMMENTS	_
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	ent)
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None	
□ 0.5 □ 1.5 □ 2.5 □ >3	
STREAM GRADIENT ESTIMATE	

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
₩WH Name: Wakatomika Creek Distance from Evaluated Stream <1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N): Y Date of last precipitation:03/09/2022 Quantity:<.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): _N Canopy (% open):50
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Ohio	Environmental ection Agency

Headwater Habitat Evaluation Index Field Form

SITE NAME/LOCATION Trinway-Ohio Central	
SITE NUMBER S020 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) 173.00 LAT 40.136889 LONG -82.067273 RIVER MILE _	
DATE 03/09/2022 SCORER KLV COMMENTS SOH-KLV-020	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins	structions
·	
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 20 BOULDER (>256 mm) [16 pts] SILT [3 pt] 10 BEDROCK [16 pts] FINE DETRITUS [3 pts] 10 COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] 30 MUCK [0 pts] ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 0 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4	A + B
Adapted to the state of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 7 < 5 cm [5pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): <5	Pool Depth Max = 30
BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width
> 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] ≤ 1.0 m (≤ 3' 3") [5 pts]	Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3'	5
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3' This information <u>must</u> also be completed	
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3' This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream	
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3' This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)	
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3' This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream	*
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m Residential, Park, New Field Open Pasture, Row Construction None Fenced Pasture Mining or Construction	* Crop
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m Residential, Park, New Field Open Pasture, Row COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermitt Dry channel, no water (ephemeral)	* Crop

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Wakatomika Creek Distance from Evaluated Stream _<1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/09/2022 Quantity:<0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 50
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Ohio	Environmental

Headwater Habitat Evaluation Index Field Form

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		TITIEL SCOLE (Sull) OF	metrics 1+2+3)	
SITE NAME/LOCATION Trinway	/-Ohio Central			_
	ER BASIN 0504000402	04 RIVER CODE DR	AINAGE AREA (mi²) <1	_
LENGTH OF STREAM REACH (f		0.145576 LONG -82.07543		_
DATE 03/09/2022 SCORER		00111(1)1000		
NOTE: Complete All Items On	This Form - Refer to "I	Headwater Habitat Evaluation Index	Field Manual" for Instructio	ons
STREAM CHANNEL MODIFICA	ATIONS: NONE / NATU	IRAL CHANNEL RECOVERED RECOV	VERING RECENT OR NO RECO	OVERY
•	mber of significant substrate <u>PERCENT</u>	sent). Check ONLY two predominant substate types found (Max of 8). Final metric score TYPE SILT [3 pt]		tric
BOULDER (>256 mm)		LEAF PACK/WOODY DEBRIS I	[3 pts]	strate
BEDROCK [16 pts]		FINE DETRITUS [3 pts]		= 40
COBBLE (65-256 mm) GRAVEL (2-64 mm) [1]		CLAY or HARDPAN [0 pt] MUCK [0 pts]		_
SAND (<2 mm) [6 pts		ARTIFICIAL [3 pts]	15	5
Total of Percentages Bldr Slabs, Boulder, Cobble	, Bedrock	(A) 12 TOTAL NUMBER OF SUBST	(B) 3 A+	В
SCORE OF TWO MOST PREDOM	IINATE SUBSTRATE TYPE	S: TOTAL NUMBER OF SUBST	RATE TYPES:	
2	plunge pools from road culv	ol depth within the 61 meter (200 feet) everts or storm water pipes) (Check ONL 5 cm - 10 cm [15 pts]		Depth = 30
> 22.5 - 30 cm [30 pts]		5 cm - 10 cm [15 pts] < 5 cm [5pts]	25	
> 10 - 22.5 cm [25 pts]		NO WATER OR MOIST CHAN	NEL [Opts]	
COMMENTS		MAXIMUM POOL DEPTH	(centimeters): 20	
COMMENTS				
	easured as the average of	3 - 4 measurements) (Check ONLY on	·	kfull
3. BANK FULL WIDTH (Me	is]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")		dth
3. BANK FULL WIDTH (Me	(s] 3') [25 pts]		[15 pts] Wic Max	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7"-13 > 1.5 m - 3.0 m (> 4' 8" - 9	(s] 3') [25 pts]	> 1.0 m - 1.5 m (> 3° 3° - 4° 8°) ≤ 1.0 m (≤ 3° 3°) [5 pts]	[15 pts] Wick Max 20	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7°- 13')	(s] 3') [25 pts] ' 7")[20 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL V	[15 pts] Wick Max 20	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7°-13 > 1.5 m - 3.0 m (> 4' 8° - 9) COMMENTS	(s] 3) [25 pts] 7 7")[20 pts] This info	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") 1.0 m (< 3' 3") [5 pts] AVERAGE BANKFULL Volumetion mustalso be completed	[15 pts] Wio Max WIDTH (meters) 9'	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7°-13 > 1.5 m - 3.0 m (> 4' 8° - 9) COMMENTS RIPARIAN ZONE	This info	> 1.0 m - 1.5 m (> 3′ 3″ - 4′ 8″) ≤ 1.0 m (≤ 3′ 3″) [5 pts] AVERAGE BANKFULL V Domation mustalso be completed TY * NOTE: River Left (L) and Right (R)	WIDTH (meters) 9' as looking downstream*	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7°-13 > 1.5 m - 3.0 m (> 4' 8° - 9) COMMENTS	This info	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") 1.0 m (< 3' 3") [5 pts] AVERAGE BANKFULL Volumetion mustalso be completed	WIDTH (meters) 9' as looking downstream*	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7°-13 > 1.5 m - 3.0 m (> 4' 8° - 9) COMMENTS RIPARIAN ZONE RIPARIAN WIDT	[S] [3] [25 pts] [7 7")[20 pts] This info AND FLOODPLAIN QUALI [H FL] L R	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") ≤ 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL V Ormation must also be completed ITY ★ NOTE: River Left (L) and Right (R) OODPLAIN QUALITY (Most Predominant p	WIDTH (meters) 9' as looking downstream*	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7"-13 > 1.5 m - 3.0 m (> 4' 8" - 9) COMMENTS RIPARIAN ZONE RIPARIAN WIDT L R (Per Bank) Wide >10m W W Moderate 5-10m	This info AND FLOODPLAIN QUALI L R Manuel	AVERAGE BANKFULL V Tormation mustalso be completed TY *NOTE: River Left (L) and Right (R) CODPLAIN QUALITY (Most Predominant p	width (meters) 9' as looking downstream* ber Bank) Conservation Tillage Urban or Industrial	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7"-13 > 1.5 m - 3.0 m (> 4' 8" - 9) COMMENTS RIPARIAN ZONE RIPARIAN WIDT L R (Per Bank) Wide >10m W W Moderate 5-10m Narrow <5m	This info AND FLOODPLAIN QUALI L R M: R: R: R: R: R: R: R: R: R	AVERAGE BANKFULL V Tormation must also be completed TY * NOTE: River Left (L) and Right (R) CODPLAIN QUALITY (Most Predominant p L R ature Forest, Wetland mature Forest, Shrub or Old Field esidential, Park, New Field	width (meters) 9' as looking downstream* ber Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7"-13 > 1.5 m - 3.0 m (> 4' 8" - 9) COMMENTS RIPARIAN ZONE RIPARIAN WIDT L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None	This info AND FLOODPLAIN QUALI L R M: R: R: R: R: R: R: R: R: R	AVERAGE BANKFULL V Tormation mustalso be completed TY *NOTE: River Left (L) and Right (R) CODPLAIN QUALITY (Most Predominant p	width (meters) 9' as looking downstream* ber Bank) Conservation Tillage Urban or Industrial	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7°-13 > 1.5 m - 3.0 m (> 4' 8°-9) COMMENTS RIPARIAN ZONE RIPARIAN WIDT L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS	This info	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") AVERAGE BANKFULL V Ormation mustalso be completed TY ★ NOTE: River Left (L) and Right (R) OODPLAIN QUALITY (Most Predominant p L R ature Forest, Wetland mature Forest, Shrub or Old Field esidential, Park, New Field enced Pasture	width (meters) 9' as looking downstream* ber Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7"- 13') > 1.5 m - 3.0 m (> 4' 8" - 9') COMMENTS RIPARIAN ZONE RIPARIAN WIDT L R (Per Bank) Wide >10m PPP Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (A Stream Flowing)	This info	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") AVERAGE BANKFULL V Ormation mustalso be completed TY ★ NOTE: River Left (L) and Right (R) OODPLAIN QUALITY (Most Predominant parture Forest, Wetland mature Forest, Shrub or Old Field mature Forest, Shrub or Old Field mature Forest, New Field mature Forest (Shrub or Old Field mature Forest) Example 1.0 m - 1.5 m (> 3' 3" - 4' 8") AVERAGE BANKFULL V OODPLAIN QUALITY (Most Predominant parture Forest, Wetland mature Forest, Shrub or Old Field mature Forest, Shrub or Old Field mature Forest (Shrub or Old Field mature Forest) Example 2.1 m (< 3' 3") [5 pts]	width (meters) 9' as looking downstream* ber Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7"-13 > 1.5 m - 3.0 m (> 4' 8" - 9) COMMENTS RIPARIAN WIDT L R (Per Bank) Wide >10m Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (A Stream Flowing Subsurface flow w	This info	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") AVERAGE BANKFULL V Ormation mustalso be completed TY ★ NOTE: River Left (L) and Right (R) OODPLAIN QUALITY (Most Predominant parture Forest, Wetland mature Forest, Shrub or Old Field mature Forest, Shrub or Old Field mature Forest, New Field mature Forest (Shrub or Old Field mature Forest) Example 1.0 m - 1.5 m (> 3' 3" - 4' 8") AVERAGE BANKFULL V OODPLAIN QUALITY (Most Predominant parture Forest, Wetland mature Forest, Shrub or Old Field mature Forest, Shrub or Old Field mature Forest (Shrub or Old Field mature Forest) Example 2.1 m (< 3' 3") [5 pts]	width (meters) 9' as looking downstream* ber Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7"-13 > 1.5 m - 3.0 m (> 4' 8" - 9) COMMENTS RIPARIAN ZONE RIPARIAN WIDT L R (Per Bank) Wide >10m Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (A Stream Flowing Subsurface flow w COMMENTS	This info AND FLOODPLAIN QUAL L R L R Ma Ma Ma Ma Ma Ma Ma Ma Ma M	AVERAGE BANKFULL V Ormation mustalso be completed TY *NOTE: River Left (L) and Right (R) OODPLAIN QUALITY (Most Predominant patture Forest, Wetland mature Forest, Shrub or Old Field exidential, Park, New Field exced Pasture Eck ONLY one box): Moist Channel, isolated Dry channel, no water of the street of	width (meters) 9' as looking downstream* ber Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7"-13 > 1.5 m - 3.0 m (> 4' 8" - 9) COMMENTS RIPARIAN ZONE RIPARIAN WIDT L R (Per Bank) Wide >10m Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (A Stream Flowing Subsurface flow w COMMENTS	This info AND FLOODPLAIN QUAL L R L R Ma Ma Ma Ma Ma Ma Ma Ma Ma M	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") AVERAGE BANKFULL V Ormation mustalso be completed TY ★ NOTE: River Left (L) and Right (R) OODPLAIN QUALITY (Most Predominant parture Forest, Wetland mature Forest, Shrub or Old Field mature Forest, Shrub or Old Field mature Forest, New Field mature Forest (Shrub or Old Field mature Forest) Example 1.0 m - 1.5 m (> 3' 3" - 4' 8") AVERAGE BANKFULL V OODPLAIN QUALITY (Most Predominant parture Forest, Wetland mature Forest, Shrub or Old Field mature Forest, Shrub or Old Field mature Forest (Shrub or Old Field mature Forest) Example 2.1 m (< 3' 3") [5 pts]	width (meters) 9' as looking downstream* ber Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7"-13 > 1.5 m - 3.0 m (> 4' 8" - 9) COMMENTS RIPARIAN ZONE RIPARIAN WIDT L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (A Stream Flowing Subsurface flow w COMMENTS SINUOSITY (Num	This info AND FLOODPLAIN QUALI L R L R Mi m m m m m ref At Time of Evaluation) (Ch ith isolated pools (interstitial)	AVERAGE BANKFULL V AVERAGE BANKFULL V Domation must also be completed TY * NOTE: River Left (L) and Right (R) OODPLAIN QUALITY (Most Predominant pattern Forest, Wetland mature Forest, Shrub or Old Field pattern Forest, New Field pattern patter	width (meters) 9' as looking downstream* ber Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	dth c=30
3. BANK FULL WIDTH (Me > 4.0 meters (> 13') [30 pt > 3.0 m - 4.0 m (> 9' 7"- 13') > 1.5 m - 3.0 m (> 4' 8" - 9') COMMENTS RIPARIAN WIDT L R (Per Bank) Wide >10m Wide >10m Moderate 5-10m None COMMENTS FLOW REGIME (A') Stream Flowing Subsurface flow w COMMENTS SINUOSITY (Num None 0.5 STREAM GRADIENT ES	This info AND FLOODPLAIN QUALI L R L R Mi m m m Re L Time of Evaluation) (Ch ith isolated pools (interstitial) ber of bends per 61 m (200 1.0 1.5 TIMATE	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") AVERAGE BANKFULL V Dormation mustalso be completed TY ★ NOTE: River Left (L) and Right (R) DODPLAIN QUALITY (Most Predominant pattern Forest, Wetland mature Forest, Shrub or Old Field pattern	width (meters) as looking downstream* ber Bank) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction pools, no flow (intermittent) (ephemeral)	dth c=30

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
₩WH Name: Wakatomika Creek Distance from Evaluated Stream <1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N): Y Date of last precipitation:03/09/2022 Quantity:<0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): _N Canopy (% open):40
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





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Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

26	

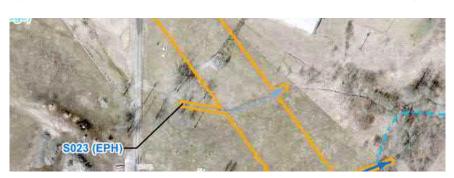
SITE NAME/LOCATION Trinway-Ohio Central	
SITE NUMBER S023 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi²)	<1
LENGTH OF STREAM REACH (ft) LAT 40.145987 LONG82.076139 RIVER MILE _	
DATE 03/09/2022 SCORER KLV COMMENTS SOH-KLV-023	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for In	structions
STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OF	NO DECOVEDY
TREAM CHANNEL MODIFICATIONS. [INONE/NATURAL CHANNEL [IRECOVERED PRECOVERING [IRECENT OF	NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 40 BOULDER (>256 mm) [16 pts] LEAF PACK/WOODLY DEBRIS [3 pts] 10 BEDROCK [16 pts] FINE DETRITUS [3 pts] COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] 30 MUCK [0 pts] SAND (<2 mm) [6 pts] 20 ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 0 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 4	A + B
Aximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): 30 centimeters [20 pts]	Pool Depth Max = 30
BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width May-30
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3° - 4' 8°)[15 pts] > 3.0 m - 4.0 m (> 9' 7° - 13') [25 pts] ≤ 1.0 m (≤ 3' 3°) [5 pts] > 1.5 m - 3.0 m (> 4' 8° - 9' 7°) [20 pts]	Width Max=30
> 3.0 m - 4.0 m (> 9' 7°-13') [25 pts] ≤ 1.0 m (≤ 3' 3°) [5 pts]	
> 3.0 m - 4.0 m (> 9' 7°-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8° - 9' 7°) [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information mustalso be completed	Max=30 5
> 3.0 m - 4.0 m (> 9' 7°-13') [25 pts] ✓ ≤1.0 m (≤ 3' 3°) [5 pts] > 1.5 m - 3.0 m (> 4' 8° - 9' 7°) [20 pts] COMMENTS	Max=30 5
> 3.0 m - 4.0 m (> 9' 7°-13') [25 pts] > 1.5 m - 3.0 m (> 4' 8° - 9' 7°) [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information mustalso be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstrear RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)	Max=30 5
> 3.0 m - 4.0 m (> 9' 7°-13') [25 pts] ✓ ≤ 1.0 m (≤ 3' 3°) [5 pts] > 1.5 m - 3.0 m (> 4' 8° - 9' 7°) [20 pts] ✓ ≤ 1.0 m (≤ 3' 3°) [5 pts] COMMENTS	Max=30 5
> 3.0 m - 4.0 m (> 9' 7°-13') [25 pts] ✓ ≤ 1.0 m (≤ 3' 3°) [5 pts]	Max=30 5
> 3.0 m - 4.0 m (> 9' 7°-13') [25 pts] ✓ ≤ 1.0 m (≤ 3' 3°) [5 pts] > 1.5 m - 3.0 m (> 4' 8° - 9' 7°) [20 pts] ✓ ≤ 1.0 m (≤ 3' 3°) [5 pts] COMMENTS	Max=30 5
3.0 m - 4.0 m (> 9' 7"-13") [25 pts]	Max=30 5

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
₩WH Name: Wakatomika Creek Distance from Evaluated Stream <1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Trinway NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/09/2022 Quantity:<0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): _N Canopy (% open):100
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





APPENDIX E ODNR and USFWS Correspondence





Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Fax: (614) 267-4764

Office of Real Estate John Kessler, Chief 2045 Morse Road – Bldg. E-2 Columbus, OH 43229 Phone: (614) 265-6621

June 14, 2022

Joshua J. Noble GAI Consultants 5399 Lauby Road, Suite 120, North Canton, OH 44720

Re: 22-0546; AEP Trinway-Ohio Central 138 kV Transmission Line Rebuild Project

Project: The proposed project involves rebuilding 4.5 miles of the Philo-Howard 138kV transmission line from Trinway Station along current ROW and removal of existing steel lattice tower structures.

Location: The proposed project is located in Cass Township, Muskingum County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Natural Heritage Database: The Natural Heritage Database has the following data at or within one mile of the project area:

Elktoe (Alasmidonta marginata), SC
Wartyback (Cyclonaias nodulata), E
Purple Wartyback (Cyclonaias tuberculata), SC
Elephant-ear (Elliptio crassidens), E
Snuffbox (Epioblasma triquetra), E, FE
Pocketbook (Lampsilis ovata), E
Creek Heelsplitter (Lasmigona compressa), SC
Black Sandshell (Ligumia recta), T**
Threehorn Wartyback (Obliquaria reflexa), T**
Ohio Pigtoe (Pleurobema cordatum), E
Round Pigtoe (Pleurobema sintoxia), SC
Kidneyshell (Ptychobranchus fasciolaris), SC
Rabbitsfoot (Theliderma cylindrica), E, FT
Fawnsfoot (Truncilla donaciformis), T**

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980.

Conservation status abbreviations are as follows: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federally endangered, and FT = federally threatened. ** State conservation status should be re-checked for possible changes on July 1, 2022 at the following website: https://ohiodnr.gov/discover-and-learn/safety-conservation/about-ODNR/wildlife/state-listed-species

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an area is not a statement that rare species or unique features are absent from that area.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation.

The entire state of Ohio is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (Perimyotis subflavus), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH \geq 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen. Wyza@dnr.ohio.gov).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "Range-wide Indiana Bat Survey Guidelines." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species.

Federally Endangered

fanshell (*Cyprogenia stegaria*) snuffbox (*Epioblasma triquetra*) sheepnose (*Plethobasus cyphyus*)

Federally Threatened

rabbitsfoot (Quadrula cylindrica cylindrica)

State Endangered

long-solid (Fusconaia maculata maculata) sharp-ridged pocketbook (Lampsilis ovata) Ohio pigtoe (Pleurobema cordatum) wartyback (Quadrula nodulata)

State Threatened

black sandshell (*Ligumia recta*) threehorn wartyback (*Obliquaria reflexa*) fawnsfoot (*Truncilla donaciformis*)

This project must not have an impact on freshwater native mussels at the project site. This applies to both listed and non-listed species. Per the Ohio Mussel Survey Protocol (2020), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. This is further explained within the Ohio Mussel Survey Protocol. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, as a last resort, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the 2022 Ohio Mussel Survey Protocol.

The project is within the range of the following listed fish species.

State Endangered

northern madtom (*Noturus stigmosus*)

State Threatened

American eel (Anguilla rostrata) mountain madtom (Noturus eleutherus) blue sucker (Cycleptus elongatus) paddlefish (Polyodon spathula) channel darter (Percina copelandi)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. If any in-water work is proposed in Wakatomika Creek, the DOW recommends that an approved herpetologist conducts a habitat suitability survey to determine if suitable habitat is present within the project area. If suitable habitat is determined to be present; the DOW recommends that a presence/absence survey be conducted, or an avoidance/minimization plan be developed and implemented by the approved herpetologist.

The project is also within the range of the eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species. This species is found in areas of sandy soils that are associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the black tern (*Chlidonias niger*), a state endangered bird. The black tern prefers large, undisturbed inland marshes with fairly dense vegetation and pockets of open water. They nest in various kinds of marsh vegetation but cattail marshes are generally favored. Nests are built on top of muskrat houses or on top of floating vegetation. If this type of habitat will be impacted, construction should be avoided in this habitat from April 1 through June 30 to reduce impacts to this species. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through August 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the trumpeter swan (*Cygnus buccinator*), a state threatened bird. Trumpeter swans prefer large marshes and lakes ranging in size from 40 to 150 acres. They like shallow wetlands one to three feet deep with a diverse mix of plenty of emergent and submergent vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through June 15. If this habitat will not be impacted, this project is not likely to have an impact on this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The <u>local floodplain administrator</u> should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator From: Ohio, FW3 <ohio@fws.gov> Sent: Tuesday, June 21, 2022 1:39 PM

To: Joshua Noble

Cc: nathan.reardon@dnr.state.oh.us; eileen.wyza@odnr.ohio.gov

AEP Trinway-Ohio Central Station 138 kV Transmission Line Rebuild, **Subject:**

Muskingum County, Ohio

EXERCISE CAUTION: This is an External Email Message!

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UNITED STATES DEPARTMENT OF THE INTERIOR U.S. Fish and Wildlife Service **Ecological Services Office** 4625 Morse Road, Suite 104 Columbus, Ohio 43230



Project Code #: 2022-0045156

Dear Mr. Noble,

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (Myotis sodalis) and threatened northern long-eared bat (Myotis septentrionalis) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees ≥ 3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥ 3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are

present and trees ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see http://www.fws.gov/midwest/endangered/mammals/nleb/index.html), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

The proposed project lies within the range of the **round hickorynut mussel** (*Obovaria subrotunda*), a species currently proposed for listing as federally threatened. This freshwater mussel is known to occur in Wakatomika Creek. The round hickorynut inhabits areas with sand and gravel in riffle and run habitats in streams and rivers, but also may be found in sandy mud. Should the proposed project directly or indirectly impact any of the habitat types described above, we recommend that a survey be conducted to determine the presence or probable absence of the round hickorynut in the vicinity of the proposed site. Any survey should be designed and conducted in coordination with the Ohio Field Office.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

Patrice Ashfield Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW Eileen Wyza, ODNR-DOW

This foregoing document was electronically filed with the Public Utilities Commission of Ohio Docketing Information System on

8/17/2022 5:34:27 PM

in

Case No(s). 22-0774-EL-BLN

Summary: Correspondence Letter of Notification part 14 of 14 electronically filed by Hector Garcia-Santana on behalf of AEP Ohio Transmission Company, Inc.