Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplin	ng Date: 09-Jun-20			
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetlan	nd MCI-06a			
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W			
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, none): concave	Slope: <u>2.0</u> % / <u>1.1</u> °			
Subregion (LRR or MLRA): LRR R Lat.:	41.153107	Long.:	-80.855167	Datum: NAD 83			
Soil Map Unit Name: LrC - Lordstown loam, 6 to 12 percent slopes		<u>-</u>	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 "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							
Hydrophytic Vegetation Present? No Hydric Soil Present? Yes Wetland Hydrology Present? Yes		e Sampled Area n a Wetland? Y	res 🖲 No 🔾				
Remarks: (Explain alternative procedures here or in a separate repo A PEM portion of the PEM/PSS wetland complex, Wetland MCI-06a, deciduous forest. The wetland complex is located along the banks identified outside the survey area and north of the railroad grade. Impatiens capensis. The field verification number for this sample po	located along of a degraded The boundary of	stream channel, Strea of the PEM portion of	am MCI-02, which is fe the wetland was defin	ed from a groundwater seep			

Manda and the dual area was disaster and						
Wetland Hydrology Indicators:				Secondary Indicators (minimum of 2 required)		
Primary Indicators (minimum of or	Surface Soil Cracks (B6)					
Surface Water (A1)	✓ Surface Water (A1)					
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lines (B16)		
Saturation (A3)		Marl Deposits (B15)		Dry Season Water Table (C2)		
Water Marks (B1)		Hydrogen Sulfide Odor (C	1)	Crayfish Burrows (C8)		
Sediment Deposits (B2)		Oxidized Rhizospheres alo	ng Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)		
Drift deposits (B3)		Presence of Reduced Iron	(C4)	Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)		Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)		Thin Muck Surface (C7)		Shallow Aquitard (D3)		
Inundation Visible on Aerial Imager	y (B7)	Other (Explain in Remarks	3)	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surfac	e (B8)			✓ FAC-neutral Test (D5)		
Field Observations:						
Surface Water Present? Yes	No 🔿	Depth (inches):	2			
Water Table Present? Yes) No 🖲	Depth (inches):	14	Hydrology Present? Yes $ullet$ No $igodoldsymbol{ imes}$		
Saturation Present? (includes capillary fringe) Yes	No 🔿	Depth (inches):	8 Wetland I	Hydrology Present? Yes $ullet$ No $igloodow$		
Describe Recorded Data (stream ga	uge, monito	ring well, aerial photos, prev	vious inspections), if a	available:		
N/A						
Remarks:						
, 3,	5	•		I track that drains and forms the stream, Stream MCI- ade which caused the seep to drain along the edge of		

VEGETATION - Use scientific names of pla	ancs		Sai	mpling Point: Wetland MCI-06a
Tree Stratum (Plot size: *30' x 5')	Absolute % Cover		Indicator Status	Dominance Test worksheet:
			Status	Number of Dominant Species
1				That are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Dereent of dominant Creation
5				Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6				
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: *15' x 5*)	=	• Total Cover		Total % Cover of: Multiply by: OBL species 10 x 1 = 10
1	0			
2				FACW species $80 \times 2 = 160$
3				FAC species $0 \times 3 = 0$
4		\square		FACU species $9 \times 4 = 36$
5		\square		UPL species $0 \times 5 = 0$
6				Column Totals: (A) (B)
7				Prevalence Index = $B/A = 2.081$
Herb Stratum (Plot size: *5' x 5')	0 =	Total Cover		Hydrophytic Vegetation Indicators:
Herb Stratum (Fiot size)				✓ Rapid Test for Hydrophytic Vegetation
1. Impatiens capensis	75		FACW	✓ Dominance Test is > 50%
2. Alliaria petiolata	5		FACU	V Prevalence Index is \leq 3.0 ¹
3. Typha angustifolia	5		OBL	Morphological Adaptations 1 (Provide supporting
4. Eupatorium perfoliatum	5		FACW	data in Remarks or on a separate sheet)
5. Epilobium coloratum	5		OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
6. Cirsium arvense	2		FACU	
7. Lonicera japonica	2		FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12				Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: <u>*30' x 5'</u>)		Total Cover		greater than 3.28 ft (1m) tall.
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0	\square		size, and woody plants less than 3.28 ft tall.
3	0			Weedwards Alloweedwards and the 200 ft in
Λ	0			Woody vine - All woody vines greater than 3.28 ft in height.
4	0 =	Total Cover		
				Hydrophytic
Remarks: (Include nhoto numbers here or on a senarate st				Vegetation Present? Yes No

Re

*Note: Sample plot size for all stratum was restricted to the width (5') of the linear wetland boundary. See Appendix D of the Wetland Delineation and Stream Assessment Report for representative photographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers

Profile Descr	iption: (De	scribe to	the depth	needed to a	locumen	t the indi	cator or co	onfirm the	absence of indicators.)				
Depth		Matrix				dox Feat	ures						
(inches)	Color (<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0-5	7.5YR	3/1	100						Silty Loam				
5-14	7.5YR	4/1	70	7.5YR	4/6	30	C	M	Silty Clay Loam				
-													
		-	-			-							
				·									
		2											
		<u>.</u>			<u>.</u>								
¹ Type: C=Con	centration. D	=Depletio	n. RM=Rec	luced Matrix.	CS=Cover	ed or Coat	ed Sand Gr	ains ² l oca	ation: PL=Pore Lining. M=M	atrix			
Hydric Soil I		Depictio											
				Polv	value Belo	w Surface	(S8) (LRR F	2.	_	ematic Hydric Soils : ³			
· _ `	pedon (A2)				A 149B)		(00) (1	4		(LRR K, L, MLRA 149B)			
Black Hist	. ,			🗌 Thin	Dark Surf	ace (S9) (LRR R, MLF	RA 149B)	_	x (A16) (LRR K, L, R)			
🗌 Hydrogen	Sulfide (A4)			Loar	ny Mucky	Mineral (Fi	1) LRR K, L)	1		or Peat (S3) (LRR K, L, R)			
	Layers (A5)			Loar	ny Gleyed	Matrix (F2)		Dark Surface (S7) (LRR K, L, M)				
Depleted	Below Dark S	Surface (A	11)	🖌 Depl	eted Matri	ix (F3)			Polyvalue Below Surface (S8) (LRR K, L)				
Thick Dar	k Surface (A	12)				Irface (F6)			 Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) 				
Sandy Mu	ick Mineral (S	51)				Surface (F	7)						
Sandy Gle	eyed Matrix (S4)		Rede	ox Depres	sions (F8)			 Pledmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) 				
Sandy Re	dox (S5)								Red Parent Material (F21)				
Stripped N	Matrix (S6)								Very Shallow Dark				
Dark Surf	ace (S7) (LRI	R R, MLRA	A 149B)						Other (Explain in Remarks)				
³ Indicators of	f hvdrophvtic	vegetatio	n and wetla	and hvdroloav	must be	present, ur	nless disturt	ed or probl					
Restrictive L						-		F					
Type:	ayer (ii obs	erveu):											
Depth (inc	has).								Hydric Soil Present?	Yes 💿 No 🔾			
	ncs).												
Remarks:													
Shovel refusa	il was obsei	rved at 1	.4 inches l	below the su	urface du	e to a mi	xture of g	ravel / par	rticles associated with the edge of the railraod and s	e railroad grade. Due to the			
										at this wetland area likely			
									tion of the railroad grade.				

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplin	ig Date: 09-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetlan	d MCI-06b
Investigator(s): B.Miller	Section, To	wnship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (co	ncave, convex, none	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.153054	Long.:	-80.853808	Datum: NAD 83
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 percent slo	pes		NWI classification:	N/A
Are Vegetation , Soil , or Hydrology naturally Summary of Findings - Attach site map showing = Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Yes No	itly disturbed? problematic? sampling po Is the	Are "Normal Circ (If needed, expl Dint locations,	no, explain in Remarks cumstances" present? lain any answers in Rer transects, impo r Yes No 	Yes Yes No narks.)
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate report of the PEM/PSS wetland complex, Wetland MCI-06b, deciduous forest. The wetland complex is located along the banks identified outside the survey area and north of the railroad grade. defined by the dominance of Cornus racemosa, Fraxinus pennsylva of Glyceria striata and Carex crinitia within the herbaceous stratum	located along to of a degraded s The boundary o nica, and Elaeag	tream channel, Strea f the PSS portion of Inus angustifolia witl	am MCI-02, which is fe the wetland was near t hin the tree/shrub/sapl	d from a groundwater seep the western terminus and ing stratum and dominance

	-					1		
Wetland Hydrology Indica	tors:					Secondary Indicators (minimum of 2 required)		
Primary Indicators (minim	num of one	Surface Soil Cracks (B6)						
Surface Water (A1)			Water-Stained Leaves	; (B9)		Drainage Patterns (B10)		
High Water Table (A2)			Aquatic Fauna (B13)			Moss Trim Lines (B16)		
Saturation (A3)			Marl Deposits (B15)			Dry Season Water Table (C2)		
Water Marks (B1)			Hydrogen Sulfide Odo	or (C1)		Crayfish Burrows (C8)		
Sediment Deposits (B2)			Oxidized Rhizosphere	s along Livir	ng Roots (C3)	Saturation Visible on Aerial Imagery (C9)		
Drift deposits (B3)			Presence of Reduced	Iron (C4)		Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)			Recent Iron Reduction	n in Tilled S	ioils (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)			Thin Muck Surface (C	7)		Shallow Aquitard (D3)		
Inundation Visible on Aer	Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)					Microtopographic Relief (D4)		
Sparsely Vegetated Conc	ave Surface	(B8)		unto)		✓ FAC-neutral Test (D5)		
						_ 、 、 ,		
Field Observations:								
Surface Water Present?	Yes \bigcirc	No 🖲	Depth (inches):					
Water Table Present?	$_{\rm Yes} \bigcirc$	No 🖲	Depth (inches):	14		ology Present? Yes 🖲 No 🔾		
Saturation Present? (includes capillary fringe)	Yes 🖲	No \bigcirc	Depth (inches):	8	Wetland Hydr	ology Present? Yes $ullet$ No $igcup$		
Describe Recorded Data (s	stream gau	ge, monito	ring well, aerial photos,	previous i	nspections), if avail	able:		
N/A								
Remarks:								
, 3,		5	•			k that drains and forms the stream, Stream MCI- which caused the seep to drain along the edge of		

			Sar	npling Point: Wetland MCI-06b
Tree Stratum (Plot size: *30' x 5')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Elaeagnus angustifolia	15	\checkmark	FACU	Number of Dominant Species That are OBL, FACW, or FAC:5(A)
2. Fraxinus pennsylvanica	5		FACW	
3	0			Total Number of Dominant
4	0			Species Across All Strata:(B)
5				Percent of dominant Species
				That Are OBL, FACW, or FAC:(A/B)
6				Prevalence Index worksheet:
7				
Sapling/Shrub Stratum (Plot size: *15' x 5*)	20 =	= Total Cover		Total % Cover of: Multiply by:
1. Cornus racemosa	5		FAC	OBL species <u>80</u> x 1 = <u>80</u>
2. Rosa multiflora	-		FACU	FACW species <u>30</u> x 2 = <u>60</u>
3				FAC species $5 \times 3 = 15$
4				FACU species $20 \times 4 = 80$
				UPL species $0 \times 5 = 0$
5				Column Totals: <u>135</u> (A) <u>235</u> (B)
6 7	0			Prevalence Index = $B/A = 1.741$
	10 =	= Total Cover		Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: *5' x 5')				Rapid Test for Hydrophytic Vegetation
1. <i>Glyceria striata</i>	45	\checkmark	OBL	
2. Schoenoplectus tabernaemontani	20	\checkmark	OBL	
3. Impatiens capensis	20	\checkmark	FACW	✓ Prevalence Index is $\leq 3.0^{-1}$
4. Carex crinita	15		OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. Eupatorium perfoliatum	5		FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7				¹ Indicators of hydric soil and wetland hydrology must
8		\square		be present, unless disturbed or problematic.
	0			Definitions of Vegetation Strata:
9	0			
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11				at breast height (DDF), regardless of height.
12				Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: *30' x 5')	105 =	= Total Cover	•	greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
0	0			size, and woody plants less than 3.28 ft tall.
2	0			
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	-			height.
	=	= Total Cover	•	
				Hadrondo din
				Hydrophytic Vegetation
				Present? Yes No
Remarks: (Include photo numbers here or on a separate shee				

R

*Note: Sample plot size for all stratum was restricted to the width (5') of the linear wetland boundary. See Appendix D of the Wetland Delineation and Stream Assessment Report for representative photographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth		Matrix				dox Featu			_
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-4	10YR	4/1	95	10YR	4/3	5	С	М	Silty Loam
4-8	N	3/	90	10YR	4/6	10	C	М	Silty Clay Loam
8-18	<u>N</u>	5/	100						Silty Clay Loam
		8							
		a							
		n							
ype: C=Con	centration. D	=Depletic	on. RM=Red	uced Matrix, (CS=Cover	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=Matrix
 Black Hist Hydrogen Stratified Depleted Thick Dari Sandy Mu Sandy Gle Sandy Red Stripped N Dark Surfa 	vedon (A2) ic (A3) Sulfide (A4) Layers (A5) Below Dark S & Surface (A1 ck Mineral (S yed Matrix (S dox (S5) Matrix (S6) ace (S7) (LRF	.2) (1) 54) R R, MLRA	A 149B)	MLR/ Thin Loan Loan Deple Redo	A 149B) Dark Surf ny Mucky ny Gleyed eted Matri nx Dark Su eted Dark Nx Depress	rface (F6) Surface (F sions (F8)	LRR R, MLF) LRR K, L)) 7)	A 149B)	Indicators for Problematic Hydric Soils : ³ 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ematic.
estrictive La	ayer (if obs	erved):							
	10c).								Hydric Soil Present? Yes $ullet$ No $igodot$
Depth (incl	ics).								

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	Date: 09-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland MCI-0	06 a/b&07 UPL
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (co	oncave, convex, none	e): convex	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.15312846	Long.:	-80.85380759	Datum: NAD 83
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 percent slo	pes		NWI classification: N	I/A
	tly disturbed? problematic? sampling p Is the	Are "Normal Cirr (If needed, expl oint locations,	no, explain in Remarks.) cumstances" present? lain any answers in Rema transects, import /es O No O	Yes 💿 No 🔾 arks.)
Remarks: (Explain alternative procedures here or in a separate repo A upland reference point located on a convex mound on a hillside a identification id for the sample point was identified as W-BJM-2020	bove MCI-06a/		within a mixed deciduou	ıs forest. The field

	Secondary Indicators (minimum of 2 required)
check all that apply)	Surface Soil Cracks (B6)
Water-Stained Leaves (B9)	Drainage Patterns (B10)
Aquatic Fauna (B13)	Moss Trim Lines (B16)
Marl Deposits (B15)	Dry Season Water Table (C2)
Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Thin Muck Surface (C7)	Shallow Aquitard (D3)
Other (Explain in Remarks)	Microtopographic Relief (D4)
)	FAC-neutral Test (D5)
Depth (inches):	
Depth (inches):	× 0 • 0
Depth (inches):	drology Present? Yes 🔾 No 🖲
pring well, aerial photos, previous inspections), if ava	ailable:
v indicators were observed	
y maleators were observed.	
	Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): Wetland Hy

Sampling Point:	Wetland MCI-06 a/b&07 UP
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				· · · · · · · · · · · · · · · · · · ·
Tree Stratum (Plot size: <u>30' radius</u>)	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. Quercus alba	45		FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2. Carya ovata	5		FACU	
3	0			Total Number of Dominant Species Across All Strata: 5 (B)
4				
5				Percent of dominant Species That Are OBL_EACW_or_EAC'20.0% (A/B)
6	0			That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	50	= Total Cover		Total % Cover of: Multiply by:
	15		FACU	OBL species $0 \times 1 = 0$
1. Carya ovata			FACU	FACW species $25 \times 2 = 50$
2. Ligustrum vulgare	-		FACU	FAC species <u>10</u> x 3 = <u>30</u>
3	-			FACU species $105 \times 4 = 420$
4				UPL species $5 \times 5 = 25$
5				Column Totals: <u>145</u> (A) <u>525</u> (B)
6				
7				Prevalence Index = $B/A = 3.621$
Herb Stratum (Plot size: 5' radius)	20	= Total Cover		Hydrophytic Vegetation Indicators:
A Des sustanis	35	\checkmark	FACU	Rapid Test for Hydrophytic Vegetation
0 Immetiane esperaie	25		FACW	Dominance Test is > 50%
O Beveleevie viveleiere	10		FAC	Prevalence Index is ≤3.0 ¹
A Communication	5		UPL	Morphological Adaptations ¹ (Provide supporting
••				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8	0			Definitions of Vegetation Strata:
9				_
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11	0			at breast height (DDH), regardless of height.
12		= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)				greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cover		
				Hydrophytic Vegetation
				Present? Yes \bigcirc No \bigcirc
Remarks: (Include photo numbers here or on a separate she	et.)			
A dominance of hydrophytic vegetation was not observed.				
· · · · 5				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

stosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) 2 cm Muck MLRA 149B) stic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairi ack Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) 5 cm Mucky ydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Dark Surface ratified Layers (A5) Loamy Gleyed Matrix (F3) Polyvalue B epleted Below Dark Surface (A11) Redox Dark Surface (F6) Thin Dark S andy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont F1 andy Redox (S5) Redox Depressions (F8) Mesic Spodi ripped Matrix (S6) Very Shallon Very Shallon	Problematic Hydric Soils : ³ (A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R)				
8 10YR 5/4 85 10YR 5/1 10 D M Silby Clay Loam 10YR 2/1 5 D M M M M 10YR 2/1 5 D M M M M M 10YR 2/1 5 D M	Problematic Hydric Soils : ³ (A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R)				
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ark Surface (S7) (LRR R, MLRA 149B)	Red Parent Material (F21) Very Shallow Dark Surface (TF12)				
ators of hydrophytic vogetation and wetland hydrology must be present unless disturbed as aschlamatic	ain in Remarks)				
ators or nyurophytic vegetation and wetanit hyurology must be present, unless disturbed of problematic.					
ctive Layer (if observed):					
pe:					
pth (inches): Hydric Soil Pres	ent? Yes $ullet$ No $igodom$				
rks:					
hough there is a presence of hydric soil, the vegetation and lack of hydrology observed does not qualify	this area as meeting the federal				
on of a wetland.					

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplin	g Date: 09-Jun-20			
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	: Wetlan	nd MCI-07			
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N	R. 4W			
Landform (hillslope, terrace, etc.): Flat	Local relief (co	oncave, convex, non	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °			
Subregion (LRR or MLRA): LRR R Lat.:	41.153356	Long.:	-80.853656	Datum: NAD 83			
Soil Map Unit Name: LrC - Lordstown loam, 6 to 12 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 isignificantly 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 Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No No No No No No No No							
Remarks: (Explain alternative procedures here or in a separate repo A small PEM wetland, Wetland MCI-07, located within a fallow field towards the south and into upland fields / forest. The boundary of Phalaris arundinacea and displayed the presence of hydric soils. Th	l located downsl f the PEM wetlar	nd area by the domi	nance of Juncus effusus	s, Scirpus atrovirens, and			

Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)		
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)		
	Drainage Patterns (B10)		
High Water Table (A2)	Moss Trim Lines (B16)		
Saturation (A3) Marl Deposits (B15)	Dry Season Water Table (C2)		
Water Marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)		
Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)		
Drift deposits (B3)	Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)	Geomorphic Position (D2)		
□ Iron Deposits (B5) □ Thin Muck Surface (C7)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	✓ FAC-neutral Test (D5)		
Field Observations:			
Surface Water Present? Yes No Depth (inches):			
Water Table Present? Yes No Depth (inches): 14	Irology Present? Yes \bullet No \bigcirc		
Saturation Present? (includes capillary fringe) Yes No Depth (inches): <u>8</u> Wetland Hyc	Irology Present? Yes $ullet$ No $igcup$		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if ava	ilable:		
N/A			
Remarks:			

VEGETATION - Use scientific names of pla	ants		Sa	mpling Point:Wetland MCI-07
	Absolute	O	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC: <u>5</u> (A)
2				Total Number of Dominant
3	0			Species Across All Strata:
4	0			
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	0 =	= Total Cover		Total % Cover of: Multiply by:
A Deep multiflame	15		EACU	OBL species $40 \times 1 = 40$
1. Rosa multiflora			FACU	FACW species <u>17</u> x 2 = <u>34</u>
2				FAC species $10 \times 3 = 30$
3	_			FACU species $38 \times 4 = 152$
4	-			UPL species $0 \times 5 = 0$
5				Column Totals: 105 (A) 256 (B)
6				
7		- Tatal Cause		Prevalence Index = B/A = <u>2.438</u>
Herb Stratum (Plot size: 5' radius)		= Total Cover		Hydrophytic Vegetation Indicators:
1. Juncus effusus	15	\checkmark	OBL	Rapid Test for Hydrophytic Vegetation
0 Gairmanatum inna			OBL	✓ Dominance Test is > 50%
O Phalaric arundinacea	12		FACW	✓ Prevalence Index is ≤3.0 1
A. Communitation	10		OBL	Morphological Adaptations ¹ (Provide supporting
			FACU	data in Remarks or on a separate sheet)
		\checkmark	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
7 Ph/auto automaa			FACU	¹ Indicators of hydric soil and wetland hydrology must
0 Ginting of the			FACU	be present, unless disturbed or problematic.
			FACW	Definitions of Vegetation Strata:
			TACI	
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11				at breast height (DDT), regardless of height.
12				Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)	90 =	= Total Cover		greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cover		
	-			
				Hydrophytic
				Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate sh	noot)			1
See Appendix D of the Wetland Delineation and Stream As	-	nort for repr	ecentative	nhotographs of the babitat and soil profile
See Appendix D of the Wedding Defineation and Stream As	Sessinent Re	por lor repr	Cochadive	photographs of the habitat and soli profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth	- · · ·	Matrix				dox Featu			
(inches)	Color (Color (%	Type ¹	Loc ²	Texture Remarks
0-6	7.5YR	4/2	95	10YR	4/4	5	C	М	Silty Loam
6-18	10YR	5/3	90	10YR	5/2	10	D	M	Silty Clay Loam
		8							
		. :							
Type: C=Concer		=Depletic	n. RM=Redi	iced Matrix, (LS=Cover	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=Matrix Indicators for Problematic Hydric Soils : ³
Histosol (A1) Histic Epiped Black Histic (Hydrogen Su Stratified Lay Depleted Bel Thick Dark S Sandy Muck Sandy Gleye Sandy Redoo Stripped Mat Dark Surface	don (A2) (A3) Julfide (A4) yers (A5) low Dark S Gurface (A1 Mineral (S cd Matrix (S x (S5) trix (S6) e (S7) (LRF	.2) (1) 54) R R, MLR4	4 149B)	MLŔ/ Thin Loan Loan Medc Deple Redc	A 149B) Dark Surf ny Mucky Ny Gleyed eted Matri nx Dark Su eted Dark nx Depress	ace (S9) (I Mineral (F1 Matrix (F2) x (F3) urface (F6) Surface (F6) Sions (F8)	7)	А 149В)	 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
³ Indicators of hy			n and wetta	na nyarology	must be p	present, un	liess disturt	ed or proble	
Restrictive Lay	er (if obs	erved):							
	c).								Hydric Soil Present? Yes $ullet$ No $ightarrow$
Depth (inches									

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplin	g Date: 09-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetlan	d MCI-08a
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, none):	concave	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.153276	Long.: -8	0.852192	Datum: NAD 83
Soil Map Unit Name: Sc - Sebring silt loam, till substratum, 0 to 2 pe	ercent slopes		NWI classification:	N/A
	tly disturbed? problematic?	Are "Normal Circu (If needed, explain	», explain in Remarks mstances" present? n any answers in Ren ansects, impo r	Yes No Narks.)
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		e Sampled Area n a Wetland? Yes	: • No O	
Remarks: (Explain alternative procedures here or in a separate repor PEM portion of a PEM/PSS wetland complex, Wetland MCI-08a, loca intermittent channel, Stream MCI-03. The southern boundary of th upland mound that separates the field from the edge of the railroad an existing culvert and outside of the survey area. The boundary o Carex scoparia, Carex lurida, and a mixture of other grass and herb 003 (PEM).	ated along the ne wetland term d grade. The ir of the PEM wetl	inates at the edge of the itermittent channel, Stru and was further identifie	ne agricultural field w eam MCI-03, continu ed by the dominance	where there is a forested les under the railroad via e of Phalaris arundinacea,

Wetland Hydrology Indicators:		
	check all that apply)	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;		Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	✓ Oxidized Rhizospheres along Living Roots	s (C3) Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
✓ Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	Vetland Hydrology Present? Yes 💿 No 🔾
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	/etland Hydrology Present? Yes 🔍 No 🔾
Describe Recorded Data (stream gauge, monito	pring well, aerial photos, previous inspection	ons), if available:
N/A		
Remarks:		
A groundwater seep was identified along the ne eventually develops the intermittent channel.	orthern edge of the wetland and outside o	of the survey area, which drains towards the south and

VEGETATION - Use scientific names of pla	nts		Sa	mpling Point: Wetland MCI-08a
	Absolute	O	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC: <u>6</u> (A)
2				Total Number of Dominant
3	0			Species Across All Strata:
4	0			
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>85.7%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	0	= Total Cover		Total % Cover of: Multiply by:
	0			OBL species <u>20</u> x 1 = <u>20</u>
1				FACW species $50 \times 2 = 100$
2				FAC species 10 x 3 =30
3	_			FACU species $15 \times 4 = 60$
4				UPL species $0 \times 5 = 0$
5				
6				Column Totals: 95 (A) 210 (B)
7				Prevalence Index = $B/A = 2.211$
Herb Stratum (Plot size: <u>5' radius</u>)	0	= Total Cover	•	Hydrophytic Vegetation Indicators:
	15	\checkmark	FACW	Rapid Test for Hydrophytic Vegetation
	15	\checkmark	OBL	✓ Dominance Test is > 50%
O Bhalania an undinasaa	15	\checkmark	FACW	✓ Prevalence Index is ≤3.0 1
1 Des restriction	10	\checkmark	FACW	Morphological Adaptations ¹ (Provide supporting
	10	\checkmark		data in Remarks or on a separate sheet)
5. Ranunculus repens	10	\checkmark	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
6. Phleum pratense	- 10		FACU	¹ Indicators of hydric soil and wetland hydrology must
7. Solidago gigantea			FACW	be present, unless disturbed or problematic.
8. Scirpus atrovirens			OBL	Definitions of Vegetation Strata:
9. Festuca arundinacea			FACU	
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)	95	= Total Cover		greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cover		
				Hydrophytic Vegetation
				Present? Yes No
Remarks: (Include photo numbers here or on a separate she	et.)			
See Appendix D of the Wetland Delineation and Stream Ass		eport for repr	esentative	photographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers

Depth	Matrix				dox Featu			_	
(inches) Co	olor (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-18 10	/R 4/1	80	10YR	4/6	10	C	PL	Silty Loam	
			10YR	5/4	10	C	M		
				-					
								uv	
pe: C=Concentrat	on. D=Deplet	ion. RM=Redu	uced Matrix, C	CS=Cover	ed or Coate	d Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=Ma	trix
Histosol (A1) Histic Epipedon (Black Histic (A3) Hydrogen Sulfide Stratified Layers Depleted Below I Thick Dark Surfa Sandy Muck Mine Sandy Gleyed Ma Sandy Redox (S5 Stripped Matrix (Dark Surface (S7 dicators of hydrog	(A4) (A5) Dark Surface (ce (A12) eral (S1) atrix (S4)) S6)) (LRR R, MLR	:A 149B)	MLŘ/ ☐ Thin ☐ Loam ☐ Loam ✔ Deple ☐ Redo ☐ Deple	A 149B) Dark Surf ny Mucky ny Gleyed eted Matri x Dark Su eted Dark x Depress	rface (F6) Surface (F2 sions (F8)	rr R, MLi	RA 149B)	2 cm Muck (A10) (L Coast Prairie Redox 5 cm Mucky Peat or Dark Surface (S7) (Polyvalue Below Su Thin Dark Surface (Iron-Manganese Ma Piedmont Floodplain Mesic Spodic (TA6) Red Parent Material Very Shallow Dark S Other (Explain in Red	rface (S8) (LRR K, L) S9) (LRR K, L) asses (F12) (LRR K, L, R) n Soils (F19) (MLRA 149B) (MLRA 144A, 145, 149B) (F21) Surface (TF12)
			na nyarology	must de j	Jresent, un				
strictive Layer (i Type:	robserved):								
Depth (inches):								Hydric Soil Present?	Yes $ullet$ No $igcap$
emarks:									

Project/Site: Magellan Interconnect Project	City	/County:	Trumbull		Sampl	ling Date: 09-Ju	un-20
Applicant/Owner: FirstEnergy	Stat	:e: OH	Sampling Poir	nt:	Wetla	nd MCI-08b	
Investigator(s): B.Miller		Section, T	ownship, Range: S		т. 3N		R. 4W
Landform (hillslope, terrace, etc.): Flat	Loca	al relief (c	oncave, convex, no	one): co	oncave	Slope: 2	. <u>0</u> %/_1.1°
Subregion (LRR or MLRA): LRR R	Lat.: 41.1	53282	Long.	: -80.8	53022	Datum:	NAD 83
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 perce	ent slopes			NW	/I classification:	N/A	
Are Vegetation , Soil , or Hydrology nat Summary of Findings - Attach site map show Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Yes No No No No No No No No	nificantly dis turally proble ving sam	ematic? pling p Is the	(If needed, ex	kplain ar 5, tran	tances" present ny answers in Ro isects, impo No O	- emarks.)	No () ures, etc.
Wetland Hydrology Present? Yes No							
Remarks: (Explain alternative procedures here or in a separa PSS portion of a PEM/PSS wetland complex, Wetland MCI-08 intermittent channel, Stream MCI-03. The southern boundar upland mound that separates the field from the edge of the an existing culvert and outside of the survey area. The bour was dominated by Fraxinus pennsylvanica saplings and Phala 003 (PSS).	Bb, located a ry of the wet railroad grac ndary of the	tland tern le. The in PSS wetla	ninates at the edge intermittent channel and is located near	of the a l, Stream the sout	agricultural field n MCI-03, contir ith / western bo	where there is nues under the undary of the v	a forested railroad via vetland that

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	 Oxidized Rhizospheres along Living Roots (C3) 	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
✓ Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No O	Depth (inches):	x
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	Hydrology Present? Yes 🖲 No 🔾
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspections), if	available:
N/A		
Remarks: A groundwater seep was identified along the no eventually develops the intermittent channel.	rthern edge of the wetland and outside of the s	urvey area, which drains towards the south and

	Sar	mpling Point: Wetland MCI-08b		
Tree Stratum (Plot size: 30' radius)	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. Fraxinus pennsylvanica	15	\checkmark	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 4(A)
2	0			
3				Total Number of Dominant
				Species Across All Strata: (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6				
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	15 =	= Total Cover		Total % Cover of: Multiply by:
	20		FACW	OBL species <u>30</u> x 1 = <u>30</u>
•				FACW species <u>85</u> x 2 = <u>170</u>
2				FAC species $8 \times 3 = 24$
3				FACU species $10 \times 4 = 40$
4				UPL species $0 \times 5 = 0$
5				Column Totals: 133 (A) 264 (B)
6				
7	0			Prevalence Index = $B/A = 1.985$
Herb Stratum (Plot size: 5' radius)		= Total Cover		Hydrophytic Vegetation Indicators:
1. Phalaris arundinacea	45	\checkmark	FACW	✓ Rapid Test for Hydrophytic Vegetation
2. Epilobium coloratum	30		OBL	✓ Dominance Test is > 50%
3. Phleum pratense	10	\square	FACU	✓ Prevalence Index is \leq 3.0 ¹
A Demuneulus venene	8	\square	FAC	Morphological Adaptations ¹ (Provide supporting
			FACW	data in Remarks or on a separate sheet)
			TACW	Problematic Hydrophytic Vegetation ¹ (Explain)
6				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9	0			Seminions of Vegetation Strata.
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)	98 =	= Total Cover		greater than 3.28 ft (1m) tall.
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
Δ	0			height.
	0 =	= Total Cover		
				Hydrophytic Vegetation Present? Yes No O
Remarks: (Include photo numbers here or on a separate she See Appendix D of the Wetland Delineation and Stream Asse	-	port for repre	esentative	photographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

		Matrix				dox Featu			
(inches)	Color (m	-	%	Color (m	oist)	%	Type ¹	Loc ²	Texture Remarks
0-3	10YR	3/2	100						Silty Loam
3-8	10YR	4/2	95	10YR	4/4	5	C	M/PL	Silty Clay Loam
8-18 7	7.5YR	5/2	90	7.5YR	6/6	10	C	<u>M</u>	Silty Clay Loam
Type: C=Concentu Hydric Soil India Histosol (A1) Histic Epipedo Black Histic (A Hydrogen Sulf Stratified Laye Depleted Belo Thick Dark Su Sandy Muck M Sandy Gleyed Sandy Redox Stripped Matri Dark Surface (cators: an (A2) (3) fide (A4) ers (A5) w Dark Su nface (A12 fineral (S1 Matrix (S4 (S5) ix (S6)	urface (A 2) .) 4)	11)	 Polyval MLRA Thin D Loamy Loamy Deplete Redox Deplete 	lue Belo 149B) ark Surfa Mucky I Gleyed ed Matri Dark Su ed Dark	w Surface (ace (S9) (L Mineral (F1) Matrix (F2)	S8) (LRR R .RR R, MLR) LRR K, L)	, A 149B)	ation: PL=Pore Lining. M=Matrix Indicators for Problematic Hydric Soils : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
³ Indicators of hyd	lrophytic v r (if obse		n and wetla	and hydrology m	nust be p	present, unl	less disturb	ed or proble	,

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	g Date: 09-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland MCI-	-08 a/b&09 UPL
Investigator(s): B.Miller	Section, To	wnship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (co	ncave, convex, non	e): none	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.15318172	Long.:	-80.85096512	Datum: NAD 83
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 percent slo	pes		NWI classification:	N/A
	tly disturbed? problematic? Sampling p o Is the	Are "Normal Cir (If needed, exp Dint locations,	ro, explain in Remarks. cumstances" present? lain any answers in Rem transects, impor Yes O No O	Yes • No Onarks.)
Remarks: (Explain alternative procedures here or in a separate repo A upland representative to Wetland MCI-08a/b and Wetland MCI-0 complexes. The internal field sample point verification number of t	9 located along	5	5	between both wetland

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)					
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)					
Surface Water (A1)	Drainage Patterns (B10)						
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)					
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)					
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)					
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)					
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)					
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)					
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)					
Field Observations:							
Surface Water Present? Yes O No 💿	Depth (inches):						
Water Table Present? Yes O No •	Depth (inches):	drology Present? Yes 🔿 No 🖲					
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	drology Present? Yes 🔾 No 🖲					
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous inspections), if av	ailable:					
N/A							
Remarks:							
No primary and/or secondary wetland hydrolog	y indicators were observed.						
, , , , , , , , , , , , , , , , , , , ,	···						

Sampling Point:	Wetland M	CI-08 a/b&09 UPL
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		Dominant		
Tree Stratum (Plot size: 30' radius)	Absolute	C	Indicator	Dominance Test worksheet:
Ince outstand	% Cover		Status	Number of Dominant Species
1. Quercus alba	15	\checkmark	FACU	That are OBL, FACW, or FAC:(A)
2. Crataegus phaenopyrum	5	\checkmark	FAC	
3	0			Total Number of Dominant
				Species Across All Strata:6_ (B)
4				Parcent of dominant Creation
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
	20	= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				
4 F /	10		FACU	OBL species <u>20</u> x 1 = <u>20</u>
				FACW species $5 \times 2 = 10$
2. Lindera benzoin	-		FACW	FAC species5 x 3 =15
3	0			
4	0			
5				UPL species $30 \times 5 = 150$
				Column Totals:(A)(B)
6				
7	0			Prevalence Index = $B/A = 3.609$
(District Floreding)	15	= Total Cover		Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5' radius)	-			Rapid Test for Hydrophytic Vegetation
1 Bromus inermis	30	\checkmark	UPL	
0.1	20		OBL	Dominance Test is > 50%
				Prevalence Index is \leq 3.0 ¹
3. Poa pratensis	15		FACU	Morphological Adaptations ¹ (Provide supporting
4. Anthoxanthum odoratum	10		FACU	data in Remarks or on a separate sheet)
5. Solidago canadensis	5		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
6				
				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
				at breast height (DBH), regardless of height.
11				at breast height (DDH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
	80	= Total Cover		greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size: 30' radius)				o
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
	0			
3				Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cover		
				Underschutig
				Hydrophytic Vegetation
				Present? Yes \bigcirc No \bigcirc
Remarks: (Include photo numbers here or on a separate she	et.)			
A dominance of hydrophytic vegetation was not observed.				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Color (moist) % Color (moist) % Type 1 Lo 0-4 10YR 4/2 90 10YR 4/4 10 C M 4-18 10YR 5/3 70 10YR 4/6 20 C M	Silty Loam Silty Clay Loam		
4-18 10YR 5/3 70 10YR 4/6 20 C M 10YR 4/1 10 D M	Silty Clay Loam		
10YR 4/1 10 D M			
<pre>//pe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2</pre>			
<pre>// Pe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2</pre>			
<pre>// Pe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2</pre>			
<pre>//pe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2</pre>	Location: PI =Pore Lining M=Matrix		
<pre>//pe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2</pre>	Location: PI =Pore Lining M=Matrix		
/pe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2	Location: PI =Pore Lining M=Matrix		
/pe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²			
/pe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2	Location: PL=Pore Lining M=Matrix		
	-		
ydric Soil Indicators:	Indicators for Problematic Hydric Soils : ³		
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)		
) Coast Prairie Redox (A16) (LRR K, L, R)		
	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
	Dark Surface (S7) (LRR K, L, M)		
	Polyvalue Below Surface (S8) (LRR K, L)		
	Thin Dark Surface (S9) (LRR K, L)		
Thick Dark Surface (A12)	Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy Muck Mineral (S1) Depleted Dark Surface (F7)	Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Gleyed Matrix (S4)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Redox (S5)	Red Parent Material (F21)		
Stripped Matrix (S6)	Very Shallow Dark Surface (TF12)		
Dark Surface (S7) (LRR R, MLRA 149B)	Other (Explain in Remarks)		
indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or p	_ (1)		
strictive Layer (if observed):			
Туре:			
Depth (inches):	Hydric Soil Present? Yes \bullet No \bigcirc		
emarks:			
en though there is a presence of hydric soil, the lack of hydrophytic vegetation and hy	drology observed indicates that the area does not gu		
eting the federal definition of a wetland.			

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplin	ig Date: 09	-Jun-20	
Applicant/Owner: FirstEnergy	State: OH	State: OH Sampling Point: Wetland MCI-09				
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N		R.	4W
Landform (hillslope, terrace, etc.): Flat	Local relief (co	oncave, convex, none): concave	Slope:	2.0 % /	1.1 °
Subregion (LRR or MLRA): LRR R Lat.:	41.153143	Long.: -	80.850545	Datu	Im: NAD 83	
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 percent slo	pes		NWI classification:	N/A		
	tly disturbed? problematic?	Are "Normal Circ (If needed, expla	no, explain in Remarks umstances" present? ain any answers in Rer t ransects, impo l	Yes 🖲 marks.)		c.
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		e Sampled Area n a Wetland? Ye	es 🖲 No 🔾			
Remarks: (Explain alternative procedures here or in a separate repo	ort.)					
A small PEM wetland, Wetland MCI-09, located along the edge of th separates the wetland from the edge of an active railroad. The bou dominated by Carex squarrosa, Anothoxanthum odoratum, Poa pale identified as W-BJM-2020-06-09-004 (PEM).	ndary of the PE	M wetland was identi	fied by the slightly cor	ncave area	that was	at

Wetland Hydrology Indicators:					Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of or	ne required;	Surface Soil Cracks (B6)			
Surface Water (A1)		Water-Stained Leave	s (B9)		Drainage Patterns (B10)
High Water Table (A2)		Aquatic Fauna (B13)			Moss Trim Lines (B16)
Saturation (A3)					Dry Season Water Table (C2)
Water Marks (B1)	Water Marks (B1)				Crayfish Burrows (C8)
Sediment Deposits (B2)	Hydrogen Sulfide Od		ig Roots (C3)	Saturation Visible on Aerial Imagery (C9)	
Drift deposits (B3)	Presence of Reduced	Iron (C4)		Stunted or Stressed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reduction	n in Tilled Sc	oils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5) Thin Muck Surface (C7)			(7)		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)					Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)				FAC-neutral Test (D5)	
Field Observations:	0				
Surface Water Present? Yes) No 🖲	Depth (inches):			
Water Table Present? Yes) No 🖲	Depth (inches):	14		oloav Present? Yes 🖲 No 🖯
Saturation Present? (includes capillary fringe) Yes) No 🔿	Depth (inches):	8	Wetland Hydr	ology Present? Yes 🔍 No 🔾
Describe Recorded Data (stream ga	luge, monito	ring well, aerial photos,	previous in	nspections), if avail	able:
N/A					
Remarks: No groundwater or surface water v	vas identified	during the survey. The	erefore, AE	COM concluded that	at the source of hydrology is likely associated with
surface runoff from the agricultural		<i>2 /</i>	,		, 5, , 111

VEGETATION - Use scientific names of p	lants		Sa	mpling Point: Wetland MCI-09
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3	0			Species Across All Strata:4(B)
4				
5				Percent of dominant Species That Are OBL_EACW_or_EAC*75.0% (A/B)
6				That Are OBL, FACW, or FAC:(A/B)
7	0			Prevalence Index worksheet:
• U (ot the control (Distring) 15' radius)	0 =	= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)		_		OBL species 20 x 1 = 20
1. Ulmus rubra			FAC	FACW species50 x 2 =100
2				FAC species $5 \times 3 = 15$
3				FACU species $\frac{25}{x} \times 4 = \frac{100}{x}$
4				UPL species $0 \times 5 = 0$
5	0			
6	0			Column Totals: <u>100</u> (A) <u>235</u> (B)
7	0			Prevalence Index = $B/A = 2.350$
Herb Stratum (Plot size: 5' radius)	5 =	= Total Cover		Hydrophytic Vegetation Indicators:
	25		FACIN	Rapid Test for Hydrophytic Vegetation
1. Poa palustris	20		FACW	✓ Dominance Test is > 50%
2. Anthoxanthum odoratum			FACU	✓ Prevalence Index is \leq 3.0 ¹
3. Solidago gigantea			FACW	Morphological Adaptations ¹ (Provide supporting
4. Carex squarrosa			OBL	data in Remarks or on a separate sheet)
5. Onoclea sensibilis			FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
6. Carex vulpinoidea			OBL	
7. Erigeron annuus			FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				Demittons of Vegetation Strata.
0				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1				at breast height (DBH), regardless of height.
2	0			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: <u>30' radius</u>)	95 =	= Total Cover		greater than 3.28 ft (1m) tall
	0			Herb - All herbaceous (non-woody) plants, regardless of
1				size, and woody plants less than 3.28 ft tall.
2	0			
3	0			Woody vine - All woody vines greater than 3.28 ft in
4				height.
	=	= Total Cover		
				Hydrophytic
				Vegetation
				Present? Yes VNO
				<u> </u>
Remarks: (Include photo numbers here or on a separate s	sheet.)			
See Appendix D of the Wetland Delineation and Stream A	Assessment Re	port for repr	esentative	photographs of the habitat and soil profile.

	Matrix				dox Featu			
(inches) Color (%	Color (n		%	Type ¹	Loc ²	Texture Remarks
0-6 7.5YR	4/2	95	10YR	4/4	5	C	М	Silty Loam
6-18 10YR	5/3	90	10YR	5/2	10	D	<u>M</u>	Silty Clay Loam
			Juced Matrix, Comparison of the second secon	S=Covera alue Belor 149B) Dark Surfa / Mucky I / Gleyed	ed or Coate w Surface (ace (S9) (L Mineral (F1 Matrix (F2)	2		Silty Clay Loam
□ Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F. □ Thick Dark Surface (A12) □ Redox Dark Surface □ Sandy Muck Mineral (S1) □ Depleted Dark Surface □ Sandy Gleyed Matrix (S4) □ Redox Depressions			pleted Matrix (F3) dox Dark Surface (F6) pleted Dark Surface (F7) dox Depressions (F8)				 Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B Mesic Spodic (TA6) (MLRA 144A, 145, 149B) 	
Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LR		A 149B) on and wetland hydrology must be present, unless disturbed or proble				Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)		
		on and wetla	na nyarology r	nust be p	present, un	iess disturb	ea or proble	
lestrictive Layer (if obs	erved):							
								Hydric Soil Present? Yes No
Type: Depth (inches):								

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	g Date: 09-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland	d MCI-10a
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (co	oncave, convex, non	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.153207	Long.:	-80.849419	Datum: NAD 83
Soil Map Unit Name: WbB - Wadsworth silt loam, 2 to 6 percent slop	pes		NWI classification:	N/A
	tly disturbed? problematic? sampling p Is the	Are "Normal Cir (If needed, exp Dint locations,	f no, explain in Remarks. rcumstances" present? lain any answers in Rem transects, impor Yes No 	Yes • No Onarks.)
Remarks: (Explain alternative procedures here or in a separate report A PEM portion of the PEM/PFO wetland complex, Wetland MCI-10a, deciduous forest as a PFO wetland complex located within a concavidentified by the dominance of Phalaris arundinacea. The field verif	, located along ve bowl along a	n active railroad grad	de. The boundary of the	e PEM wetland was

Wetland Hydrology Indicators	c.		
		Secondary Indicators (minimum of 2 required)	
Primary Indicators (minimum	n of one required;	Virface Soil Cracks (B6)	
Surface Water (A1)		Water-Stained Leaves (B9)	✓ Drainage Patterns (B10)
High Water Table (A2)		Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)		Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospheres along Living F	Loots (C3) Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils	(C6) Geomorphic Position (D2)
Iron Deposits (B5)		Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial I	Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave	Surface (B8)		FAC-neutral Test (D5)
Field Observations:			
Surface Water Present? Y	res 🔾 🛛 No 🖲	Depth (inches):	
Water Table Present? Y	Water Table Present? Yes O No O		Wetland Hydrology Present? Yes \odot No \bigcirc
Saturation Present? (includes capillary fringe) Y	res 🔘 No 🖲	Depth (inches):	Wetland Hydrology Present? Yes $ullet$ No $igcup$
Describe Recorded Data (stre	am gauge, monito	ring well, aerial photos, previous insp	ections), if available:
N/A			
Demondum			
Remarks:			
			e of the railroad grade. Additionally, aerial imagery indicated d surface soil cracks within the non-vegetated portion of the
		and drainage patterns within the inte	5 1
	-		·

VEGETATION - Use scientific names of p	iants	Sa	mpling Point: Wetland MCI-10a
Tree Stratum (Plot size: 30' radius)	Absolute Dominar % Cover Species?	Indicator	
1	0		Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2			Tabel Newsberg of Development
3			Total Number of Dominant Species Across All Strata: 1 (B)
4			
5			Percent of dominant Species That Are OBL_EACW_or_EAC' 100.0% (A/B)
6	0		That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7	0		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	0 = Total Cov	ver	Total % Cover of: Multiply by:
1	0		OBL species $0 \times 1 = 0$
2			FACW species $80 \times 2 = 160$
3			FAC species $0 \times 3 = 0$
4			FACU species $0 \times 4 = 0$
5			UPL species $0 \times 5 = 0$
6			Column Totals: <u>80</u> (A) <u>160</u> (B)
7			Prevalence Index = B/A =2.000
Herb Stratum (Plot size: 5' radius)	0 = Total Cov	/er	Hydrophytic Vegetation Indicators:
1. Phalaris arundinacea	80_	FACW	Rapid Test for Hydrophytic Vegetation
2			✓ Dominance Test is > 50%
3			✓ Prevalence Index is \leq 3.0 ¹
4			Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5			 Problematic Hydrophytic Vegetation ¹ (Explain)
6			
7			¹ Indicators of hydric soil and wetland hydrology must
8			be present, unless disturbed or problematic.
9			Definitions of Vegetation Strata:
10			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
			at breast height (DBH), regardless of height.
12			Conting (should be added by the set the set of the set
Woody Vine Stratum (Plot size: 30' radius)	80 = Total Cov	ver	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall.
1	0		Herb - All herbaceous (non-woody) plants, regardless of
2	0		size, and woody plants less than 3.28 ft tall.
3	0		Woody vine - All woody vines greater than 3.28 ft in
4	0		height.
	0 = Total Cov	/er	
			Hydrophytic Vegetation Present? Yes No O
Remarks: (Include photo numbers here or on a separate :	sheet.)		1

Re See Appendix D of the Wetland Delineation and Stream Assessment Report for representative photographs of the habitat and soil profile. Note:

Approximately 20 percent of the PEM sample plot was bare soil that dispalyed the crack soils.

Depth		Matrix			Redox Featu	ires			
(inches)	Color (%	Color (moi		Type 1	Loc ²	Texture	Remarks
0-6	10YR	4/1	90	7.5YR	4/6 10	С	М	Silty Loam	
6-18	10YR	5/2	70	7.5YR	4/6 30	С	м	Silty Clay Loam	
								· · · · · · · · · · · · · · · · · · ·	
	centration. D	=Depletic	on. RM=Red	uced Matrix, CS=	Covered or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=Mat	
Histosol (Histic Epi Black Hist Hydroger Stratified Depleted Thick Dar Sandy Mu Sandy Gla Sandy Re Stripped I Dark Surf	A1) pedon (A2) tic (A3) a Sulfide (A4) Layers (A5) Below Dark S k Surface (A1 uck Mineral (S eyed Matrix (S dox (S5) Matrix (S6) face (S7) (LRF	Gurface (A 12) 51) 54) R R, MLRA	 Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) 				А 149В)	2 cm Muck (A10) (L Coast Prairie Redox 5 cm Mucky Peat or Dark Surface (S7) (I Polyvalue Below Sur Thin Dark Surface (S Iron-Manganese Ma Piedmont Floodplain Mesic Spodic (TA6) Red Parent Material Very Shallow Dark S Other (Explain in Re	RR K, L, MLRA 149B) (A16) (LRR K, L, R) Peat (S3) (LRR K, L, R) .RR K, L, M) face (S8) (LRR K, L) 59) (LRR K, L) sses (F12) (LRR K, L, R) Soils (F19) (MLRA 149B) (MLRA 144A, 145, 149B) (F21) urface (TF12)
estrictive L Type: Depth (inc	ayer (if obs	erved):						Hydric Soil Present?	Yes \bullet No \bigcirc
emarks:								1	
ue to the pr lentified as	resence of f	nydrolog e federal	y, vegetati definition	on, and hydric : of a wetland.	soils, the area	located al	ong the ea	lge of the agricutlural field	l and railroad grade was

Project/Site: Magellan Interconnect Project	City/County: Trumbull	Sampling Date: 09-Jun-20
Applicant/Owner: FirstEnergy	State: OH Sampling Point:	Wetland MCI-10b
Investigator(s): B.Miller	Section, Township, Range: S.	T. 3N R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none	e): concave Slope: 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR R Lat.:	41.153062 Long.:	-80.84694 Datum: NAD 83
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slop	Des	NWI classification: N/A
	tly disturbed? Are "Normal Cir problematic? (If needed, exp	no, explain in Remarks.) cumstances" present? Yes • No · lain any answers in Remarks.) transects, important features, etc.
Hydrophytic Vegetation Present? Yes ● No ○ Hydric Soil Present? Yes ● No ○ Wetland Hydrology Present? Yes ● No ○	Is the Sampled Area within a Wetland?	/es ● No ○
Remarks: (Explain alternative procedures here or in a separate repor A PFO portion of the PEM/PFO wetland complex, Wetland MCI-10b, mixed deciduous forest situated in a concave bowl that contained dr was identified by the dominance of Quercus bicolor, Fraxinus pennsy sample point is W-BJM-2020-06-09-005(PFO).	located along the edge of an active rainage patterns along the edge of	the railroad. The boundary of the PFO wetland

	Secondary Indicators (minimum of 2 required)
check all that apply)	Surface Soil Cracks (B6)
	Drainage Patterns (B10)
Aquatic Fauna (B13)	Moss Trim Lines (B16)
Marl Deposits (B15)	Dry Season Water Table (C2)
Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Thin Muck Surface (C7)	Shallow Aquitard (D3)
✓ Other (Explain in Remarks)	Microtopographic Relief (D4)
_ 、,	FAC-neutral Test (D5)
Depth (inches):	
Depth (inches):	Hydrology Present? Yes 💿 No 🔿
Depth (inches):	Hydrology Present? Yes $ullet$ No $igcup$
ring well, aerial photos, previous inspections), if	available:
	ilroad grade. The "Other" indicated is noted due to the
	✓ Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) ✓ Other (Explain in Remarks) Depth (inches):

	npling Point: Wetland MCI-10b			
Tree Stratum (Plot size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species
1. Quercus bicolor	35	\checkmark	FACW	That are OBL, FACW, or FAC:5(A)
2. Quercus rubra	15	\checkmark	FACU	
3	0			Total Number of Dominant Species Across All Strata: 6 (B)
4				
5	-			Percent of dominant Species
6				That Are OBL, FACW, or FAC: <u>83.3%</u> (A/B)
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)		= Total Cover		Total % Cover of: Multiply by:
1. Lindera benzoin	15		FACW	OBL species <u>30</u> x 1 = <u>30</u>
2. Quercus bicolor	10		FACW	FACW species <u>73</u> x 2 = <u>146</u>
3. Fraxinus pennsylvanica	- <u>-</u>		FACW	FAC species <u>15</u> x 3 = <u>45</u>
4				FACU species $15 \times 4 = 60$
5				UPL species $0 \times 5 = 0$
6				Column Totals: <u>133</u> (A) <u>281</u> (B)
7				Prevalence Index = $B/A = 2.113$
Herb Stratum (Plot size: 5' radius)	30 =	= Total Cover		Hydrophytic Vegetation Indicators:
		_		Rapid Test for Hydrophytic Vegetation
1. Carex squarrosa			OBL	✓ Dominance Test is > 50%
2. Toxicodendron radicans			FAC	✓ Prevalence Index is ≤3.0 ¹
3. Epilobium coloratum			OBL	Morphological Adaptations ¹ (Provide supporting
4. Phalaris arundinacea	8		FACW	data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			
9				Definitions of Vegetation Strata:
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				Sonling/obrub Woody plants loss than 2 in DPH and
_Woody Vine Stratum (Plot size: _30' radius)		= Total Covei		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Meaduring All weadurings greater than 2.20 ft in
Λ	0			Woody vine - All woody vines greater than 3.28 ft in height.
4		= Total Cover		
				Hydrophytic Vegetation Present? Yes • No O
Remarks: (Include nhoto numbers here or on a senarate sh	eet)			

Re

See Appendix D of the Wetland Delineation and Stream Assessment Report for representative photographs of the habitat and soil profile. Note: Approximately, 50 percent of the herb stratum was associated bare soil/water stained leaves.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers

Profile Descr	iption: (Des	scribe to	the depth	needed to c	locument	t the indic	ator or co	onfirm the	absence of indicators.)	
Depth		Matrix			Re	dox Featı			_	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR	4/1	90	7.5YR	5/6	10	С	М	Silty Loam	
4-12	2.5YR	5/2	80	10YR	4/6	20	C	M	Silty Clay Loam	
· · · · · · · · · · · · · · · · · · ·										
¹ Type: C=Con	centration. D	=Depletic	on. RM=Red	uced Matrix,	CS=Cover	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=M	latrix
Histosol (/ Histic Epip Black Hist Hydrogen Stratified Depleted Thick Darl Sandy Mu Sandy Gle Sandy Ree Stripped N Dark Surfa	Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2 Loc bil Indicators: Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Concentration (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) gen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) ied Layers (A5) Loamy Gleyed Matrix (F2) ted Below Dark Surface (A11) Redox Dark Surface (F6) Muck Mineral (S1) Depleted Dark Surface (F7) Gleyed Matrix (S4) Redox Depressions (F8) Redox (S5) Ed Matrix (S6) Surface (S7) (LRR R, MLRA 149B) So f hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematical surface (S7) (LRR R, MLRA 149B)				RA 149B)	2 cm Muck (A10) Coast Prairie Redo 5 cm Mucky Peat o Dark Surface (S7) Polyvalue Below S Thin Dark Surface Iron-Manganese M Piedmont Floodpla Mesic Spodic (TA6 Red Parent Materi Very Shallow Dark Other (Explain in F	urface (S8) (LRR K, L) (S9) (LRR K, L) Aasses (F12) (LRR K, L, R) ain Soils (F19) (MLRA 149B) a) (MLRA 144A, 145, 149B) al (F21) Surface (TF12)			
	hes): Il was obsei	rved at 1								Yes No Prailroad grade. Due to the meeting the federal definition of

Project/Site: Magellan Interconnect P	roject	City/County:	Trumbull	Sampling	3 Date: 09-Jun-20
Applicant/Owner: FirstEnergy		State: OH	Sampling Point:	Wetland MC	CI-10 a/b UPL
Investigator(s): B.Miller		Section, To	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.):	Flat	Local relief (co	oncave, convex, non	e): none	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R	Lat.:	41.15326168	Long.:	-80.84623535	Datum: NAD 83
Soil Map Unit Name: WbA - Wads	worth silt loam, 0 to 2 percent slo	pes		NWI classification:	N/A
Are climatic/hydrologic conditions of Are Vegetation	, or Hydrology Significan	ntly disturbed? problematic?	Are "Normal Cir (If needed, exp	f no, explain in Remarks. rcumstances" present? Ilain any answers in Rem transects, impor	Yes • No O Narks.)
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes O No O Yes No O Yes No O		e Sampled Area	Yes 🔾 No 🖲	
Remarks: (Explain alternative pro	ocedures here or in a separate repo	ort.)			
	on a convex mound between on t identification id for the sample po	· · · · J · · · · ·	· J · · · · · · · · · · ·		CI-10a/b located within a

Hydrology

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; of	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Drainage Patterns (B10)	
High Water Table (A2)	Water-Stained Leaves (B9)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
		_
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No O	Depth (inches):	
Saturation Present? (includes capillary fringe) Yes O No •	Wetlan Depth (inches):	d Hydrology Present? Yes \bigcirc No $oldsymbol{igodol}$
Describe Recorded Data (stream gauge, monitor	ring well, aerial photos, previous inspections),	if available:
N/A		
,		
Remarks:		
		ple being along the downslope area of the agricultural of the identified wetland boundary, Wetland MCI-10b.

Sampling Point: Wetland MCI-10 a/b UPL

		Dominant		Deminance Test werkshoet
Tree Stratum (Plot size: <u>30' radius</u>)	Absolute % Cover	C	Indicator Status	Dominance Test worksheet:
				Number of Dominant Species
1. Tilia americana	20	\checkmark	FACU	That are OBL, FACW, or FAC:(A)
2. Fagus grandifolia	10	\checkmark	FACU	Total Number of Dominant
3. Crataegus phaenopyrum	5		FAC	Species Across All Strata: 8 (B)
4	0			
5				Percent of dominant Species
				That Are OBL, FACW, or FAC: <u>12.5%</u> (A/B)
6				
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	35	= Total Cover		Total % Cover of: Multiply by:
				OBL species $5 \times 1 = 5$
1. Rosa multiflora	30	\checkmark	FACU	FACW species $5 \times 2 = 10$
2. Smilax rotundifolia	20	\checkmark	FAC	FAC species $25 \times 3 = 75$
3. Rubus allegheniensis	15	\checkmark	FACU	
4	0			FACU species $130 \times 4 = 520$
5	-			UPL species 10 x 5 = 50
				Column Totals:(A)(B)
6				
7	0			Prevalence Index = $B/A = 3.771$
Herb Stratum (Plot size: <u>5' radius</u>)	65	= Total Cover		Hydrophytic Vegetation Indicators:
Herb Stratum (1100 3120: 0 100103				Rapid Test for Hydrophytic Vegetation
1. Solidago canadensis	20	\checkmark	FACU	$\Box \text{ Dominance Test is } 50\%$
2. Parthenocissus quinquefolia	15	\checkmark	FACU	
	15	\checkmark	FACU	Prevalence Index is ≤3.0 ¹
	10		UPL	Morphological Adaptations ¹ (Provide supporting
				data in Remarks or on a separate sheet)
5. Poa pratensis			FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
6. Impatiens capensis	5		FACW	
7. Juncus effusus	5		OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				Sapling/shrub - Woody plants less than 3 in. DBH and
	75 :	= Total Cover		greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size: 30' radius)				
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
4		Tatal Cause		logic
	0 :	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes O No •
				Present? 105 0 110 0
Remarks: (Include photo numbers here or on a separate she	et.)			
A dominance of hydrophytic vegetation was not observed.				
, , , , 5				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

			and acpan	inceaca to t					absence of indicators.)	
Depth (inches)	Color (Matrix moist)	%	Color (dox Featı %	Type 1	Loc ²		marks
0-8	10YR	4/2	100		moisey				Silty Loam	
8-16	10YR	5/4	95	10YR	5/2	5	D	М	Silty Clay Loam	
¹ Type: C=Cond Hydric Soil I Histosol (/ Histosol (/ Histoc Epip Black Histi Hydrogen Stratified I Depleted I Depleted I Sandy Mu	centration. D mdicators: A1) Dedon (A2) ic (A3) Sulfide (A4) Layers (A5) Below Dark S < Surface (A1) ck Mineral (S yed Matrix (S dox (S5)	=Depletic	n. RM=Red	uced Matrix, Poly MLR Depl Redo	CS=Cover value Belo A 149B) Dark Surf ny Mucky ny Gleyed eted Matri ox Dark Su	ed or Coate w Surface ace (S9) (Mineral (F1 Matrix (F2 x (F3)) urface (F6) Surface (F6)	ed Sand Gra (S8) (LRR R LRR R, MLR .) LRR K, L)		Silty Clay Loam	RA 149B) . K, L, R) (LRR K, L, R)) LRR K, L) , L) (LRR K, L, R)) (MLRA 149B) A, 145, 149B)
Dark Surfa	ace (S7) (LRI	k r, mlra	a 149B)						Other (Explain in Remarks)	
³ Indicators of	hydrophytic	vegetatio	on and wetla	nd hydrology	must be p	present, un	lless disturb	ed or proble	lematic.	
Restrictive La	ayer (if obs	erved):								
Туре:									Hydric Soil Present? Yes 🔾	No 🖲
Depth (incl	nes):									
	matrix. Ac	ditionall	y, the abse						n 10YR 4/2 and therefore, does not r licate that the area located north of f	

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	Date: 10-Jun-20			
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland	MCI-11a			
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W			
Landform (hillslope, terrace, etc.): Flat	Local relief (c	concave, convex, non	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °			
Subregion (LRR or MLRA): LRR R Lat.:	41.153141	Long.:	-80.844145	Datum: NAD 83			
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slo	pes	NWI classification: N/A					
Are Vegetation , Soil , or Hydrology naturally Summary of Findings - Attach site map showing Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Yes No Yes No	problematic? sampling p	Are "Normal Cir (If needed, exp point locations,	ro, explain in Remarks.) rcumstances" present? lain any answers in Rema transects, import Yes No	Yes • No O arks.)			
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate rep A PEM portion of the PEM/PFO wetland complex, Wetland MCI-11a PEM wetland was identified within a portion of the agricultural field atrovirens, and Dactylis glomerata. The PEM portion of the wetlan contained by a concave bowl. The field verification number for this	n, located along I that has allow d drains toward	ed to go fallow and c Is the west and into t	lisplayed a dominance of the forested portion of th	f Glyceria striata, Ścirpus			

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🔍	Depth (inches):	
Water Table Present? Yes O No O	Depth (inches):	drology Present? Yes 🖲 No 🔿
Saturation Present? Yes No •	Depth (inches):	drology Present? Yes $ullet$ No $igcup$
	pring well, aerial photos, previous inspections), if ava	ailable:
N/A		
Remarks:		
Source of hydrology was identified as stormwat	er runoff collecting along the toe-slope of the railroa	ad grade.

Sampling Point:	Wetland MCI-11a
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		Deminant							
	Absolute		Indicator	Dominance Test worksheet:					
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species					
1	0			That are OBL, FACW, or FAC:4(A)					
2	0			Total Number of Dominant					
3	0								
				Species Across All Strata:5_ (B)					
4									
5	0			Percent of dominant Species					
				That Are OBL, FACW, or FAC:80.0% (A/B)					
6									
7	0			Prevalence Index worksheet:					
		= Total Cover		Total % Cover of: Multiply by:					
Sapling/Shrub Stratum (Plot size: 15' radius)									
A Frankrike Annale	10		FACIN	OBL species <u>50</u> x 1 = <u>50</u>					
1. Fraxinus pennsylvanica	10	\checkmark	FACW	FACW species25 x 2 =50					
2	0								
				FAC species $10 \times 3 = 30$					
3				FACU species $10 \times 4 = 40$					
4	0								
5	0			UPL species $0 \times 5 = 0$					
				Column Totals:					
6	0			$\frac{1}{0}$					
7	0			Prevalence Index = $B/A = 1.789$					
•		T							
Herb Stratum (Plot size: 5' radius)	10 =	= Total Cover		Hydrophytic Vegetation Indicators:					
				Rapid Test for Hydrophytic Vegetation					
1. <i>Glyceria striata</i>	35	\checkmark	OBL						
11, ž		 Image: A start of the start of		✓ Dominance Test is > 50%					
2. Onoclea sensibilis	10		FACW	✓ Prevalence Index is \leq 3.0 ¹					
3. Dactylis glomerata	10	\checkmark	FACU						
↓ Scirpus atrovirens	10	\checkmark	OBL	Morphological Adaptations ¹ (Provide supporting					
				data in Remarks or on a separate sheet)					
5. Acer negundo	8		FAC	Problematic Hydrophytic Vegetation ¹ (Explain)					
6. Carex squarrosa	5		OBL						
· · · ·				¹ Indicators of hydric soil and wetland hydrology must					
7. Carex intumescens	5		FACW	be present, unless disturbed or problematic.					
8. Agrimonia parviflora	2		FAC	be present, amess distarbed of problematici					
				Definitions of Vegetation Strata:					
9									
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter					
11				at breast height (DBH), regardless of height.					
				at broadt height (BBH), regardided of height.					
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and					
	85 =	= Total Cover		greater than 3.28 ft (1m) tall.					
Woody Vine Stratum (Plot size: 30' radius)									
	0			llad All back and a second (a second back a second back of					
1				Herb - All herbaceous (non-woody) plants, regardless of					
2.	0			size, and woody plants less than 3.28 ft tall.					
	0								
3				Woody vine - All woody vines greater than 3.28 ft in					
4	0			height.					
	0 =	= Total Cover							
				Hydrophytic					
				Vegetation Present? Yes • No ·					
				Present? Yes Vo V					
Remarks: (Include photo numbers here or on a separate sheet.)									
See Appendix D of the Wetland Delineation and Stream As	sessment R	eport for repi	esentative	e photographs of the habitat and soil profile.					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth <u>Matrix</u>					dox Featu				
(inches)	Color (<u>%</u>	Color (<u>%</u>	Type 1	Loc ²	Texture Remarks
0-10	10YR	4/1	90	10YR	4/6	10	C	М	Silty Loam
10-18	10YR	6/2	70	7.5YR	4/6	30	C		Silty Clay Loam
Hydric Soil In Histosol (A Histic Epip Black Histi Hydrogen Stratified L Depleted E Thick Dark Sandy Muc Sandy Gley Sandy Red Stripped M	ndicators: 1) edon (A2) c (A3) Sulfide (A4) ayers (A5) Selow Dark S Surface (A1 k Mineral (S ved Matrix (S ox (S5) atrix (S6) ce (S7) (LRF	Surface (A 12) 51) 54) R R, MLRA	.11) A 149B)	Polym MLR Thin Loan Depl Redd Depl Redd	value Belo A 149B) Dark Surf- ny Mucky I ny Gleyed eted Matri ox Dark Su eted Dark ox Depress	w Surface (ace (S9) (L Mineral (F1) Matrix (F2) x (F3) rface (F6) Surface (F6) surface (F8)	58) (LRR F .RR R, MLF) LRR K, L) 7)	8, A 149B)	ation: PL=Pore Lining. M=Matrix Indicators for Problematic Hydric Soils : ³ 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Piedmont Floodplain Soils (F12) (MLRA 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
estrictive La	yer (if obs	erved):							
Туре:									
Depth (inch	es):								Hydric Soil Present? Yes 🖲 No 🔾

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	g Date: 10-Jun-20			
Applicant/Owner: FirstEnergy	State: OH	Sampling Point	: Wetland	d MCI-11b			
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N	R. 4W			
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, non	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °			
Subregion (LRR or MLRA): LRR R Lat.:	41.153064	Long.:	-80.844322	Datum: NAD 83			
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slo	pes		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 , 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							
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		Sampled Area n a Wetland?	Yes $ullet$ No $igcap$				
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate report.) A PFO portion of the PEM/PFO wetland complex, Wetland MCI-11b, located along the edge of agricultural field and railroad grade. The boundary of the PFO wetland was identified within a concave bowl surrounded by upland mixed deciduous forest that displayed sparsely vegetative concave surface and buttress roots. The boundary of the PFO wetland was identified by the dominance of Ulmus rubra, Lindera benzoin, and Glyceria striata. The field verification number for this sample point is W-BJM-2020-06-10-001(PFO).							

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	✓ Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8))	✓ FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes 🔾 No 🕥	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	tydrology Present? Yes 💿 No 🔿
Saturation Present? Yes O No •	Depth (inches):	łydrology Present? Yes ● No 🔾
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspections), if a	available:
N/A		
Remarks:		
Source of hydrology was identified as stormwat buttress roots on the woody vegetation within t	5 5 1	road grade. Additionally, "Other" was identified as

Sampling Point:	Wetland MCI-11b
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	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1. Ulmus rubra	25	\checkmark	FAC	That are OBL, FACW, or FAC:6(A)
2. Acer rubrum	10	\checkmark	FAC	Total Number of Dominant
3	0			Total Number of Dominant Species Across All Strata: 6 (B)
4				
5				Percent of dominant Species
6				That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)		= Total Cover		Total % Cover of: Multiply by:
	20	_	FACIN	OBL species <u>15</u> x 1 = <u>15</u>
1. Lindera benzoin			FACW	FACW species25 x 2 =50
2. Fraxinus pennsylvanica	-		FACW	FAC species35 x 3 =105
3				FACU species $0 \times 4 = 0$
4				UPL species $0 \times 5 = 0$
5	0			
6	0			Column Totals: <u>75</u> (A) <u>170</u> (B)
7	0			Prevalence Index = $B/A = 2.267$
Herb Stratum (Plot size: 5' radius)		= Total Cover		Hydrophytic Vegetation Indicators:
1 Characteristic	10		OBL	Rapid Test for Hydrophytic Vegetation
1. <i>Glyceria striata</i>	_			✓ Dominance Test is > 50%
2. Carex vulpinoidea			OBL	\checkmark Prevalence Index is \leq 3.0 1
3				Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12.				
		= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size: 30' radius)				g. sate: a an o 20 n () tann
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cover	-	
				Hydrophytic
				Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate she	et.)			

See Appendix D of the Wetland Delineation and Stream Assessment Report for representative photographs of the habitat and soil profile. Note: Approximately 85 percent of the PFO sample plot was bare soil.

olor (moist) % YR 4/6 30	Type 1 Loc2 C M	Texture Remarks Silty Loam
YR 4/6 30	С М 	Silty Loam
Polyvalue Below Surface (S MLRA 149B) Thin Dark Surface (S9) (LF Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2)	8) (LRR R, RR R, MLRA 149B)	ication: PL=Pore Lining. M=Matrix Indicators for Problematic Hydric Soils: 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Inin Dark Surface (S9) (LRR K, L)
Redox Depressions (F8)		 Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
ology must be present, unle	ess disturbed or prob	lematic.
		Hydric Soil Present? Yes 💿 No 🔿
	Polyvalue Below Surface (S MLRA 149B) Thin Dark Surface (S9) (LF Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	g Date: 10-Jun-20			
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland MCI	-11 a/b&12 UPL			
Investigator(s): B.Miller	Section, To	wnship, Range: S.	T. 3N	R. 4W			
Landform (hillslope, terrace, etc.): Flat	Local relief (co	ncave, convex, none	e): none	Slope: <u>2.0</u> % / <u>1.1</u> °			
Subregion (LRR or MLRA): LRR R Lat.:	41.15312601	Long.:	-80.84394603	Datum: NAD 83			
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slo	pes		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 ● Hydric Soil Present? Yes ○ No ● Wetland Hydrology Present? Yes ○ No ●		Sampled Area	res \bigcirc No $oldsymbol{igodol}$				
Remarks: (Explain alternative procedures here or in a separate report A upland reference point located within a mixed deciduous forest a MCI-11a/b and MCI-12. The field identification id for the sample p	djacent to agric		5 1	is associated with Wetland			

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	drology Present? Yes \bigcirc No \odot
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	drology Present? Yes 🔾 No 🖲
	pring well, aerial photos, previous inspections), if available	ailable:
N/A		
Remarks:		
No primary and/or secondary wetland hydrolog	v indicators were observed.	
···· ·································	,	

Sampling Point:	Wetland MCI-11 a/b&12 UPL
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Tree Stratum (Plot size: 30' radius)	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. Acer saccharum	25		FACU	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)
2. Fagus grandifolia	10		FACU	
3. Carya ovata			FACU	Total Number of Dominant
4				Species Across All Strata: (B)
5				Percent of dominant Species
6				That Are OBL, FACW, or FAC: <u>42.9%</u> (A/B)
7				Prevalence Index worksheet:
		= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				$\begin{array}{c} \hline \\ \hline $
1. Lindera benzoin	40	✓ .	FACW	FACW species $55 \times 2 = 110$
2. Fagus grandifolia	10	✓	FACU	FAC species $10 \times 3 = 30$
3	0			
4	0			
5	0			UPL species $0 \times 5 = 0$
6	0			Column Totals: <u>150</u> (A) <u>480</u> (B)
7				Prevalence Index = $B/A = 3.200$
Herb Stratum (Plot size: 5' radius)	50	= Total Cover		Hydrophytic Vegetation Indicators:
		_		Rapid Test for Hydrophytic Vegetation
1. Parthenocissus quinquefolia	20	 . 	FACU	Dominance Test is > 50%
2. Impatiens capensis			FACW	Prevalence Index is ≤3.0 ¹
3. Smilax rotundifolia		.	FAC	Morphological Adaptations ¹ (Provide supporting
4. Podophyllum peltatum			FACU	data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				1
7				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8				
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)	50=	= Total Cover		greater than 3.28 ft (1m) tall
	0			Herb - All herbaceous (non-woody) plants, regardless of
1				size, and woody plants less than 3.28 ft tall.
2 3	0			
۶	0			Woody vine - All woody vines greater than 3.28 ft in height.
4		= Total Cover		
				Hydrophytic
				Vegetation Present? Yes O No O
				Present? Yes 🔾 No 🖲
Remarks: (Include photo numbers here or on a separate she	-			
The sample plot lacked the dominance of hydrophytic vege	tation. Veg	etation was pr	eviously (disturbed by agricultural practices.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

	• •		the depth				nfirm the a	absence of indicators.)	
Depth (inches)	Color (n	Matrix noist)	%	Color (moist)	lox Featu %	Type 1	Loc ²	Texture	Remarks
0-16	10YR	4/3	100			Турс		Silty Loam	Kemarks
		- , J							
					-				
				·					
	. <u> </u>				-				
						<u>.</u>			
¹ Type: C=Con	centration. D=	Depletio	n. RM=Red	uced Matrix, CS=Covere	d or Coate	d Sand Gra	ins ² Loca	ation: PL=Pore Lining. M=M	atrix
Hydric Soil 1									
Histosol (Polyvalue Belov	v Surface (9	58) (I PP P			ematic Hydric Soils : ³
, j	pedon (A2)			MLRA 149B)		50) (LKK K	1		(LRR K, L, MLRA 149B)
Black Hist				Thin Dark Surfa	ce (S9) (L	RR R, MLR	A 149B)	Coast Prairie Redo	x (A16) (LRR K, L, R)
_				Loamy Mucky N				5 cm Mucky Peat o	or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Gleyed I	. ,	, ,		Dark Surface (S7)	(LRR K, L, M)
	Layers (A5)		11)	Depleted Matrix					urface (S8) (LRR K, L)
	Below Dark Su		.11)	Redox Dark Sur				Thin Dark Surface	(S9) (LRR K, L)
	k Surface (A12			Depleted Dark	. ,	')		Iron-Manganese M	lasses (F12) (LRR K, L, R)
	uck Mineral (S1			Redox Depressi	•	,		Piedmont Floodpla	in Soils (F19) (MLRA 149B)
	eyed Matrix (S	4)			0115 (10)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Re								Red Parent Materia	al (F21)
	Matrix (S6)							Very Shallow Dark	Surface (TF12)
Dark Surf	face (S7) (LRR	R, MLRA	A 149B)					Other (Explain in R	Remarks)
³ Indicators o	f hydrophytic v	egetatio	n and wetla	nd hydrology must be p	resent, unl	ess disturb	ed or proble	ematic.	
Restrictive L	aver (if obse	vod).							
Type:	ayer (ii obse	iveu).							
Depth (inc	hec).							Hydric Soil Present?	Yes 🔿 No 🖲
	nes):							-	
Remarks:									
Due to the la	ck of hydrolo	ogy, hyd	lrophytic v	egetation, and hydrid	soils, the	e forested	l area loca	ted along the edge of th	e railroad grade and east of
Wetland MCI	-11a/b as we	ell as so	outh of MC	I-12 was not identifie	ed as mee	ting the f	ederal def	inition of a wetland.	

Project/Site: Magellan Interconnect Project	City/Co	unty: Trumbull	Sampling	g Date: 10-Jun-20				
Applicant/Owner: FirstEnergy	State:	OH Sampling Poin	t: Wetlane	d MCI-12				
Investigator(s): B.Miller	Sect	ion, Township, Range: S.	T. 3N	R. 4W				
Landform (hillslope, terrace, etc.): Flat	Local re	lief (concave, convex, no	ne): concave	Slope: <u>2.0</u> % / <u>1.1</u> °				
Subregion (LRR or MLRA): LRR R Lat.	: 41.1533	65 Long.:	-80.843651	Datum: NAD 83				
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent si	lopes		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?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		Is the Sampled Area within a Wetland?	Yes $ullet$ No $igcap$					
Remarks: (Explain alternative procedures here or in a separate re	port.)							
A PFO wetland complex, Wetland MCI-12, that is located to the ex the north and eventually connects to Wetland MCI-13a/b/c. The Acer rubrum, Ulmus americana, Lindera benzoin, Glyceria striata, displayed the presence of buttress roots. The field verification nu	boundary c and Onocle	f the PFO wetland was ic a sensibilis. Additionally	lentified by the slightly co , the woody vegetation w	oncave area dominated by				

Wetland Hydrology Indicators:			S	econdary Indicators (minimum of 2 required)
Primary Indicators (minimum of on	e required; chec	ck all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)		Water-Stained Leaves (B9)		Drainage Patterns (B10)
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lines (B16)
Saturation (A3)		Marl Deposits (B15)		Dry Season Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospheres along Living Roo	ots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduced Iron (C4)		Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils (C	6)	Geomorphic Position (D2)
Iron Deposits (B5)		Thin Muck Surface (C7)		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery	y (B7)	Other (Explain in Remarks)		Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface	e (B8)			FAC-neutral Test (D5)
Field Observations:				
Surface Water Present? Yes 🔾) No 🖲	Depth (inches):		
Water Table Present? Yes \bigcirc) No 🖲	Depth (inches):		× • • •
Saturation Present? (includes capillary fringe) Yes O) No 🖲	Depth (inches):	Wetland Hydrology Present? Yes $ullet$ No $igodot$	
Describe Recorded Data (stream ga	uge, monitoring	well, aerial photos, previous inspec	tions), if availab	le:
N/A				
Remarks: Source of hydrology was identified a buttress roots on the woody vegetal			of the railroad g	rade. Additionally, "Other" was identified as

VegetAtion of Selentine numes of pla	mpling Point: Wetland MCI-12			
Tree Stratum (Plot size: <u>30'</u> radius)	Absolute % Cover	O	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	35	\checkmark	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)
2. Ulmus americana	15		FACW	
3. Carya ovata			FACU	Total Number of Dominant Species Across All Strata: 5 (B)
4				
5				Percent of dominant Species
6				That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)		= Total Cover		Total % Cover of: Multiply by:
	35		FACW	OBL species $62 \times 1 = 62$
1. Lindera benzoin 2.				FACW species X 2 =150
3				FAC species35 x 3 =105
4				FACU species $5 \times 4 = 20$
5				UPL species $0 \times 5 = 0$
6				Column Totals: <u>177</u> (A) <u>337</u> (B)
7	0			Prevalence Index = $B/A = 1.904$
Herb Stratum (Plot size: <u>5' radius</u>)	35=	= Total Cover		Hydrophytic Vegetation Indicators:
	35		OBL	Rapid Test for Hydrophytic Vegetation
1. Glyceria striata 2. Onoclea sensibilis			FACW	✓ Dominance Test is > 50%
C Frilabium calaurtum	15		OBL	\checkmark Prevalence Index is \leq 3.0 ¹
3. Epilobium coloratum 4. Carex vulpinoidea	10		OBL	Morphological Adaptations ¹ (Provide supporting
5. Impatiens capensis			FACW	data in Remarks or on a separate sheet)
6. Boehmeria cylindrica	2		OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10				Tree Meedy plants 2 in (7.6 am) or more in diameter
11				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12				
		= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)				greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate she	et.)			
See Appendix D of the Wetland Delineation and Stream Ass	essment Re	port for repre	esentative	photographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers

Depth		Matrix				dox Featu			_	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	10YR	4/1	100						Silty Loam	
6-18	10YR	5/2	90	10YR	5/6	10	C	<u>M</u>	Silty Clay Loam	
Iydric Soil Ir Histosol (A Histic Epip Black Histic Hydrogen Stratified L Depleted E Thick Dark Sandy Muc	ndicators: 1) edon (A2) c (A3) Sulfide (A4) ayers (A5) Below Dark S Surface (A2) ck Mineral (S ved Matrix (S) ox (S5)	Surface (A L2) 51)		Polys MLR/ Thin Loan Deple Redo Deple	value Belo A 149B) Dark Surf ny Mucky ny Gleyed eted Matri ox Dark Su	w Surface (ace (S9) (I Mineral (F1 Matrix (F2) x (F3) ırface (F6) Surface (F5	(58) (LRR I LRR R, MLI) LRR K, L <u>i</u>)	R, 149B)	Dark Surface (S7) (LI Polyvalue Below Surface (S9 Thin Dark Surface (S9 Iron-Manganese Mass Piedmont Floodplain 9 Mesic Spodic (TA6) (I Red Parent Material (atic Hydric Soils : ³ R K, L, MLRA 149B) A16) (LRR K, L, R) Peat (S3) (LRR K, L, R) RR K, L, M) ace (S8) (LRR K, L) D) (LRR K, L) Ses (F12) (LRR K, L, R) Soils (F19) (MLRA 149B) MLRA 144A, 145, 149B) F21)
	ce (S7) (LRI	R R, MLRA	A 149B)						Very Shallow Dark Su	
³ Indicators of	hydrophytic	vegetatio	on and wetla	nd hydrology	must be p	oresent, un	less disturl	ped or proble	ematic.	
Type:		erved):							Hydric Soil Present?	Yes 🔍 No 🔾
Depth (inch	es):								,	
Remarks:										

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplin	19 Date: 10-Jun-20			
Applicant/Owner: FirstEnergy	State: OH	State: OH Sampling Point: Wetland MCI-13a					
Investigator(s): B.Miller	Section, To	wnship, Range: S.	T. 3N	R. 4W			
Landform (hillslope, terrace, etc.): Flat	Local relief (co	ncave, convex, none):	concave	Slope:% /°			
Subregion (LRR or MLRA): LRR R Lat.:	41.154813	Long.: -8	0.839324	Datum: NAD 83			
Soil Map Unit Name: MgB - Mahoning silt loam, 2 to 6 percent slope	es		NWI classification:	N/A			
	tly disturbed? problematic?	Are "Normal Circu (If needed, explain	o, explain in Remarks mstances" present? n any answers in Rer ansects, impo r	Yes • No ·			
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		Sampled Area a Wetland? Yes	5 🖲 No 🔾				
Remarks: (Explain alternative procedures here or in a separate repo A PEM portion of the PEM/PSS/PFO wetland complex, Wetland MCI to the east, west, and north. The boundary of the PEM wetland wa that continues to the west eventually connects to Wetland MCI-12, wetland displayed the presence of surface water within the more do sample point is W-BJM-2020-06-10-003(PEM).	-13a, located wi as identified by t within the PSS/F	ne dominance of Phala PFO portion of Wetland	aris arundinacea and d MCI-13. Additional	the portion of the wetland illy, portions of the PEM			

Wetland Hydrology Indicate	ors:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimu	Im of one required;	Surface Soil Cracks (B6)	
Surface Water (A1)		Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)		Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)		Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospheres along Living R	Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils	(C6) Geomorphic Position (D2)
Iron Deposits (B5)		Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aeria	al Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)		FAC-neutral Test (D5)
Field Observations:			
Surface Water Present?	Yes 🔾 No 🖲	Depth (inches):	
Water Table Present?	Yes 🔾 No 🖲	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes 🔿 No 🖲	Depth (inches):	Wetland Hydrology Present? Yes $ullet$ No $igodoldsymbol{ imes}$
Describe Recorded Data (st	ream gauge, monito	ring well, aerial photos, previous insp	ections), if available:
N/A			
Remarks:			
outside of the sample plot a	area. Portions of the erial imagery, areas	e wetland that displayed lower concav	e of the railroad grade as well as groundwater seeps identified e position had the presence of surface water at 1-2inches in xisting ROW as well as inundated areas within the forested / scrub-
snrub portion of the wetlan	as.		

VEGETATION - Use scientific names of plat	mpling Point: Wetland MCI-13a							
	Absolute	O	Indicator	Dominance T	est worksheet:			
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dor				
1				That are OBL,	FACW, or FAC:		1	(A)
2				Total Number of	of Dominant			
3				Species Across			1	(B)
4				Development		_		
5					ominant Species		100.0%	(A/B)
6					_, ,			
7	0				dex worksheet			
Sapling/Shrub Stratum (Plot size: 15' radius)	0 =	= Total Cover	•		6 Cover of:		y by:	_
	0			OBL species			0	
1	0			FACW species	s <u>100</u>	x 2 =	200	
2				FAC species	0	x 3 =	0	
3				FACU species	s	x 4 =	0	
4				UPL species	0	x 5 =	0	
5					ls: 100	(A)	200	(B)
6 7	0				ce Index = B/A			
Herb Stratum (Plot size: 5' radius)	0 =	= Total Cover		Hydrophytic Vegetation Indicators:				
				Rapid Te	st for Hydroph	ytic Vege	tation	
1. Phalaris arundinacea	100		FACW	🗸 Dominar	nce Test is > 50)%		
2				✓ Prevaler	nce Index is ≤3	.0 ¹		
3	0			 Morphological Adaptations ¹ (Provide supporti 				orting
4	0			data in Remarks or on a separate sheet)				-
5	0			Problem	atic Hydrophyt	ic Vegeta	tion ¹ (Exp	lain)
6				1 Indicators	of hydric soil a		ad hudvalaa	
7					inless disturbed			y must
8				Definitions	of Vegetatio	n Strata		
9					of regetation	in Strutu	•	
10					plants, 3 in. (7			ameter
11				at breast heig	ht (DBH), rega	rdless of	height.	
12				Sapling/shrub	- Woody plan	ts less th	an 3 in. DB	H and
Woody Vine Stratum (Plot size: 30' radius)	100 =	= Total Cover		greater than 3	3.28 ft (1m) tall			
1	0			1	baceous (non-			dless of
2	0			size, and woo	ody plants less	than 3.28	3 ft tall.	
3	0			Woody vine -	All woody vine	es areater	than 3.28	ft in
4	0			height.	,	U		
	0 =	= Total Cover						
				Hydrophytic Vegetation Present?	~	No O		
Remarks: (Include photo numbers here or on a separate she	et.)							
See Appendix D of the Wetland Delineation and Stream Asso	essment Re	port for repr	esentative	photographs o	f the habitat ar	nd soil pr	ofile.	

Depth		Matrix				dox Featu			-	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	10YR	4/1	100						Silty Loam	
2-18	10YR	5/2	90	10YR	4/3	10	<u> </u>	<u>M</u>	Silty Clay Loam	
·				<u>.</u>						
						-				
,										
ype: C=Conce Tydric Soil Ir		=Depletic	on. RM=Red	uced Matrix, (CS=Cover	ed or Coate	ed Sand Gra	iins ² Loca	ation: PL=Pore Lining. M=Matrix	
Stratified L Depleted B Thick Dark Sandy Muc Sandy Gley Sandy Red Stripped M Dark Surfa	edon (A2) c (A3) Sulfide (A4) ayers (A5) Below Dark S Surface (A1 k Mineral (S ved Matrix (S ox (S5) atrix (S6) ce (S7) (LR	Gurface (A L2) 51) 54) R R, MLRA	4 149B)	MLŔ/ ☐ Thin ☐ Loan ☑ Deple ☐ Redo ☐ Redo	A 149B) Dark Surf ny Mucky ny Gleyed eted Matri nx Dark Su eted Dark nx Depress	rface (F6) Surface (F2 sions (F8)	.RR R, MLR) LRR K, L) 7)	A 149B)	Indicators for Problematic 2 cm Muck (A10) (LRR K, Coast Prairie Redox (A16) 5 cm Mucky Peat or Peat Dark Surface (S7) (LRR K) Polyvalue Below Surface Thin Dark Surface (S9) (Iron-Manganese Masses Piedmont Floodplain Soils Mesic Spodic (TA6) (MLR Red Parent Material (F21) Very Shallow Dark Surface Other (Explain in Remark)	L, MLRA 149B)) (LRR K, L, R) (S3) (LRR K, L, R) S, L, M) (S8) (LRR K, L) LRR K, L) (F12) (LRR K, L, R) (F19) (MLRA 149B) A 144A, 145, 149B)) e (TF12)
³ Indicators of	hydrophytic	vegetatio	on and wetla	ind hydrology	must be p	present, un	less disturb	ed or proble	ematic.	
	yer (if obs	erved):								
Type: Depth (inch	es).								Hydric Soil Present? Yes	s 💿 🛛 No 🔾

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	g Date: 28-Sep-20
Applicant/Owner: FirstEnergy	State: Ohio	Sampling Point:	Wetland I	MCI-13a - 2
Investigator(s): Brian Miller and Renne Massa	Section, To	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, non	e): convex	Slope: 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR R Lat.:	41.158997924	Long.:	-80.838341114	Datum: NAD83
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes	-		NWI classification:	NA
	problematic? sampling p	Are "Normal Cir (If needed, exp Dint locations, Sampled Area	f no, explain in Remarks. rcumstances" present? lain any answers in Rem transects, impor Yes • No ⁽⁾	Yes • No Onarks.)
Wetland Hydrology Present? Yes No	with	n a Wetland?		
Remarks: (Explain alternative procedures here or in a separate reported extension of Wetland MCI-13 located in a fallow field within an portion of the PEM wetland is located within a degraded stream charand Phalaris arundinacea. Between the two portions of the wetland to west. The field identification id for the sample point was identified	nd existing over annel that has t ds, is a PFO por	een filled with sedin tion of the wetland	nent and now dominated that is located outside th	d by Echinochloa crusgalli

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required	Surface Soil Cracks (B6)	
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	✓ Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches): 0	
Water Table Present? Yes O No 🖲		ydrology Present? Yes 🖲 No 🔾
Saturation Present? Yes O No •	Depth (inches): 0	ydrology Present? Yes 🔍 No 🔾
Describe Recorded Data (stream gauge, mon	toring well, aerial photos, previous inspections), if av	vailable:
Remarks:		
Source of hydrology is from an old stream ch	annel and precipitation.	

Sampling Point:	Wetland MCI-13a	a - 2
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			Sui	
Tree Stratum (Plot size:)	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1,	0		Status	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2	0			
				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6				
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size:)	0	= Total Cover		$\begin{array}{c c} Total \% Cover of: Multiply by: \\ \hline OBL species 20 x 1 = 20 \\ \end{array}$
1	0			
2				FACW species $60 \times 2 = 120$
				FAC species $10 \times 3 = 30$
3				FACU species $10 \times 4 = 40$
4				UPL species $0 \times 5 = 0$
5				
6	0			Column Totals: <u>100</u> (A) <u>210</u> (B)
7	0			Prevalence Index = B/A =
Herb Stratum (Plot size: 5ft radius)	0	= Total Cover		Hydrophytic Vegetation Indicators:
	60		FACIN	Rapid Test for Hydrophytic Vegetation
1. Phalaris arundinacea	60		FACW	✓ Dominance Test is > 50%
2. Leersia oryzoides	15		OBL	V Prevalence Index is \leq 3.0 ¹
3. Symphyotrichum lateriflorum var. lateriflorum	10		FAC	Morphological Adaptations ¹ (Provide supporting
4. Echinochloa crusgalli	10		FACU	data in Remarks or on a separate sheet)
5. Ludwigia alternifolia	5		OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
9				_
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
(Plot sizo:	100	= Total Cover		greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				
1	0			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2	0			
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes • No ·
				Present? Yes \bigcirc No \bigcirc
Remarks: (Include photo numbers here or on a separate she	et.)			
See Appendix D of the Wetland Delineation and Stream Asse	essment Re	eport for repr	esentative	photographs of the habitat and soil profile.
		· · · · ·		· • ·

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth		Matrix				dox Featu			absence of indicators.	,
(inches)	Color (%	Color (r		%	Type 1	Loc ²	Texture	Remarks
0-4	10YR	4/1	90	10YR	6/8	10	C	PL	Silt Loam	oxidized rhizopsheres
4-10	5Y	4/1	85	10YR	5/8	15	С	М	Silty Clay Loam	
10-16	10YR	4/1	80	10YR	5/8	20	C	Μ	Silty Clay Loam	
¹ Type: C=Con	centration. D	=Depletic	n. RM=Red	uced Matrix, C	S=Cover	ed or Coate	ed Sand Gra	ains ² Loc	ation: PL=Pore Lining. M	=Matrix
Hydric Soil	Indicators:								Indicators for Pro	oblematic Hydric Soils : ³
Black Hist Hydroger Stratified Depleted Thick Dar Sandy Mu Sandy Gle Sandy Re Stripped Dark Surf	pedon (A2) tic (A3) a Sulfide (A4) Layers (A5) Below Dark S k Surface (A1 uck Mineral (S eyed Matrix (S dox (S5) Matrix (S6) face (S7) (LR	Gurface (A 12) 51) 54) R R, MLRA	A 149B)	MLŔA Thin Loam Loam Medo Deple	149B) Dark Surf y Mucky y Gleyed ted Matri x Dark Su ted Dark x Depress	rface (F6) Surface (F7 sions (F8)	LRR R, MLF) LRR K, L)) 7)	RA 149B)	Coast Prairie R 5 cm Mucky Pe Dark Surface (1) Polyvalue Below Thin Dark Surfa Iron-Manganes Piedmont Flood Mesic Spodic (1) Red Parent Mai Very Shallow D Other (Explain	Dark Surface (TF12)
Restrictive L Type:		erved):							Hydric Soil Present	:? Yes 🖲 No 🖯
Depth (inc Remarks:	hes):								inguite Son Freselle	
	le meets th a along the	e criteria edge of	a for deple the existir	ted matrix. ng farm road	Due to t meets t	າe presen he federa	nce of wet Il definitio	land hydr n of a wel	ology, dominance of h tland.	ydrophytic vegetation, and hydric

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	Date: 10-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland	MCI-13b
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (co	oncave, convex, none): C	oncave	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat	t.: 41.155043	Long.: -80.8	39453	Datum: NAD 83
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent s	slopes	NW	I classification:	N/A
	antly disturbed? Iy problematic? g sampling p Is the	Are "Normal Circumst (If needed, explain an Dint locations, tran	ny answers in Rem	Yes • No O arks.)
Remarks: (Explain alternative procedures here or in a separate re A PFO portion of the PEM/PSS/PFO wetland complex, Wetland M PSS portion of the wetland complex. The boundary of the PFO p Carex crinitia, Carex grayi, Impatiens capensis. The dominance of surface with water-stained leaves. The field verification number	CI-13b, located ea portion of the wetle of hydrophytic veg	and was identified by the o letation was situated withi	dominance of Ulmu n areas that displa	us rubra, Acer rubrum,

Western ditte des terms Westernes		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)	
Surface Water (A1)	✓ Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	✓ Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No O	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	lydrology Present? Yes $ullet$ No $igodoldsymbol{ imes}$
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspections), if a	available:
N/A		
,		
Remarks:		
outside of the sample plot area. Portions of the	er runoff collecting along the toe-slope of the rail wetland that displayed lower concave position have ress roots of woody vegetation identified within t	

Sampling Point:	Wetland MCI-13b
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Tree Stratum (Plot size: 30' radius)	Absolute		Indicator	Dominance Test worksheet:
	% Cover	species:	Status	Number of Dominant Species
1. Ulmus rubra	35	\checkmark	FAC	That are OBL, FACW, or FAC:6(A)
2. Acer rubrum	15	\checkmark	FAC	Total Number of Dominant
3. Carya ovata	10		FACU	Species Across All Strata: 7 (B)
4. Quercus rubra	10		FACU	
5	-			Percent of dominant Species
6				That Are OBL, FACW, or FAC: <u>85.7%</u> (A/B)
7				Prevalence Index worksheet:
1				
Sapling/Shrub Stratum (Plot size: 15' radius)	70	= Total Cove		Total % Cover of: Multiply by:
1. Ostrya virginiana	10		FACU	OBL species <u>27</u> x 1 = <u>27</u>
			FACW	FACW species $55 \times 2 = 110$
				FAC species55 x 3 =165
3	_			FACU species30 x 4 =120
4				UPL species $0 \times 5 = 0$
5				Column Totals: 167 (A) 422 (B)
6				$\frac{107}{(A)}$ (A) $\frac{422}{(B)}$
7	0			Prevalence Index = $B/A = 2.527$
Herb Stratum (Plot size: <u>5' radius</u>)	15	= Total Cove		Hydrophytic Vegetation Indicators:
Herb Stratum_ (Flot size)				Rapid Test for Hydrophytic Vegetation
1. Carex crinita	25	\checkmark	OBL	✓ Dominance Test is > 50%
2. Carex grayi	15	\checkmark	FACW	✓ Prevalence Index is $\leq 3.0^{1}$
3. Impatiens capensis	12	\checkmark	FACW	
4. Solidago gigantea	10		FACW	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. Cinna arundinacea	•		FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Conceles esseibilie			FACW	
7 Taulaa daa daa daa a			FAC	¹ Indicators of hydric soil and wetland hydrology must
0. 1			OBL	be present, unless disturbed or problematic.
•				Definitions of Vegetation Strata:
9				bennitions of vegetation strata.
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
	82	= Total Cove		greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size: 30' radius)		_		
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cove		
				Hydrophytic
				Vegetation
				Present? Yes Volume No
Remarks: (Include photo numbers here or on a separate she	eet.)			
See Appendix D of the Wetland Delineation and Stream Ass	essment R	eport for repr	esentative	photographs of the habitat and soil profile.
				·

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth			ule depui	neeueu to u					absence of indicators.)		
(inches)	Color (Matrix (moist)	%	Color (dox Featu %	Type ¹ Loc ²		Texture	Remarks	
0-6	10YR	3/2	100						Silty Loam		
				10)/D							
6-18	10YR	5/1	70	10YR	4/6	30	C	<u>M</u>	Silty Clay Loam	·	
					-					·	
¹ Type: C=Con	centration. D	=Depletic	on. RM=Rec	luced Matrix, (CS=Covere	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=Ma	atrix	
Hydric Soil	Indicators:								Indicators for Proble	ematic Hydric Soils : ³	
Histosol ((A1)					w Surface ((S8) (LRR F	4		(LRR K, L, MLRA 149B)	
Histic Epi	pedon (A2)			_	MLRA 149B)				_	x (A16) (LRR K, L, R)	
Black Hist	tic (A3)			_	Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) LRR K, L)					or Peat (S3) (LRR K, L, R)	
	n Sulfide (A4))							Dark Surface (S7)		
	Layers (A5)			_	Loamy Gleyed Matrix (F2)					urface (S8) (LRR K, L)	
Depleted	Below Dark	Surface (A	.11)		eted Matri				Thin Dark Surface		
Thick Dar	k Surface (A	12)				rface (F6)				lasses (F12) (LRR K, L, R)	
Sandy Mu	uck Mineral (S	51)				Surface (F	/)			in Soils (F19) (MLRA 149B)	
Sandy Gle	eyed Matrix (S4)			x Depress	SIONS (F8)) (MLRA 144A, 145, 149B)	
Sandy Re	• •								Red Parent Material (F21)		
	Matrix (S6)								Very Shallow Dark Surface (TF12)		
Dark Surf	face (S7) (LR	R R, MLRA	A 149B)						Other (Explain in Remarks)		
³ Indicators o	f hydrophytic	c vegetatio	on and wetla	and hydrology	must be p	present, un	less disturt	ed or proble	ematic.		
Restrictive L											
Type:		, ci v cu ji									
Depth (inc	hes).								Hydric Soil Present?	Yes 💿 No 🔿	
Remarks:											
Due to the pi	resence of I	hydrolog	y, vegetat	ion, and hyd	ric soils,	the wetla	ind area lo	ocated the	area was identified as a	forested wetland.	

Project/Site: Magellan Interconnect Project	City/County	: Trumbull	Sampling	g Date: 10-Jun-20			
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland	d MCI-13c			
Investigator(s): B.Miller	Section,	Township, Range: S.	T. 3N	R. 4W			
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, non	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °			
Subregion (LRR or MLRA): LRR R Lat.	41.154764	Long.:	-80.839833	Datum: NAD 83			
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent sl	opes		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 Yes Yes No Yes No Yes No Yes Yes No Yes Yes No Yes No Yes Yes No Yes Yes Yes Yes No Yes Yes Yes No Yes Yes Yes Yes Yes Yes Yes Yes Yes No Yes							
Wetland Hydrology Present? Yes $ullet$ No $igodoldsymbol{ imes}$							
Remarks: (Explain alternative procedures here or in a separate report.) A PSS portion of the PEM/PSS/PFO wetland complex, Wetland MCI-13c, located to the west of the existing electric right-of-way and surrounded by upland mixed deciduous forest. The PSS portion of the wetland was identified by a concave area that displayed surface water with the dominance of Lindera benzoin, Acer rubrum, Persicaria maculosa, and Carex vulpinoidea. The PSS portion of the wetland continues to the west and eventually connects to Wetland MCI-12. The field verification number for this sample point is W-BJM-2020-06-10-003(PSS).							

Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
✓ Surface Water (A1) ✓ Water-Stained Leaves (B9)	Drainage Patterns (B10)
✓ High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Dry Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizospheres along Living Roc	ots (C3) Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	6) Geomorphic Position (D2)
Iron Deposits (B5)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-neutral Test (D5)
Field Observations:	
Surface Water Present? Yes $oldsymbol{\Theta}$ No $oldsymbol{O}$ Depth (inches): <u>1</u>	
Water Table Present? Yes No Depth (inches): 6	Wetland Hydrology Present? Yes 🖲 No 🔿
Saturation Present? Yes No Depth (inches):0	Wetland Hydrology Present? Yes $ullet$ No $igcup$
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspec	tions), if available:
N/A	
Remarks:	
Source of hydrology was identified as stormwater runoff collecting along the toe-slope outside of the sample plot area. Portions of the wetland that displayed lower concave depth. Based on historic aerial imagery, areas of saturation were visible within the exist shrub portion of the wetlands.	position had the presence of surface water at 1-2 inches in

			Sar	mpling Point: Wetland MCI-13c
Tree Stratum (Plot size: 30' radius)	Absolute % Cover		Indicator Status	Dominance Test worksheet: Number of Dominant Species
1. Acer rubrum	10	\checkmark	FAC	That are OBL, FACW, or FAC:5(A)
2. Quercus rubra	5	\checkmark	FACU	
3. Populus tremuloides	5	\checkmark	FACU	Total Number of Dominant Species Across All Strata: 7 (B)
4	0			
5	0			Percent of dominant Species
6				That Are OBL, FACW, or FAC:
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	20 =	= Total Cover		Total % Cover of: Multiply by:
1. Lindera benzoin	20		FACW	OBL species 40 x 1 = 40
2. Acer rubrum			FAC	FACW species $30 \times 2 = 60$
3				FAC species X 3 =35
4				FACU species $10 \times 4 = 40$
т 5				UPL species $0 \times 5 = 0$
				Column Totals: <u>125</u> (A) <u>275</u> (B)
6 7	0			Prevalence Index = $B/A = 2.200$
Herb Stratum (Plot size: 5' radius)		= Total Cover		Hydrophytic Vegetation Indicators:
1. Persicaria maculosa	30		FAC	Rapid Test for Hydrophytic Vegetation
2. Carex vulpinoidea	25		OBL	✓ Dominance Test is > 50%
3. Cinna arundinacea	10		FACW	✓ Prevalence Index is ≤3.0 1
4. Carex crinita	10		OBL	Morphological Adaptations ¹ (Provide supporting
5. Alisma subcordatum			OBL	data in Remarks or on a separate sheet)
6				Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8	0			Definitions of Vegetation Strata:
9	0			
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11	0			at breast height (DBH), regardless of height.
12		_ Tatal Cause		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)	80 =	= Total Cover		greater than 3.28 ft (1m) tall
1				Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3				Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
		= Total Cover		
				Hydrophytic Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate she See Appendix D of the Wetland Delineation and Stream Asso	-	port for repre	esentative	photographs of the habitat and soil profile.

	Depth Matrix Redox Features							_	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-4	10YR	4/1	100						Silty Loam
4-18	10YR	5/1	60	10YR	4/1	25	D	М	Silty Clay Loam
				10YR	5/6	10	С	М	
	-			10YR	6/1	5	D	М	
		-					-		
		-					-		
					-				
		.							ation: PL=Pore Lining. M=Matrix
Black Hist Hydroger Stratified Depleted Thick Dar Sandy Mu Sandy Gle Sandy Re Stripped Dark Surf	pedon (A2) tic (A3) n Sulfide (A4) Layers (A5) Below Dark S rk Surface (A3 uck Mineral (S eyed Matrix (S edox (S5) Matrix (S6) face (S7) (LRI	Gurface (A 12) 51) 54) R R, MLRA	4 149B)	MLŔ Thin Loan Depl Redc Depl	A 149B) Dark Surf ny Mucky ny Gleyed eted Matri ox Dark Su eted Dark x Deprese	urface (F6) Surface (F sions (F8)	, RR R, MLR) LRR K, L) 7)	RA 149B)	 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Indicators o			n and wella	ina nyarology	must be	present, un			
	ayer (it obs	ervea):							
Restrictive L Type:									Hydric Soil Present? Yes $ullet$ No $igodot$
Туре:	hes):								
	:hes):								

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	Date: 10-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland M	ICI-13 UPL
Investigator(s): B.Miller	Section, T	ownship, Range: S.	t. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, none)	none	Slope: <u>1.0</u> % / <u>0.6</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.15470797	Long.: -	80.83979857	Datum: NAD 83
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slo	pes		NWI classification:	I/A
	problematic?	Are "Normal Circo (If needed, expla	o, explain in Remarks.) Imstances" present? in any answers in Rema ransects, import	Yes • No O arks.)
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		e Sampled Area n a Wetland? Ye	is 🔿 No 🖲	
Remarks: (Explain alternative procedures here or in a separate report A upland reference point located within a mixed deciduous forest a identified as W-BJM-2020-06-10-003 UPL.		and MCI-013a/b/c. Th	e field identification id	for the sample point was

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Drainage Patterns (B10)	
High Water Table (A2)	Water-Stained Leaves (B9)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	× 0 × 0
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	ydrology Present? Yes \bigcirc No $ullet$
	pring well, aerial photos, previous inspections), if a	vailable:
N/A		
Remarks:		
No primary and/or secondary wetland hydrolog	y indicators were observed.	
	,	

Sampling Point:	Wetland MCI-13 UPL
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				· · ·
Tree Stratum (Plot size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Carya glabra	40	\checkmark	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)
2. Quercus rubra	25		FACU	
3				Total Number of Dominant
4				Species Across All Strata:(B)
				Percent of dominant Species
5				That Are OBL, FACW, or FAC: <u>42.9%</u> (A/B)
6				.
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	65:	= Total Cove		Total % Cover of: Multiply by:
1. Lindera benzoin	10	\checkmark	FACW	OBL species $0 \times 1 = 0$
	10	\checkmark	FACU	FACW species $10 \times 2 = 20$
		\checkmark	FAC	FAC species $15 \times 3 = 45$
				FACU species $90 \times 4 = 360$
4				UPL species $0 \times 5 = 0$
5				Column Totals: <u>115</u> (A) <u>425</u> (B)
6				
7	0			Prevalence Index = $B/A = 3.696$
Herb Stratum (Plot size: 5' radius)	25	= Total Cove		Hydrophytic Vegetation Indicators:
				Rapid Test for Hydrophytic Vegetation
1. Podophyllum peltatum			FACU	Dominance Test is > 50%
2. Smilax rotundifolia			FAC	Prevalence Index is ≤3.0 ¹
3	0			Morphological Adaptations ¹ (Provide supporting
4	0			data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7	0			¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				
12.	-	= Total Cove		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)				greater than 3.28 ft (1m) tall
1.	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Weadwrine All weadwrines greater than 2.39 ft in
3	0			Woody vine - All woody vines greater than 3.28 ft in height.
4	0 :	= Total Cove		
				Hydrophytic
				Vegetation
				Present? Yes O No 🔍
Remarks: (Include photo numbers here or on a separate she	et.)			
The sample plot lacked the dominance of hydrophytic veget	ation.			
··· · · · · · · · · · · · · · · · · ·				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Profile Descr	iption: (De	scribe to	the depth	needed to document	the indica	ator or co	nfirm the a	absence of indicators.)			
Depth		Matrix			ox Featu			-			
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks		
0-4	10YR	3/4	100					Silty Loam			
4-18	10YR	5/4	100					Silty Loam			
	-	-	-		-	-		-			
		-			-						
		-		·	-						
					-						
¹ Type: C=Con	centration. D	=Depletic	on. RM=Red	luced Matrix, CS=Covere	d or Coated	d Sand Gra	ins ² Loca	ation: PL=Pore Lining. M=	Matrix		
Hydric Soil I	indicators:							Indicators for Prob	plematic Hydric Soils : ³		
Histosol (A	A1)			Polyvalue Below	Surface (S	58) (LRR R,	,				
🗌 Histic Epip	pedon (A2)			,	MLRA 149B)			 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 			
Black Hist	tic (A3)			Thin Dark Surfa			A 149B)	\Box 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
	Sulfide (A4)			Loamy Mucky M		LRR K, L)		Dark Surface (S7) (LRR K, L, M)			
	Layers (A5)			Loamy Gleyed Matrix (F2)				Polyvalue Below Surface (S8) (LRR K, L)			
	Below Dark S		.11)	Redox Dark Sur				Thin Dark Surface (S9) (LRR K, L)			
	k Surface (A			Depleted Dark S		Masses (F12) (LRR K, L, R)					
	ick Mineral (S	'		Redox Depressi)		Piedmont Floodp	olain Soils (F19) (MLRA 149B)		
	eyed Matrix (S4)			0113 (10)			Mesic Spodic (TA	A6) (MLRA 144A, 145, 149B)		
Sandy Red								Red Parent Material (F21)			
	Matrix (S6)		1400)					Very Shallow Dark Surface (TF12)			
	ace (S7) (LRI							Other (Explain in	n Remarks)		
³ Indicators of	f hydrophytic	vegetatio	on and wetla	and hydrology must be p	resent, unle	ess disturbe	ed or proble	ematic.			
Restrictive La	ayer (if obs	erved):									
Туре:											
Depth (incl	hes):							Hydric Soil Present?	Yes 🔾 No 🖲		
Remarks:											
	ck of hydro	loav by	dronhytic y	vegetation and hydrig	coile the	forested	area loca	ted adjacent to MCI-1	3 was identified as an upland area.		
		logy, ny		regetation, and nyant	. 5015, 110						

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	Date: 28-Sep-20					
Applicant/Owner: FirstEnergy	State: Ohio	Sampling Point	: Wetland M	CI-13 UPL2					
Investigator(s): Brian Miller and Renne Massa	Section, To	wnship, Range: S.	T. 3N	R. 4W					
Landform (hillslope, terrace, etc.): Flat	Local relief (co	oncave, convex, non	e): convex	Slope: <u>2.0</u> % / <u>1.1</u> °					
Subregion (LRR or MLRA): LRR R Lat.:	41.158519927	Long.:	-80.838354373	Datum: NAD83					
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes	Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes NWI classification: NA								
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 ● Hydric Soil Present? Yes ○ No ● Wetland Hydrology Present? Yes ○ No ●		Sampled Area	Yes \bigcirc No $oldsymbol{eta}$						
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate report.) Upland representative to PEM portion of wetland complex located within an existing cleared right of way. The field identification id for the sample point was identified as W-09-28-2020-BJM-Wetland MCI-13 UPL2.									

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)	
Surface Water (A1)	Drainage Patterns (B10)	
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-neutral Test (D5)	
Field Observations:		
Surface Water Present? Yes O No •	Depth (inches): 0	
Water Table Present? Yes O No •	Depth (inches):0	drology Present? Yes 🔿 No 🖲
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):0	drology Present? Yes \cup No $ullet$
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous inspections), if ava	ailable:
Remarks:		
No sources of hydrology were observed.		
LIC Arms Course of Engineers		North control and North cost Dagion Version 2.0

Sampling Point:	Wetland MCI-13 UPL2
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		Dominant		
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC:(A)
2	0			Total Number of Dominant
3	0			
				Species Across All Strata:6_ (B)
4	0			
5	0			Percent of dominant Species
				That Are OBL, FACW, or FAC:
6				
7	0			Prevalence Index worksheet:
	0 =	= Total Cove	_	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)			Г	
		_		OBL species $0 \times 1 = 0$
1	0			FACW species x 2 =
2	0			
				FAC species35 x 3 =105
3				FACU species $50 \times 4 = 200$
4	0			· ·
5			-	UPL species $\frac{15}{x 5} = \frac{75}{x 5}$
	-			Column Totals: 100 (A) 380 (B)
6	0			$\begin{array}{c} \text{Column locals:} \underline{100} \text{(A)} \underline{500} \text{(b)} \\ \end{array}$
7	0			Prevalence Index = $B/A = 3.800$
1				$\frac{1}{2} = \frac{1}{2} = \frac{1}$
Herb Stratum (Plot size: 5ft radius)	0 =	= Total Cove	r	Hydrophytic Vegetation Indicators:
_Herb Stratum (Plot size: 5ft radius)				
1 Dactylis glomerata	20	\checkmark	FACU	Rapid Test for Hydrophytic Vegetation
				Dominance Test is > 50%
2. Dichanthelium acuminatum	15	\checkmark	FAC	
3. Festuca arundinacea	15	\checkmark	FACU	\square Prevalence Index is \leq 3.0 ¹
				Morphological Adaptations ¹ (Provide supporting
4. Rosa multiflora	10		FACU	data in Remarks or on a separate sheet)
5. Euthamia graminifolia	10	\checkmark	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
·		\checkmark		
6. <i>Solidago juncea</i>	10	• •	UPL	
7. Juncus tenuis	5		FAC	¹ Indicators of hydric soil and wetland hydrology must
	5		FAC	be present, unless disturbed or problematic.
8. Symphyotrichum lateriflorum var. lateriflorum	5		FAC	
9. Potentilla simplex	5		FACU	Definitions of Vegetation Strata:
10 Daugus carota	E		UPL	
			UPL	Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12				
IZ				Sapling/shrub - Woody plants less than 3 in. DBH and
	100 =	= Total Cove	r	greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				5
1.	0			Herb - All herbaceous (non-woody) plants, regardless of
				size, and woody plants less than 3.28 ft tall.
2	0			size, and woody plants less than 5.20 it tail.
3	0			
J				Woody vine - All woody vines greater than 3.28 ft in
4				height.
	0 =	= Total Cove	r	
				Hydrophytic
				Vegetation Present? Yes O No O
				Present? Yes 💛 No 🔍
Remarks: (Include photo numbers here or on a separate she	et.)			

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Color (moist) 0-3 10YR 3/3 3-6 10YR 4/3 6-18 10YR 5/4	% Color (moist) 100	%Type_1	Loc ²	Texture Silt Loam	Remarks	
3-6 10YR 4/3	100			Silt Loam		
	······					
6-18 10YR 5/4	100					
, ,						
				· · ·		
Type: C=Concentration. D=Depletion	. RM=Reduced Matrix, CS=Cover	ed or Coated Sand Grain	s ² Locatio	n: PL=Pore Lining, M=Ma	trix	
Hydric Soil Indicators:					2	
Histosol (A1)	Polyvalue Belo	w Surface (S8) (LRR R,		Indicators for Proble	matic right Sons i	
Histic Epipedon (A2)	MLRA 149B)				_RR K, L, MLRA 149B)	
Black Histic (A3)	Thin Dark Surf	ace (S9) (LRR R, MLRA	149B)		(A16) (LRR K, L, R)	
Under Higher (A4)	Loamy Mucky	Mineral (F1) LRR K, L)			r Peat (S3) (LRR K, L, R)	
Stratified Layers (A5)	Loamy Gleyed	Matrix (F2)		Dark Surface (S7) (
Depleted Below Dark Surface (A:	1) Depleted Matri	ix (F3)		Polyvalue Below Surface (S8) (LRR K, L)		
Thick Dark Surface (A12)	Redox Dark Su	urface (F6)		Thin Dark Surface (
Sandy Muck Mineral (S1)	Depleted Dark	Surface (F7)		Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy Gleyed Matrix (S4)	Redox Depress	sions (F8)			n Soils (F19) (MLRA 149B)	
Sandy Redox (S5)					(MLRA 144A, 145, 149B)	
Stripped Matrix (S6)				Red Parent Material		
Dark Surface (S7) (LRR R, MLRA	149B)			Very Shallow Dark S		
				Other (Explain in Re	emarks)	
³ Indicators of hydrophytic vegetation	and wetland hydrology must be	present, unless disturbed	d or problem	atic.		
estrictive Layer (if observed):						
Туре:					\cap	
Depth (inches):				Hydric Soil Present?	Yes 🔾 No 🖲	
Remarks:						
ue to the lack of hydrology, don	inance of hydrophytic vegeta	tion and hydric soils	the area v	vas not identified as me	eeting the definition of	

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplin	g Date: 10-Jun-20				
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetlan	nd MCI-14				
Investigator(s): B.Miller	Section, To	wnship, Range: S.	T. 3N	R. 4W				
Landform (hillslope, terrace, etc.): Valley bottom	Local relief (co	ncave, convex, none)	concave	Slope: <u>2.0</u> % / <u>1.1</u> °				
Subregion (LRR or MLRA): LRR R Lat.:	41.158809	Long.: -{	30.837813	Datum: NAD 83				
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slo	pes		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?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		Sampled Area a Wetland? Ye	s 🖲 No 🔾					
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate report.) A PEM wetland, Wetland MCI-14, identified at along intermittent stream that has becomed degraded/subsurface flow near the eastern side of the existing electric overhead right-of-way. The boundary of the PEM wetland was identified within the concave/valley that was dominanted by Phalaris arundinacea. The field verification number for this sample point is W-BJM-2020-06-10-004(PEM).								

Wetland Hydrology Indicators:			Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum o	of one required; of	Surface Soil Cracks (B6)	
Surface Water (A1)		✓ Drainage Patterns (B10)	
High Water Table (A2)		Water-Stained Leaves (B9) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)		Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)		Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Ima	agery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Su	urface (B8)	✓ FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes	s 🔾 No 🖲	Depth (inches):	
Water Table Present? Yes	s 🔾 No 🖲	Depth (inches): <u>16</u>	
Saturation Present? (includes capillary fringe) Yes	s • No O	Depth (inches): <u>6</u>	l Hydrology Present? Yes 💿 No 🔾
Describe Recorded Data (stream	n gauge, monitor	ing well, aerial photos, previous inspections), if	f available:
N/A			
Remarks:			
Source of hydrology was identifi	ied as groundwa	ter seen and stream	
source of Hydrology was identifi	ica as grounawa		

			Sai	mpling Point:	Wetland MCI-14	
	Absolute	Dominant	Indicator	Dominance	Test worksheet:	
Tree Stratum (Plot size: 30' radius)	% Cover		Status	Number of D	aminant Chasics	
1	0				ominant Species , FACW, or FAC: 2	(A)
						0.9
2				Total Number	r of Dominant	
3				Species Acros	ss All Strata:2	(B)
4	0					
5	0				dominant Species	(A/B)
6				That Are OF	3L, FACW, or FAC: <u>100.0%</u>	(Ay D)
7				Provalence T	index worksheet:	
1						
Sapling/Shrub Stratum (Plot size: 15' radius)		= Total Cover			% Cover of: Multiply by:	-
	10		FAC	OBL species	s <u>0</u> \times 1 = <u>0</u>	
			TAC	FACW specie	es <u>100</u> x 2 = <u>200</u>	
2	0			FAC species	s <u>10</u> x 3 = <u>30</u>	
3. <u></u>	0					
4	0			FACU specie		
5				UPL species	s x 5 =	
				Column Tota	als: <u>110</u> (A) <u>230</u>	(B)
6					·	
7	0			Prevale	nce Index = $B/A = 2.091$	
Herb Stratum (Plot size: <u>5' radius</u>)	10	= Total Cover		Hydrophytic	Vegetation Indicators:	
Herb Stratum (Filet Size: 0 Takido)					Test for Hydrophytic Vegetation	
1. Phalaris arundinacea	100	\checkmark	FACW		ance Test is > 50%	
2	0					
3				Prevale	ence Index is \leq 3.0 1	
					ological Adaptations ¹ (Provide suppo	orting
4				data in	Remarks or on a separate sheet)	
5	0			Probler	matic Hydrophytic Vegetation 1 (Expl	ain)
6	0					
7	0				s of hydric soil and wetland hydrology	y must
8				be present,	unless disturbed or problematic.	
				Definitions	s of Vegetation Strata:	
9					-	
10					ly plants, 3 in. (7.6 cm) or more in di	ameter
11	0			at breast hei	ight (DBH), regardless of height.	
12	0			Conling/ohm	h Maadu planta laga than 2 in DB	Land
		= Total Cover			Ib - Woody plants less than 3 in. DBI 3.28 ft (1m) tall	h anu
Woody Vine Stratum (Plot size: 30' radius)						
1	0			Herb - All he	erbaceous (non-woody) plants, regard	dless of
0	0				oody plants less than 3.28 ft tall.	
2	0					
3				, ,	- All woody vines greater than 3.28 f	t in
4	0			height.		
		= Total Cover				
	-					
				Hydrophytic	c .	
				Vegetation		
				Present?	Yes 🔍 No 🔾	
Domaska (Includo akoto numbero bero er er e ereste d	• • • •			•		
Remarks: (Include photo numbers here or on a separate she	-					
See Appendix D of the Wetland Delineation and Stream As	sessment R	eport for repr	resentative	e photographs	or the habitat and soil profile.	

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	iption: (Des	scribe to	the depth	needed to de	ocument	t the indic	ator or co	onfirm the a	absence of indicators.)		
Depth (inches)					Tautuna	Demesia					
			<u>%</u>	Color (n	noist)	%	Type ¹	Loc ²	Texture	Remarks	
0-6	10YR	4/1	100						Silty Loam		
6-18	10YR	5/2	70	10YR	4/6	30	C	М	Silty Clay Loam		
-											
u		p									
				a							
¹ Type: C=Con	centration. D	=Depletic	n. RM=Red	uced Matrix, C	S=Cover	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=Ma	trix	
Hydric Soil I											
					alua Bala	w Surface ((1 P P P	,	Indicators for Problem		
	pedon (A2)			Polyvalue Below Surface (S8) (LRR R, MLRA 149B)				4	 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) 		
Black Hist				Thin Dark Surface (S9) (LRR R, MLRA 149B)			A 149B)				
_	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)							
	Layers (A5)			Loam [•]	y Gleyed	Matrix (F2))		Dark Surface (S7) (LRR K, L, M)		
	Below Dark S	Surface (A	11)	✓ Depleted Matrix (F3)					 Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) 		
	k Surface (Al			Redox Dark Surface (F6)							
	ick Mineral (S	,		Depleted Dark Surface (F7)					Iron-Manganese Masses (F12) (LRR K, L, R)		
	eyed Matrix (S			Redox Depressions (F8)					Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Ge		54)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Matrix (S6)								Red Parent Material (F21)		
	ace (S7) (LRI		140R)						Very Shallow Dark S		
			,						Other (Explain in Re	emarks)	
³ Indicators of	f hydrophytic	vegetatio	on and wetla	nd hydrology i	must be	present, un	less disturb	ed or proble	ematic.		
Restrictive La	ayer (if obs	erved):									
Туре:											
Depth (incl	hes):								Hydric Soil Present?	Yes 🖲 No 🔾	
Remarks:											
	oconco of k	wdrolog	v voqotati	on and hude		the area	located w	ithin the c	tream valley (headwaters)	was identified as a DEM	
wetland.	esence of i	iyurolog	y, vegetati	on, and nyui	10 50115,						

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplin	ng Date: 10-Jun-20			
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland	MCI-14 UPL			
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N	R. 4W			
Landform (hillslope, terrace, etc.): Hillside	Local relief (co	oncave, convex, non	e): convex	Slope: <u>2.0</u> % / <u>1.1</u> °			
Subregion (LRR or MLRA): LRR R Lat.:	41.15884311	Long.:	-80.8376549	Datum: NAD 83			
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slo	pes		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 ● Hydric Soil Present? Yes No ● Wetland Hydrology Present? Yes No ●		Sampled Area	(es \bigcirc No $oldsymbol{igodol}$				
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate report.) A upland reference point located on a hillside above Wetland MCI-14 in an area dominated by Frangula alnus within an existing electric overhead right-of-way. The field identification id for the sample point was identified as W-BJM-2020-06-10-004 UPL.							

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)	
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No 💿	Depth (inches):	drology Present? Yes 🔿 No 🖲
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	drology Present? Yes 🔾 No 🖲
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous inspections), if available	ailable:
N/A		
Remarks:		
No primary and/or secondary wetland hydroloc	iv indicators were observed.	
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Sampling Point:	Wetland MCI-14 UPL
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	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Deminant Creation
1	0			Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
1				That are OBL, FACW, or FAC:(A)
2	0			
				Total Number of Dominant
3				Species Across All Strata: (B)
4	0			
5				Percent of dominant Species
				That Are OBL, FACW, or FAC:
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	0	= Total Cove	r	Total % Cover of: Multiply by:
Saping/Sillub Scratulii (Hetelet)				OBL species $0 \times 1 = 0$
1. Frangula alnus	80	\checkmark	FAC	
				FACW species $5 \times 2 = 10$
2				FAC species
3	0			
4	-			FACU species $80 \times 4 = 320$
-				UPL species $0 \times 5 = 0$
5	0			
6.	_			Column Totals: <u>165</u> (A) <u>570</u> (B)
7	0			Prevalence Index = $B/A = 3.455$
	80	= Total Cove	r	
Herb Stratum (Plot size: 5' radius)				Hydrophytic Vegetation Indicators:
				Rapid Test for Hydrophytic Vegetation
1. Anthoxanthum odoratum	45	\checkmark	FACU	
		\checkmark	FACU	Dominance Test is > 50%
				Prevalence Index is ≤3.0 ¹
3. Fragaria virginiana	5		FACU	
4 Onoclea sensibilis	5		FACW	Morphological Adaptations ¹ (Provide supporting
••				data in Remarks or on a separate sheet)
5. Erigeron annuus	5		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
				1 Indicators of hydric call and watland hydrology much
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8				be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
9	0			Deminions of Vegetation Strata.
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12				
16.	-			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)	85	= Total Cove	r	greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size: 30' radius)				
1.	0			Herb - All herbaceous (non-woody) plants, regardless of
				size, and woody plants less than 3.28 ft tall.
2	0			
3	0			Woody vine - All woody vines greater than 3.28 ft in
	0			
4				height.
	0	= Total Cove	r	
				Hydrophytic
				Vegetation
				Present? Yes \bigcirc No \bigcirc
Remarks: (Include photo numbers here or on a separate sh	eet.)			
A dominance of hydrophytic vegetation was not observed.				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Color (moist) % Color (moist) % Type Loc2 Texture Remarks 0-8 10YR 4/3 100 Silty Loam Silty Loam Silty Loam 8-19 10YR 5/4 100 Silty Clay Loam Silty Clay Loam 8-19 10YR 5/4 100 Silty Clay Loam Silty Clay Loam 8-19 10YR 5/4 100 Silty Clay Loam Silty Clay Loam 8-19 10YR 5/4 100 Silty Clay Loam Silty Clay Loam 9 - - - - - - - 9 -	Color (moist) % Color (moist) % Type Loc2 Texture Remarks 0-8 10YR 4/3 100 Silty Loam Silty Loam Silty Loam 8-19 10YR 5/4 100 Silty Clay Loam Silty Clay Loam 8-19 10YR 5/4 100 Silty Clay Loam Silty Clay Loam 8-19 10YR 5/4 100 Silty Clay Loam Silty Clay Loam 8-19 10YR 5/4 100 Silty Clay Loam Silty Clay Loam 8-19 10YR 5/4 100 Silty Clay Loam Silty Clay Loam 8-10	Depth		Matrix		Re	dox Featu	ires			
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Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators:	Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining. M=Matrix type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining. M=Matrix type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining. M=Matrix type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining. M=Matrix type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining. M=Matrix type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining. M=Matrix type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining. M=Matrix Histos (A1) Polyvalue Below Surface (S9) (LRR R, L, MLRA 149B) Depleted Matrix (F3) Black Histic (A3) Damy Gleyed Matrix (F2) Dark Surface (S9) (LRR K, L, M) Depleted Bark Surface (F5) Depleted Matrix (F3) Depleted Matrix (F3) Sandy Muck Mineral (S1) Depleted Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 1448, 145, 149B) Sitriped Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 1448, 145, 149B) Depleted Matrix (S4) Depleted Matrix (S4)	0-8	10YR	4/3	100					Silty Loam	
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Depicted below bark Surface (ATT) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks) Type:	Depicted below bark sufface (A12) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No • emarks: Yes No •	_								Polyvalue Below Surfa	ace (S8) (LRR K, L)
Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Very Shallow Dark Surface (TF12) Type:	Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Mesic Spodic (TA6) (MLRA 144B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No •	_			11)					Thin Dark Surface (S9	9) (LRR K, L)
Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Mesic Spodic (TA6) (MLRA 144B) Stripped Matrix (S6) Red Parent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if observed): Type: Type: Hydric Soil Present? Yes No (•)	Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Mesic Spodic (TA6) (MLRA 144B) Stripped Matrix (S6) Red Parent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. emarks: Hydric Soil Present? Yes	Thick Dar	k Surface (A1	L2)						Iron-Manganese Mass	ses (F12) (IRR K R)
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Preclificit: Produptant Solis (F19) (MLRA 144B) Sandy Redox (S5) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Red Parent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks) Estrictive Layer (if observed): Type:	Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Red Parent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Estrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Sandy Mu	uck Mineral (S	51)		Depleted Dark	Surface (F	7)			
Sandy Redox (S5) Mesic Spoul (TAG) (MLKA 1443, 1435, 1495) Stripped Matrix (S6) Red Parent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks) estrictive Layer (if observed): Type:	Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if observed): Type: Depth (inches): Type: Hydric Soil Present? Yes No •	- ·	•	,		Redox Depress	ions (F8)				
Stripped Matrix (S6) Incertain (F21) Dark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks) Estrictive Layer (if observed): Type: Hydric Soil Present? Yes No Depth (inches): No	Stripped Matrix (S6) Interface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if observed): Type: Depth (inches): Multic Soil Present? Yes No	_		51)						Mesic Spodic (TA6) (N	MLRA 144A, 145, 149B)
Dark Surface (S7) (LRR R, MLRA 149B) Image: Construction of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Image: Construction of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if observed): Type:	Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if observed): Type: Depth (inches): Mark Surface (S7) (LRR R, MLRA 149B) Image: Mark Surface (S7) (LRR R, MLRA 149B) Image: Mark Surface (S7) (LRR R, MLRA 149B) Image: Mark Surface (S7) (Integration of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes O No Image: No I									Red Parent Material (F21)
Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if observed): Type:	Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if observed): Type: Depth (inches): emarks:	Stripped	Matrix (S6)							Very Shallow Dark Su	rface (TF12)
estrictive Layer (if observed): Type: Depth (inches): Type:	estrictive Layer (if observed): Type: Depth (inches): emarks:				-						narks)
Type:	Type: Hydric Soil Present? Yes O No O emarks:	Indicators o	f hydrophytic	vegetatio	n and wetla	nd hydrology must be p	present, un	less disturb	ed or proble	ematic.	
Depth (inches): Hydric Soil Present? Yes No	Depth (inches): Hydric Soil Present? Yes No temarks:		ayer (if obs	erved):							
	emarks:		hes):							Hydric Soil Present?	Yes 🔿 No 🖲
Amarke'		1 1									
	is to the leaf of hudueleasy buduenbutie vegetation, and buduic calls, the suce unclose of the Metland MCT 14 did not report the characteristics										
etland.											

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	g Date: 11-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetlan	d MCI-15
Investigator(s): B.Miller	Section, To	wnship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (co	ncave, convex, non	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.159596	Long.:	-80.83748	Datum: NAD 83
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slo	pes		NWI classification:	N/A
	y disturbed? problematic?	Are "Normal Cir (If needed, exp	no, explain in Remarks, cumstances" present? lain any answers in Rem transects, impor	Yes • No Onarks.)
Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No		Sampled Area	Yes $ullet$ No $igcap$	
Remarks: (Explain alternative procedures here or in a separate repo A PEM wetland, Wetland MCI-15, located within a concave area wit into upland mixed deciduous woods. The boundary of the PEM we and Glyceria striata. The field verification number for this sample	thin an existing tland was identi	fied by the dominan	ce of Carex scoparia, Ar	

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)								
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)								
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)								
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)								
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)								
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)								
Sediment Deposits (B2)	 Oxidized Rhizospheres along Living Roots (C3) 	Saturation Visible on Aerial Imagery (C9)								
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)								
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)								
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)								
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)								
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)								
Field Observations:										
Surface Water Present? Yes O No 💿	Depth (inches):									
Water Table Present? Yes O No 🖲	Depth (inches):	drology Present? Yes \bullet No \bigcirc								
Saturation Present? Yes No •	Depth (inches):	drology Present? Yes $ullet$ No $igloo$								
	ring well, aerial photos, previous inspections), if ava	ailable:								
N/A										
Demostra										
Remarks:										
Source of hydrology was identified as precipitat	ion and stormwater runoff from the abutting agricut	tural field.								

VEGETATION - Use scientific names of pla	nts		Sai	mpling Point: Wetland MCI-15
	Absolute	O	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3	0			Species Across All Strata: <u>3</u> (B)
4	0			
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	0	= Total Cove	r	Total % Cover of: Multiply by:
A Francula claus	10		FAC	OBL species $20 \times 1 = 20$
1. Frangula alnus			FAC	FACW species <u>58</u> x 2 = <u>116</u>
2	-			FAC species <u>10</u> x 3 = <u>30</u>
3				FACU species $30 \times 4 = 120$
4	-			UPL species $0 \times 5 = 0$
5				
6				Column Totals: <u>118</u> (A) <u>286</u> (B)
7				Prevalence Index = $B/A = 2.424$
Herb Stratum (Plot size: <u>5' radius</u>)	10	= Total Cove	r	Hydrophytic Vegetation Indicators:
	45		FACW	Rapid Test for Hydrophytic Vegetation
1. Carex scoparia		\checkmark		✓ Dominance Test is > 50%
2. Anthoxanthum odoratum	15		FACU OBL	\checkmark Prevalence Index is \leq 3.0 1
3. <i>Glyceria striata</i>	10			Morphological Adaptations ¹ (Provide supporting
4. Holcus lanatus			FACU	data in Remarks or on a separate sheet)
5. Solidago gigantea			FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
6. Juncus effusus			OBL	1 Indicators of budy's call and watland budyalary much
7. Phalaris arundinacea			FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				Demittons of Vegetation Strata.
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: <u>30' radius</u>)	108	= Total Cove	r	greater than 3.28 ft (1m) tall
	0			Herb - All herbaceous (non-woody) plants, regardless of
1	0			size, and woody plants less than 3.28 ft tall.
2	0			
3	0			Woody vine - All woody vines greater than 3.28 ft in
4				height.
	0	= Total Cove	r	
				Hydrophytic
				Vegetation
				Present? Yes • No
Remarks: (Include photo numbers here or on a separate she	•			
See Appendix D of the Wetland Delineation and Stream Ass	essment Re	eport for repr	esentative	photographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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	ription: (De		the depth	needed to d				nfirm the	absence of indicators.)	
Depth (inches)	Color (Matrix	%	Color (r	Redox Features Color (moist) % Type 1 Loc2				Texture	Remarks
0-6			90	10YR		10	C C	PL	Silty Loam	Remarks
		4/1			4/6				· · · · · · · · · · · · · · · · · · ·	
6-18	10YR	5/2	95	10YR	4/4	5	C	M	Silty Clay Loam	
				·						
				·						
¹ Type: C=Cor Hydric Soil		=Depletic	on. RM=Red	uced Matrix, C	S=Covere	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=M	
Histosol (Histic Epi Black His Hydroger Stratified Depleted Sandy Mu Sandy Gl Sandy Re Stripped Dark Surf	Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Muck Mineral (S1) Redox Depressions (F8) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3 ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or processions					RA 149B)	Indicators for Problematic Hydric Soils : 3 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)			
Restrictive L Type: Depth (inc Remarks:	ayer (if obs.								Hydric Soil Present?	Yes 🔍 No 🔾
Due to the p	resence of h	hydrolog	y, hydroph	ytic vegetati	ion, and	hydric so	ils, the ar	ea was ide	ntified as meeting the fe	ederal definition of a wetland.

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	g Date: 11-Jun-20				
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland I	MCI-15 UPL				
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N	R. 4W				
Landform (hillslope, terrace, etc.): Hillside	Local relief (co	oncave, convex, none):	convex	Slope: <u>2.0</u> % / <u>1.1</u> °				
Subregion (LRR or MLRA): LRR R Lat.:	41.15948565	Long.: -8	0.83727754	Datum: NAD 83				
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slo	pes		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 Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No ●		e Sampled Area n a Wetland? Yes	5 ^O No •					
Remarks: (Explain alternative procedures here or in a separate report A upland reference point located on a hillside downslope of Wetland hydrology, and had a presence of hydrophytic vegetation. The field	d MCI-15 and w			· · · ·				

	Secondary Indicators (minimum of 2 required)
check all that apply)	Surface Soil Cracks (B6)
Water-Stained Leaves (B9)	Drainage Patterns (B10)
Aquatic Fauna (B13)	Moss Trim Lines (B16)
Marl Deposits (B15)	Dry Season Water Table (C2)
Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Thin Muck Surface (C7)	Shallow Aquitard (D3)
Other (Explain in Remarks)	Microtopographic Relief (D4)
	✓ FAC-neutral Test (D5)
Depth (inches):	
Depth (inches):	drology Present? Yes 🔿 No 🖲
Depth (inches):	drology Present? Yes 🔾 No 🖲
pring well, aerial photos, previous inspections), if av	ailable:
v indicators were observed	
y maleators were observed.	
	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):

Sampling Point:	Wetland MCI-15 UPL
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Tree Stratum (Plot size: 30' radius)	Absolute % Cover		Indicator Status	Dominance Test worksheet:
	60		FAC	Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)
••				That are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:5_ (B)
4				Demonstraf dominant Consist
5				Percent of dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)
6				
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	60	= Total Cover		Total % Cover of: Multiply by:
1. Frangula alnus	15	\checkmark	FAC	OBL species $5 \times 1 = 5$
2. Fraxinus pennsylvanica		\checkmark	FACW	FACW species $15 \times 2 = 30$
3				FAC species X 3 =25
				FACU species $20 \times 4 = 80$
4				UPL species $0 \times 5 = 0$
5				Column Totals: <u>115</u> (A) <u>340</u> (B)
6				
7	0			Prevalence Index = $B/A = 2.957$
Herb Stratum (Plot size: 5' radius)	20	= Total Cover		Hydrophytic Vegetation Indicators:
	20			Rapid Test for Hydrophytic Vegetation
1. Parthenocissus quinquefolia	20		FACU	✓ Dominance Test is > 50%
2. Impatiens capensis			FACW	✓ Prevalence Index is ≤3.0 ¹
3. <i>Glyceria striata</i>			OBL	Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10		\Box		Tree Meedy plants 3 in (7.6 cm) or more in diameter
11				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12.				
-		= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size: 30' radius)				
1	0			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2	0			size, and woody plants less than 5.20 it tail.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate sho	eet.)			
A dominance of hydrophytic vegetation was observed.				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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Profile Descr	ription: (De	scribe to	the depth	needed to do	cumen	t the indi	cator or co	onfirm the	absence of indicators.)			
Depth			Redox Features									
(inches)		(moist)	<u>%</u>	Color (m	noist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks		
0-5	10YR	3/2	100						Silty Loam			
5-16	10YR	5/3	95	10YR	5/6	5	C	<u>M</u>	Silty Clay Loam			
	-	-	-			-	-	-				
	-	-							· · · · · · · · · · · · · · · · · · ·			
			-									
B	-											
1 Type: C=Con	centration [)=Denletic	n RM=Red	uced Matrix C	S=Cover	ed or Coat	ed Sand Gra	ains ² l oca	ation: PL=Pore Lining. M=Ma	trix		
Hydric Soil 1					00101							
Histosol (lua Bala	w Surface	(S8) (LRR F	,		matic Hydric Soils : ³		
	pedon (A2)			MLRA		w Surface		Y	_	.RR K, L, MLRA 149B)		
Black Hist				🗌 Thin D	ark Surf	face (S9) (LRR R, MLF	RA 149B)	_	(A16) (LRR K, L, R)		
	Sulfide (A4))		Loamy	Loamy Mucky Mineral (F1) LRR K, L)				_	r Peat (S3) (LRR K, L, R)		
	Layers (A5)			_		Matrix (F2)		Dark Surface (S7) (LRR K, L, M) rface (S8) (LRR K, L)		
Depleted	Below Dark	Surface (A	11)		ed Matr				Thin Dark Surface (
Thick Dar	k Surface (A	12)				urface (F6)			_			
🗌 Sandy Mu	uck Mineral (S1)				Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)			
Sandy Gle	eyed Matrix ((S4)		☐ Redox	Depres	sions (F8)			_	(MLRA 144A, 145, 149B)		
Sandy Re									Red Parent Materia			
	Matrix (S6)								Very Shallow Dark	Surface (TF12)		
Dark Surf	ace (S7) (LR	RR R, MLRA	A 149B)						Other (Explain in Re	emarks)		
³ Indicators o	f hydrophytic	c vegetatic	on and wetla	and hydrology n	nust be	present, ur	nless disturt	ed or probl	lematic.			
Restrictive L	ayer (if obs	served):										
Туре:												
Depth (inc	hes):								Hydric Soil Present?	Yes 🔾 No 🖲		
Remarks:												
	ck of hydro	logy and	l hydric so	ils the area u	inslone	of the W	etland MC	I-15 did n	ot meet the characteristic	s of a wetland		
	er of flyare	biogy and	i nyane so		psiope			1 15 00 11				

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampli	ng Date: 11	-Jun-20	
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetlar	nd MCI-16a	a	
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N		R. 4W	
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, none): concave	Slope:	<u>2.0</u> %/ <u>1.1</u> °	
Subregion (LRR or MLRA): LRR R Lat.:	41.165572	Long.:	-80.838007	Datu	m: NAD 83	
Soil Map Unit Name: Sc - Sebring silt loam, till substratum, 0 to 2 pe	ercent 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?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		e Sampled Area n a Wetland? Y	res $ullet$ No $igcap$			
Remarks: (Explain alternative procedures here or in a separate repo	ort.)					
A PEM portion of a PEM/PSS wetland, Wetland MCI-16a, located ald to the east. The boundary of the PEM wetland was identified by th Additionally, portions of the wetland complex had visible drainage t for this sample point is W-BJM-2020-06-11-007 (PEM).	e dominance of	Phalaris arundinacea	a in a concave area th	at displayed	l hydric soils.	

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)	
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)	
Surface Water (A1)	✓ Drainage Patterns (B10)		
High Water Table (A2)	Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13)		
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)	
Sediment Deposits (B2)	 Oxidized Rhizospheres along Living Roots (C3) 	Saturation Visible on Aerial Imagery (C9)	
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)			
Field Observations:			
Surface Water Present? Yes O No 💿	Depth (inches):		
Water Table Present? Yes O No 🖲	Depth (inches):	/drology Present? Yes 🖲 No 🔿	
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	∕drology Present? Yes ● No ∪	
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspections), if av	vailable:	
N/A			
Remarks:			
	ion and stormwater runoff from the abutting agricu	tural field. Based on NWI mapped wetlands, a	
portion of the wetland area may have been a st	ream channel that was previously filled.		

VEGETATION - Use scientific names of plat	mpling Point: Wetland MCI-16a			
Tree Stratum (Plot size: 30' radius)	Absolute	Dominant Species?	Indicator	Dominance Test worksheet:
	% Cover	species:	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3	0			Species Across All Strata:(B)
4				
5	0			Percent of dominant Species That Are OBL_EACW_or_EAC*100.0% (A/B)
6	0			That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7	0			Prevalence Index worksheet:
Sapling /Shrub Stratum (Plot size: 15' radius)	0 =	= Total Cover	r	Total % Cover of: Multiply by:
				OBL species _5_ x 1 = _5_
1				FACW species 95 x 2 = 190
2				FAC species $0 \times 3 = 0$
3				FACU species $0 \times 4 = 0$
4	-			$\frac{1}{\text{UPL species}} \qquad \frac{1}{2} \qquad x \neq 2 \qquad \frac{1}{2} \qquad 1$
5				
6	0			Column Totals: <u>100</u> (A) <u>195</u> (B)
7				Prevalence Index = $B/A = 1.950$
Herb Stratum (Plot size: <u>5' radius</u>)	=	= Total Cover	r	Hydrophytic Vegetation Indicators:
	85	\checkmark	FACW	Rapid Test for Hydrophytic Vegetation
			FACW	✓ Dominance Test is > 50%
			OBL	\checkmark Prevalence Index is \leq 3.0 1
				Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	-			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)	100 =	= Total Cover	r	greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cover	r	
				Hadarahad a
				Hydrophytic Vegetation
				Present? Yes No
Remarks: (Include photo numbers here or on a separate she	et.)			
See Appendix D of the Wetland Delineation and Stream Ass	essment Re	port for repr	esentative	photographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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Donth			the depth	neeueu to u				, in the	absence of indicators.)				
Depth (inches)	Color (r	Matrix moist)	%	Color (r		dox Featu %	res Type ¹	Loc ²	Texture	Remarks			
0-6	10YR	4/2	90	10YR	4/6	10	C	PL	Silty Loam	Kentarks			
									-				
6-18	10YR	5/2	90	7.5YR	4/6	10	C	<u>M</u>	Silty Clay Loam	·			
	· ·	-					-			•			
	· ·	-											
		-											
		-						<u>.</u>					
		-	-		-	-							
¹ Type: C=Conc	centration. D:	=Depletio	n. RM=Red	uced Matrix, C	S=Covere	ed or Coate	d Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=M	atrix			
Hydric Soil I	ndicators:								Indicators for Probl	ematic Hydric Soils : ³			
Histosol (A	A1)			Polyv	alue Belov	v Surface (S8) (LRR F	۶,					
Histic Epip	edon (A2)			_	A 149B)					(LRR K, L, MLRA 149B)			
Black Histi	ic (A3)			Thin I	Dark Surfa	ace (S9) (L	.RR R, MLF	RA 149B)		x (A16) (LRR K, L, R) or Peat (S3) (LRR K, L, R)			
Hydrogen	Sulfide (A4)					Mineral (F1)					
Stratified I	Layers (A5)					Matrix (F2)				Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L)			
Depleted I	Below Dark S	Surface (A	11)	🖌 Deple	eted Matrix	k (F3)							
Thick Dark	k Surface (A1	.2)		Redo:	x Dark Su	rface (F6)			Thin Dark Surface				
Sandy Mu	ck Mineral (S	1)		Deple	ted Dark	Surface (F	7)			1asses (F12) (LRR K, L, R) iin Soils (F19) (MLRA 149B)			
Sandy Gle	yed Matrix (S	54)		Redo	x Depressi	ions (F8)			_	i) (MLRA 144A, 145, 149B)			
Sandy Rec									Red Parent Materi				
	latrix (S6)								Very Shallow Dark				
surpped №	urface (S7) (LRR R, MLRA 149B)								Other (Explain in I				
			n and woth	and hydrology	muct ha r	rocont un	loca dictur	ad ar probl		cinditay			
Dark Surfa		voqotatio	n anu weua	ina nyarology	must be p	resent, un							
Dark Surfa	hydrophytic												
Dark Surfa ³ Indicators of Restrictive La	hydrophytic												
Dark Surfa ³ Indicators of Restrictive La Type:	hydrophytic ayer (if obse								Hydric Soil Present?				
Dark Surfa ³ Indicators of Restrictive La	hydrophytic ayer (if obse								Hydric Soil Present?	Yes $ullet$ No $igcap$			
Dark Surfa ³ Indicators of Restrictive La Type:	hydrophytic ayer (if obse								Hydric Soil Present?	Yes 🔍 No 🔿			
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		ytic vegetati	on, and	hydric soi	ls, the ar	ea was ide		Yes No			
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		ytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		ytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		nytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		ytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		ytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		ytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		ytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		nytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		nytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		ıytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		ytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		nytic vegetati	on, and	hydric soi	ls, the ar	ea was ide					
Dark Surfa ³ Indicators of Restrictive La Type: Depth (inch Remarks:	hydrophytic ayer (if obse	erved):		ytic vegetati	ion, and	hydric soi	ls, the ar	ea was ide					

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	g Date: 11-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland	d MCI-16b
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, none	concave	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.164714	Long.: -	80.837414	Datum: NAD 83
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slo	pes		NWI classification:	N/A
	tly disturbed? problematic?	Are "Normal Circ (If needed, expla	no, explain in Remarks. umstances" present? ain any answers in Rem :ransects, impor	Yes • No Onarks.)
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		e Sampled Area n a Wetland? Ye	es 🖲 No 🔿	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)			
A PSS portion of a PEM/PSS wetland, Wetland MCI-16b, located ald the east. The boundary of the PSS wetland was confined to a cond dominated by Viburnum dentatum, Cornus racemosa, and Solidago 007 (PSS).	cave drainage s	wale that continues or	utside of the study area	a to the east and is

Hydrology

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)				
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)				
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift deposits (B3) 	 Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) 	 Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) 				
 Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) 	 Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) 	 Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-neutral Test (D5) 				
Field Observations: Surface Water Present? Yes No Image: Solution of the second s	Depth (inches): Depth (inches): Depth (inches):	ydrology Present? Yes 🖲 No 🔾				
(includes capillary fringe) Tes Two Pepul (inclus) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A						
Remarks: Source of hydrology was identified as precipita portion of the wetland area may have been a s	tion and stormwater runoff from the abutting agricu tream channel that was previously filled.	utural field. Based on NWI mapped wetlands, a				

VEGETATION - Use scientific names of plat	mpling Point: Wetland MCI-16b			
	Absolute	C	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC:4(A)
2				Total Number of Dominant
3	0			Species Across All Strata:4(B)
4	0			
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	0	= Total Cover		Total % Cover of: Multiply by:
A Viburnum dantatum	40		FAC	OBL species $20 \times 1 = 20$
1. Viburnum dentatum				FACW species <u>38</u> x 2 = <u>76</u>
2. Cornus racemosa			FAC	FAC species65x 3 =195
3. Frangula alnus	-		FAC	FACU species $0 \times 4 = 0$
4	-			UPL species $0 \times 5 = 0$
5	_			Column Totals: 123 (A) 291 (B)
6				
7				Prevalence Index = B/A =2.366
Herb Stratum (Plot size: 5' radius)	65	= Total Cover		Hydrophytic Vegetation Indicators:
	25	\checkmark	FACW	Rapid Test for Hydrophytic Vegetation
		\checkmark	OBL	✓ Dominance Test is > 50%
n Onoclas consibilis	0		FACW	\checkmark Prevalence Index is ≤3.0 ¹
			OBL	Morphological Adaptations ¹ (Provide supporting
			FACW	data in Remarks or on a separate sheet)
			FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
6				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	-			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: <u>30' radius</u>)	58	= Total Cover	•	greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0	\square		size, and woody plants less than 3.28 ft tall.
3	0			
а	0			Woody vine - All woody vines greater than 3.28 ft in height.
т.	0	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate she	et)			
See Appendix D of the Wetland Delineation and Stream Ass	-	port for repr	esentative	photographs of the babitat and soil profile
see . spenax b of the frequine beineddon and ottean A55	cooncine ne			procession of the habitat and boil promet

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	ription: (Des		the depth	needed to d				nfirm the	absence of indicators.)	
Depth (inches)	Matrix Redox Features Color (moist) % Color (moist) % Type 1 Loc2		Loc ²	Texture	Remarks					
0-3	10YR	5/2	90	10YR	5/6	10	C	PL	Silty Loam	Remarko
6-18	10YR	5/2	90	7.5YR	4/6	10	С	М	Silty Clay Loam	
¹ Type: C=Cor	ncentration. D	=Depletic	on. RM=Red	uced Matrix,	CS=Covere	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=M	atrix
Black His Hydroger Stratified Depleted Thick Dat Sandy Mt Sandy Re Stripped Dark Surf	(A1) pedon (A2) tic (A3) n Sulfide (A4) Layers (A5) Below Dark S rk Surface (A1 uck Mineral (S eyed Matrix (S edox (S5) Matrix (S6) face (S7) (LRF	Surface (A 12) S1) S4) R R, MLRA	A 149B)	MLR ☐ Thin ☐ Loan ☐ Loar ✔ Depl ☐ Redo ☐ Depl ☐ Redo	A 149B) Dark Surfa ny Mucky I ny Gleyed leted Matri: ox Dark Su leted Dark ox Depress	ace (S9) (Mineral (F1 Matrix (F2) x (F3) rface (F6) Surface (F Surface (F8)	1) LRR K, L)) 7)	, MLRA 149B)		
Restrictive L Type: Depth (inc	, 、	erved):							Hydric Soil Present?	Yes \bullet No \bigcirc
Remarks: Due to the p	resence of h	nydrolog	y, hydroph	iytic vegetal	tion, and	hydric so	ils, the are	ea was ide	entified as meeting the fe	deral definition of a wetland.

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	Date: 11-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland M	ICI-16 UPL
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, non	e): none	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.16569748	Long.:	-80.83770154	Datum: NAD 83
Soil Map Unit Name: Sc - Sebring silt loam, till substratum, 0 to 2 pe	ercent slopes		NWI classification:	V/A
	tly disturbed? problematic? sampling p	Are "Normal Cir (If needed, exp oint locations,	ino, explain in Remarks.) rcumstances" present? lain any answers in Rema transects, import Yes O No •	Yes No arks.)
Wetland Hydrology Present? Yes \bigcirc No $oldsymbol{igodol}$				
Remarks: (Explain alternative procedures here or in a separate report A upland reference point located between Wetland MCI-16 and the commercial building. The field identification id for the sample point	edge of an ope		, , , ,	area associated with a

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Drainage Patterns (B10)	
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No 💿	Depth (inches):	drology Present? Yes 🔿 No 🖲
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	drology Present? Yes 🔾 No 🖲
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous inspections), if available	ailable:
N/A		
Remarks:		
No primary and/or secondary wetland hydroloc	iv indicators were observed.	
···· ······· · · ······· · · ·········	,,	

Sampling Point:	Wetland MCI-16 UPL
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Tree Stratum (Plot size: 30' radius)	Absolute	O	Indicator	Dominance Test worksheet:
	% Cover		Status	Number of Dominant Species
1				That are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3	0			Species Across All Strata: <u>3</u> (B)
4	0			
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
(Plot cizo: 15' radius)	0	= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species $0 \times 1 = 0$
1				FACW species20 x 2 =40
2				FAC species $0 \times 3 = 0$
3	0			FACU species $50 \times 4 = 200$
4	0			
5	0			
6	0			Column Totals: <u>85</u> (A) <u>315</u> (B)
7	0			Prevalence Index = $B/A = 3.706$
		= Total Cover		Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5' radius)				Rapid Test for Hydrophytic Vegetation
1. Trifolium repens	25	\checkmark	FACU	Dominance Test is > 50%
2. Lotus corniculatus	20	\checkmark	FACU	Prevalence Index is $\leq 3.0^{1}$
3. Phalaris arundinacea	20	\checkmark	FACW	
4. Bromus inermis	15		UPL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. Dipsacus fullonum	-		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
9 10				Trans Mandanda Olin (7.0 mm) manana in diamatan
				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11 12				
12	-	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and
_Woody Vine Stratum (Plot size: 30' radius)	85			greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2.	0			size, and woody plants less than 3.28 ft tall.
3	0			
4	0			Woody vine - All woody vines greater than 3.28 ft in height.
4		= Total Cover		noight.
				Hydrophytic
				Vegetation
				Present? Yes Vo (•)
Remarks: (Include photo numbers here or on a separate sho	eet.)			

A dominance of hydrophytic vegetation was not observed. The vegetation was significantly disturbed due to the active mowing activities along the gravel lot.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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Depth		Matrix		r		ox Featu			_				
(inches)	Color (r	noist)		Color (mo	ist)		Туре ¹	Loc ²	Texture	Remarks			
0-3	10YR	3/2	100						Silty Loam	shovel refusal due to gravel			
				·					<u>.</u>				
						u							
	v			. <u></u>									
			-			-							
vpe: C=Conc	entration. D	=Depletio	n. RM=Redi	uced Matrix, CS=	Covered	l or Coate	d Sand Gra	ins ² l oca	ation: PL=Pore Lining. N	∕I=Matrix			
ydric Soil I		Depictio								roblematic Hydric Soils : ³			
Histosol (A				🗌 Polyvalu	e Below	Surface (58) (LRR R	1	_				
Histic Epip	edon (A2)			MLRA 14	19B)					10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R)			
Black Histi	ic (A3)			_			.RR R, MLR	A 149B)	_	eat or Peat (S3) (LRR K, L, R)			
Hydrogen	Sulfide (A4)			_) LRR K, L)			(S7) (LRR K, L, M)			
Stratified I	Layers (A5)			Loamy (Gleyed №	latrix (F2)							
Depleted I	Below Dark S	urface (A	.11)	Deplete	d Matrix	(F3)			Polyvalue Below Surface (S8) (LRR K, L)				
7	k Surface (A1			🗌 Redox D	ark Surf	face (F6)			Thin Dark Surface (S9) (LRR K, L)				
_	ck Mineral (S			Deplete	d Dark S	urface (F7	')		Iron-Manganese Masses (F12) (LRR K, L, R)				
_	yed Matrix (S			Redox D	epressio	ons (F8)			Piedmont Floodplain Soils (F19) (MLRA 149B)				
_		(די							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Sandy Rec									Red Parent Material (F21)				
Stripped M									Very Shallow	Dark Surface (TF12)			
	ace (S7) (LRR								Other (Explain	n in Remarks)			
Indicators of	hydrophytic	vegetatio	n and wetla	nd hydrology mu	ist be pr	esent, unl	ess disturb	ed or proble	ematic.				
	ayer (if obse	erved):											
Туре:									Hydric Soil Presen	it? Yes 🔿 No 🖲			
Depth (inch	nes):												
emarks:													
ovel refusa	I was obser	ved at 4	inches be	low the surfac	e due t	o a mixtu	ure of gra	vel / parti	cles associated with	the previous parking lot.			

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampli	ng Date: 12-Ju	in-20	
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland MCI-17			
Investigator(s): B.Miller	Section, To	wnship, Range: S.	T. 3N		R. 4W	
Landform (hillslope, terrace, etc.): Flat	Local relief (co	oncave, convex, non	e): concave	Slope: 2	<u>.0</u> % / <u>1.1</u> °	
Subregion (LRR or MLRA): LRR R Lat.:	41.175055	Long.:	-80.836746	Datum:	NAD 83	
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slop	pes		NWI classification:	N/A		
Are climatic/hydrologic conditions on the site typical for this time of y	vear? Ye	5 • No 🔾 (If	f no, explain in Remark	(s.)		
Are Vegetation 🗌 , Soil 🗹 , or Hydrology 🗹 significant	tly disturbed?	Are "Normal Cir	cumstances" present?	Yes 🖲	No 🔿	
Are Vegetation, Soil, or Hydrology naturally (problematic?	(If needed, exp	lain any answers in Re	marks.)		
Summary of Findings - Attach site map showing s	sampling p	. , .	-	•	ures, etc.	
Hydrophytic Vegetation Present? Yes $ullet$ No $igodot$						
Hydric Soil Present? Yes 🔍 No 🔾		Sampled Area	Yes 🖲 No 🔾			
Wetland Hydrology Present? Yes $ullet$ No $igodoldsymbol{ imes}$						
Remarks: (Explain alternative procedures here or in a separate repo	ort.)					
A linear PEM wetland located along the edge of an active railroad g survey area to the east and west along the grade of the railroad. T surface water with a dominance of Typha angustifolia. The field ve	he boundary of	the wetland was id	entified by the concave	e area that con	itained	

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one re	Surface Soil Cracks (B6)	
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
✓ High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B		Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes 🖲	No Depth (inches): 2	
Water Table Present? Yes •	No Depth (inches): 0	Hydrology Present? Yes 🖲 No 🖯
Saturation Present? Yes •	No Depth (inches): 2	Hydrology Present? Yes 🔍 No 🔾
Describe Recorded Data (stream gauge	e, monitoring well, aerial photos, previous inspections), if	available:
N/A		
Remarks:		
	precipitation and stormwater runoff from the abutting agri	cutural field
Source of flydrology was identified as p	precipitation and stormwater runon from the abutting agri	

VEGETATION - Use scientific names of pla	ints		Sa	mpling Point:Wetland MCI-17		
	Absolute		Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species		
1				That are OBL, FACW, or FAC:(A)		
2				Total Number of Dominant		
3	0			Species Across All Strata:(B)		
4						
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)		
6	0					
7	0			Prevalence Index worksheet:		
Sapling/Shrub Stratum (Plot size: 15' radius)		= Total Cove	r	Total % Cover of: Multiply by:		
	0			OBL species $85 \times 1 = 85$		
1				FACW species <u>15</u> x 2 = <u>30</u>		
2				FAC species $0 \times 3 = 0$		
3	_			FACU species $0 \times 4 = 0$		
4				UPL species $0 \times 5 = 0$		
5				Column Totals: _100_ (A) _115_ (B)		
6						
7		= Total Cove		Prevalence Index = B/A =		
Herb Stratum (Plot size: 5' radius)				Hydrophytic Vegetation Indicators:		
1. Typha angustifolia	75	\checkmark	OBL	✓ Rapid Test for Hydrophytic Vegetation		
2. Carex lurida			OBL	✓ Dominance Test is > 50%		
3. Carex scoparia	10		FACW	✓ Prevalence Index is \leq 3.0 ¹		
4. Onoclea sensibilis	-		FACW	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
5				Problematic Hydrophytic Vegetation ¹ (Explain)		
6						
7				¹ Indicators of hydric soil and wetland hydrology must		
8				be present, unless disturbed or problematic.		
9				Definitions of Vegetation Strata:		
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter		
11				at breast height (DBH), regardless of height.		
12				One line to hand a Weather lands have there O in DDU and		
	-	= Total Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall		
Woody Vine Stratum (Plot size: 30' radius)						
1	0			Herb - All herbaceous (non-woody) plants, regardless of		
2	0			size, and woody plants less than 3.28 ft tall.		
3	0			Woody vine - All woody vines greater than 3.28 ft in		
4	0			height.		
	0 =	= Total Cove	r			
				Hydrophytic		
				Vegetation		
				Present? Yes Vo V		
				<u> </u>		
Remarks: (Include photo numbers here or on a separate sh	•					
See Appendix D of the Wetland Delineation and Stream As	sessment Re	eport for repr	esentative	photographs of the habitat and soil profile.		

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

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	ription: (De		the depth	needed to do				onfirm the	absence of indicators.)			
Depth (inches)	Matrix Redox Feat Color (moist) %		ires Type ¹	Loc ²	Texture	Remarks						
0-3	10YR	2/2	100		ioist)	- 70	Туре	LUC-	Silty Loam	Reliaiks		
3-16	10YR	4/1	95	10YR	4/6	5	C	M	Silty Clay Loam			
		2	-				-					
						- <u></u>			2			
						·						
						. <u>.</u>						
								10 ⁻				
						- <u></u>						
							_					
¹ Type: C=Cor	centration. D	=Depletic	n. RM=Red	uced Matrix, CS	6=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=M	latrix		
Hydric Soil		-1		,								
				Polwa	lue Belov	w Surface ((S8) (LRR I	2		ematic Hydric Soils : ³		
	ipedon (A2)			MLRA		V Surface (4		(LRR K, L, MLRA 149B)		
Black His				🗌 Thin D	ark Surfa	ace (S9) (I	LRR R, MLI	RA 149B)		ox (A16) (LRR K, L, R)		
	n Sulfide (A4)			Loamy	Mucky N	lineral (F1) LRR K, L)	_	or Peat (S3) (LRR K, L, R)		
	Layers (A5)			_		Matrix (F2)			 Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) 			
	Below Dark S	Surface (A	11)	✓ Deplet								
	rk Surface (Al	•)			rface (F6)						
	uck Mineral (S			Deplet	ed Dark	Surface (F	7)					
						ions (F8)						
Sandy Re	eyed Matrix (54)			-				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Matrix (S6)								Red Parent Material (F21)			
	face (S7) (LRI		140P)						Very Shallow Dark Surface (TF12)			
									Other (Explain in Remarks)			
³ Indicators o	of hydrophytic	vegetatio	n and wetla	nd hydrology n	nust be p	resent, un	less distur	ped or probl	ematic.			
Restrictive L	.ayer (if obs	erved):										
Туре:												
Depth (inc	ches):								Hydric Soil Present?	Yes $ullet$ No $igcap$		
Remarks:												
	recence of k	ydrolog	, hydronh	vtic vocotatic	n and	hydric so	ilc tho ar	aa wac ide	ontified as meeting the f	ederal definition of a wetland.		
Due to the p		ryurolog	y, nyuropi	yee vegetatio	n, ana	inyune so	iis, tie ai		indired as meeting the re	cacial actinition of a wedding.		

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	Date: 12-Jun-	-20			
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland MC	I-17&18 UPI	_			
Investigator(s): B.Miller	Section, To	wnship, Range: S.	T. 3N		R. 4W			
Landform (hillslope, terrace, etc.): Hillside	Local relief (co	oncave, convex, none	e): convex	Slope: 2.0	%/ <u>1.1</u> °			
Subregion (LRR or MLRA): LRR R Lat.:	41.17501091	Long.:	-80.83676404	Datum:	VAD 83			
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slop	pes		NWI classification:	I/A				
Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Are Vegetation Are vegetation Present? Yes No Are vegetation Present?								
Wetland Hydrology Present? Yes No Image: No Remarks: (Explain alternative procedures here or in a separate report of A upland reference point located on a hillside downslope of Wetlance soybean field. The field identification id for the sample point was identified to the sample point was id	d MCI-17 and W		5 5	I-17 and an a	ctive			

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No 🔍	Depth (inches):	drology Present? Yes 🔿 No 🖲
Saturation Present? (includes capillary fringe) Yes O No O	Depth (inches):	drology Present? Yes \bigcirc No $ullet$
Describe Recorded Data (stream gauge, monito	pring well, aerial photos, previous inspections), if ava	ailable:
N/A		
Remarks:		
No primary and/or secondary wetland hydrolog	v indicators were observed.	

Sampling Point:	Wetland MCI-17&18 UPL
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Tree Stratum (Plot size: 30' radius)		Dominant Indica Species? Statu	
	<u>% Cover</u>	Species? Statu	Number of Dominant Species
1	0		That are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4			
5	0		Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
6	0		
7	0		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	0 =	= Total Cover	Total % Cover of: Multiply by:
	0		OBL species $0 \times 1 = 0$
1			FACW species $0 \times 2 = 0$
2			FAC species x 3 =
3			FACU species <u>88</u> x 4 = <u>352</u>
4			UPL species $0 \times 5 = 0$
5			Column Totals: <u>88</u> (A) <u>352</u> (B)
6			
7	0		Prevalence Index = $B/A = 4.000$
Herb Stratum (Plot size: 5' radius)	=	= Total Cover	Hydrophytic Vegetation Indicators:
	20		Rapid Test for Hydrophytic Vegetation
1. Achillea millefolium	20		Dominance Test is > 50%
2. Anthoxanthum odoratum			Prevalence Index is $\leq 3.0^{-1}$
3. Solidago altissima			Morphological Adaptations ¹ (Provide supporting
4. Holcus lanatus	15	FACU	data in Remarks or on a separate sheet)
5. Fragaria virginiana		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
6. Erigeron annuus		FACU	
7	0		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0		
9	0		Definitions of Vegetation Strata:
10	0		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0		at breast height (DBH), regardless of height.
12			Sapling/shrub - Woody plants less than 3 in. DBH and
	88 =	= Total Cover	greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size: 30' radius)			
1			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2	0		
3	0		Woody vine - All woody vines greater than 3.28 ft in
4	0		height.
	=	= Total Cover	
			Hydrophytic Vegetation
			Present? Yes No 💿
Remarks: (Include photo numbers here or on a separate she	et.)		
	-	elv, 22percent of t	he profile was the bare soil from the active agricultural field.
	ee. 2700.000	- ,,	

0-4 1	Color (moist)	• • •	0.1 1		dox Featu		1		D
		%	Color (ı	noist)	%	Type ¹	Loc ²	Texture	Remarks
4-16 1	LOYR 4/3	100						Silty Loam	
	LOYR 4/1	70	10YR	5/4	20	C	M	Silty Clay Loam	
			10YR	4/6	10	С	М		
			87-					-	
				-					
-	-	-	-		-	-	-		
		on. RM=Redu	uced Matrix, C	S=Cover	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=Ma	trix
dric Soil Indic	ators:		_					Indicators for Problem	matic Hydric Soils: ³
Histosol (A1)				alue Belo (149B)	w Surface	(S8) (LRR F	4		.RR K, L, MLRA 149B)
Histic Epipedor				,	aco (50) (l	LRR R, MLR	A 140P)		(A16) (LRR K, L, R)
Black Histic (A3			_				-	_	Peat (S3) (LRR K, L, R)
Hydrogen Sulfi			_			.) LRR K, L) \		Dark Surface (S7) (LRR K, L, M)
Stratified Layer	. ,		_	ted Matri	Matrix (F2))		Polyvalue Below Su	rface (S8) (LRR K, L)
•	w Dark Surface (A	411)			IX (FS) Irface (F6)			Thin Dark Surface (S9) (LRR K, L)
Thick Dark Sur					. ,	7)			asses (F12) (LRR K, L, R)
Sandy Muck Mi	. ,				Surface (F sions (F8)	/)		_	n Soils (F19) (MLRA 149B)
Sandy Gleyed I				x Depress				Mesic Spodic (TA6)	(MLRA 144A, 145, 149B)
Sandy Redox (Red Parent Materia	(F21)
Stripped Matrix	. ,							Very Shallow Dark S	Surface (TF12)
Dark Surface (S7) (LRR R, MLR	A 149B)						Other (Explain in Re	emarks)
ndicators of hydr	rophytic vegetation	on and wetla	nd hydrology	must be p	present, un	less disturb	ed or proble	ematic.	
strictive Laver	(if observed):								
Туре:	(
Depth (inches):								Hydric Soil Present?	Yes 💿 No 🔾
	-								
emarks:	e is a presence	of hydric s upland rep	oil, the lack	of hydro to Wetla	ophytic ve ands MCI-	egetation a	and hydrol	logy confirms that the are	

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplii	ng Date: 12-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetla	nd MCI-18
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (co	oncave, convex, non	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.175327	Long.:	-80.836753	Datum: NAD 83
Soil Map Unit Name: WbA - Wadsworth silt loam, 0 to 2 percent slop	pes		NWI classification:	N/A
	tly disturbed? problematic? sampling pour Is the	Are "Normal Cir (If needed, exp oint locations,	no, explain in Remark cumstances" present? lain any answers in Re transects, impo Yes No O	Yes No marks.)
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate reported along the edge of an active railroad grade of the east and west along the grade of the railroad. The surface water with a dominance of Typha angustifolia. The field vertex of the edge of the railroad of the edge of the edge of the railroad. The field vertex of the edge of	ort.) rade and soybe he boundary of	an field within a dep f the wetland was ide	entified by the concave	e area that contained

Wetland Hydrology Indicators:			Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of or	Surface Soil Cracks (B6)		
Surface Water (A1)		Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)		Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)		Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)		 Oxidized Rhizospheres along Living Roots (C3) 	
Drift deposits (B3)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)		Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imager	ry (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surfac	ce (B8)		✓ FAC-neutral Test (D5)
Field Observations:			
Surface Water Present? Yes) No 🔿	Depth (inches): 2	
Water Table Present? Yes) No ()	Depth (inches):0	
Saturation Present? (includes capillary fringe) Yes) No 🔿	Depth (inches): 2	and Hydrology Present? Yes 💿 No 🔾
Describe Recorded Data (stream ga	auge, monitoi	ing well, aerial photos, previous inspections)), if available:
N/A			
Remarks:			
	as precipitati	on and stormwater runoff from the abutting	agricutural field
Source of Hydrology was identified		on and stormwater runon norm the abatting	

VEGETATION - Use scientific names of plants Sampling Point: Wetland MCI-18									
(Distring 20' radius)	Absolute		Indicator	or Dominance Test worksheet:					
Tree Stratum (Plot size: 30' radius)	<u>% Cover</u>	Species?	Status	Number of Dominant Species					
1				_ That are OBL, FACW, or FAC: (A)					
2				Total Number of Dominant					
3				_ Species Across All Strata: (B)					
4				Percent of dominant Species					
5				That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)					
6	0			Prevalence Index worksheet:					
7		= Total Cover		Total % Cover of: Multiply by:					
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 95 x 1 = 95					
1	0			FACW species $10 \times 2 = 20$					
2	0								
3				FAC species $0 \times 3 = 0$					
4	-			FACU species $\underbrace{0}_{-}$ x 4 = $\underbrace{0}_{-}$					
5	0			$\begin{bmatrix} 0 \\ - \end{bmatrix} $ UPL species $\begin{bmatrix} 0 \\ - \end{bmatrix} $ x 5 = $\begin{bmatrix} 0 \\ - \end{bmatrix} $					
6	-			Column Totals: <u>105</u> (A) <u>115</u> (B)					
7	0			Prevalence Index = B/A = <u>1.095</u>					
Herb Stratum (Plot size: 5' radius)	0	= Total Cover	r	Hydrophytic Vegetation Indicators:					
	05			Rapid Test for Hydrophytic Vegetation					
1. Typha angustifolia			OBL	■ Dominance Test is > 50%					
2. Eupatorium perfoliatum			FACW	■ Prevalence Index is \leq 3.0 ¹					
3				Morphological Adaptations ¹ (Provide supporting					
4				data in Remarks or on a separate sheet)					
5				Problematic Hydrophytic Vegetation ¹ (Explain)					
6				⁻ ¹ Indicators of hydric soil and wetland hydrology must					
7				be present, unless disturbed or problematic.					
8				Definitions of Vegetation Strata:					
9 10				-					
11				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.					
12									
	-	= Total Cover		 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall 					
Woody Vine Stratum (Plot size: 30' radius)									
1	0			Herb - All herbaceous (non-woody) plants, regardless of					
2	0			size, and woody plants less than 3.28 ft tall.					
3			. <u> </u>	Woody vine - All woody vines greater than 3.28 ft in					
4				_ height.					
	0	= Total Cover	r						
				Hydrophytic					
				Vegetation					
				Present? Yes Vo U					
Remarks: (Include photo numbers here or on a separate she		_							
See Appendix D of the Wetland Delineation and Stream Ass	essment Re	eport for repr	esentative	e photographs of the habitat and soil profile.					

	ription: (De		the depth	needed to do				onfirm the	absence of indicators.)	
Depth (inches)	Color (Matrix	%	Color (n		dox Featu %	Type 1	Loc ²	Texture	Remarks
0-3		2/2	100		ioist)	-70	Type	LUC-	Silty Loam	Remarks
3-16	10YR	4/1	95	10YR	4/6	5	C	M	Silty Clay Loam	
		-		· ·			-		-	
						-				· · · · · · · · · · · · · · · · · · ·
				· ·						
¹ Type: C=Cor	ncentration. D	=Depletic	on. RM=Red	uced Matrix, C	S=Covere	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=I	
Hydric Soil		Depietie						2000	5	
Histosol				Polya	alua Balov	w Surface ('S8) (LRR F	,		lematic Hydric Soils : ³
	ipedon (A2)				149B)		50) (LKK F	4	_	(LRR K, L, MLRA 149B)
Black His				🗌 Thin 🛛	Dark Surfa	ace (S9) (I	_RR R, MLF	A 149B)		ox (A16) (LRR K, L, R)
	n Sulfide (A4)			Loam	y Mucky N	Mineral (F1) LRR K, L)		_	or Peat (S3) (LRR K, L, R)
	Layers (A5)					Matrix (F2)			Dark Surface (S7	
	Below Dark S	Surface (A	(11)	V Deple						Surface (S8) (LRR K, L)
	rk Surface (Al	•	(11)			rface (F6)			Thin Dark Surface	e (S9) (LRR K, L)
	•					Surface (F	7)			Masses (F12) (LRR K, L, R)
	uck Mineral (S	,				ions (F8)	,		Piedmont Floodp	ain Soils (F19) (MLRA 149B)
	eyed Matrix (54)			·					6) (MLRA 144A, 145, 149B)
	edox (S5)								Red Parent Mater	· · ·
	Matrix (S6)		140P)						Very Shallow Dar	
	face (S7) (LRI								Other (Explain in	Remarks)
³ Indicators c	of hydrophytic	vegetatic	on and wetla	nd hydrology i	must be p	present, un	less disturb	ed or probl	ematic.	
Restrictive I	.ayer (if obs	erved):								
Type:										
Depth (ind	ches):								Hydric Soil Present?	Yes 🖲 No 🔾
Remarks:										
	C 1									
Due to the p	resence of r	nyarolog	y, nyaropn	ytic vegetati	on, and	nyaric so	lis, the ar	ea was ide	entified as meeting the r	ederal definition of a wetland.
1										

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplin	g Date: 12-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point	: Wetlan	nd MCI-19
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, non	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.	41.176799	Long.:	-80.829448	Datum: NAD 83
Soil Map Unit Name: RsB - Rittman silt loam, 2 to 6 percent slopes			NWI classification:	PEM1C
	Is the	(If needed, exp oint locations, e Sampled Area	rcumstances" present? plain any answers in Ren transects, impor Yes No	
Wetland Hydrology Present? Yes	withi	n a Wetland?	tes 🖲 no 🖯	
Remarks: (Explain alternative procedures here or in a separate rep A PEM wetland located along the edge of an active soybean field t Ave. The boundary of the PEM wetland was identified within a co also displayed surface water. The field verification number for this	hat continues ou ncave/bowl that	was dominated by I	Phalaris arundinacea and	5 5 5

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)		
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)		
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)		
Field Observations:				
Surface Water Present? Yes 🔿 No 🖲	Depth (inches):			
Water Table Present? Yes O No 🖲	Depth (inches):	rdrology Present? Yes 🖲 No 🔾		
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	Hydrology Present? Yes • No 🔾		
	pring well, aerial photos, previous inspections), if a	available:		
N/A				
Remarks:				
Source of hydrology was identified as precipita observed within the interior component of the	tion and stormwater runoff from the abutting agrive wetland complex.	cutural field. A presence of surface water was		

	100		Sai	mpling Point:	Wetland MCI-19	
	Absolute	Dominant	Indicator	Dominance 1	Fest worksheet:	
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Do	ominant Species	
1	0				FACW, or FAC: 2	(A)
2				,		()
				Total Number	of Dominant	
3				Species Acros	s All Strata:2	(B)
4						
5	0				ominant Species	(A/B)
6	0			That Are OB	L, FACW, or FAC: <u>100.0%</u>	(,,,,,)
7				Prevalence I	ndex worksheet:	
1.		Tatal Cause				
Sapling/Shrub Stratum (Plot size: 15' radius)	=	Total Cover				-
1	0				$75 \times 1 = 75$	
				FACW specie	es <u>35</u> x 2 = <u>70</u>	
2				FAC species	$0 \times 3 = 0$	
3	0			FACU specie		
4	0				<u> </u>	
5	0			UPL species	$\frac{0}{100} \times 5 = 0$	
6				Column Tota	als: <u>110</u> (A) <u>145</u>	(B)
7	0			Prevaler	nce Index = $B/A = 1.318$	
	0 =	- Total Cover			Vegetation Indicators:	
Herb Stratum (Plot size: 5' radius)	p				est for Hydrophytic Vegetation	
1. Typha angustifolia	75	\checkmark	OBL	-	nce Test is > 50%	
2. Phalaris arundinacea	35	\checkmark	FACW	_		
3				Prevale	nce Index is \leq 3.0 ¹	
					logical Adaptations ¹ (Provide suppo	orting
4					Remarks or on a separate sheet)	
5				Problen	natic Hydrophytic Vegetation 1 (Expl	ain)
6						
7	0				of hydric soil and wetland hydrology unless disturbed or problematic.	y must
8	0				-	
9				Definitions	of Vegetation Strata:	
10				T		
					y plants, 3 in. (7.6 cm) or more in dia ght (DBH), regardless of height.	ameter
11				at breast nei	grit (DDF), regardless of height.	
12	0			Sapling/shru	b - Woody plants less than 3 in. DBI	H and
(Plotoiro, 20'radius)	110 =	Total Cover			3.28 ft (1m) tall	
Woody Vine Stratum (Plot size: 30' radius)						
1	0				rbaceous (non-woody) plants, regard	dless of
2	0			size, and wo	ody plants less than 3.28 ft tall.	
3	0			Woody vine .	- All woody vines greater than 3.28 f	t in
1	0			height.	All woody vines greater than 5.20 i	
T	0 =	Total Cover				
				Hydrophytic	2	
				Vegetation Present?	Yes 🖲 No 🔾	
				1		
Remarks: (Include photo numbers here or on a separate she	et.)					
See Appendix D of the Wetland Delineation and Stream Asso	essment Re	port for repre	sentative	photographs of	of the habitat and soil profile.	
	·	•		- ·		

	atrix		Redox Featu			absence of indicators.)	
inches) Color (mo		Color (moist)		Type ¹	Loc ²	Texture	Remarks
	4/1 95	10YR 4/6		C	м	Silty Loam	
		· ·				· · ·	
							·
		·					
				-			
		·					
		·					
no: C-Concentration D-D			arad ar Cast				Actrix
	epietion. RM=Rec	Juced Matrix, CS=Cov	ered or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=N	
dric Soil Indicators:						Indicators for Prob	ematic Hydric Soils : ³
Histosol (A1)		Polyvalue Be MLRA 149B	elow Surface	(S8) (LRR I	२,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)
Histic Epipedon (A2)		· · · · · · · · · · · · · · · · · · ·	urface (S9) (0A 140B)	Coast Prairie Red	ox (A16) (LRR K, L, R)
Black Histic (A3)						5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)		_	ky Mineral (F1)	Dark Surface (S7	
Stratified Layers (A5)			ed Matrix (F2))			Surface (S8) (LRR K, L)
Depleted Below Dark Surf	ace (A11)	Depleted Ma				Thin Dark Surface	
Thick Dark Surface (A12)			Surface (F6)				Masses (F12) (LRR K, L, R)
Sandy Muck Mineral (S1)			irk Surface (F	7)		_	ain Soils (F19) (MLRA 149B)
Sandy Gleyed Matrix (S4)		Redox Depr	essions (F8)				5) (MLRA 144A, 145, 149B)
Sandy Redox (S5)						Red Parent Mater	
Stripped Matrix (S6)						Very Shallow Dar	
] Dark Surface (S7) (LRR R,	, MLRA 149B)					Other (Explain in	
ndicators of hydrophytic veg	actation and weth	and hydrology must h	o procont un	locc dictur	ood or probl		(chund)
		and nydrology must b	e present, un	liess distui			
strictive Layer (if observ	'ed):						
Туре:							~ ~ ~ ~
Depth (inches):						Hydric Soil Present?	Yes 🔍 No 🔾
marks:							
to the presence of hyd	irology hydropi	nytic vegetation ar	nd hydric so	ils the ar	ea was ide	entified as meeting the f	ederal definition of a wetland
to the presence of figu		if the regetation, a	ia injune se	no, the u		interest up meeting the r	

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	Date: 12-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland M	ICI-19 UPL
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Hillside	Local relief (c	oncave, convex, non	e): convex	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.17668659	Long.:	-80.82944026	Datum: NAD 83
Soil Map Unit Name: RsB - Rittman silt loam, 2 to 6 percent slopes			NWI classification: N	//A
Are Vegetation , Soil , or Hydrology naturally Summary of Findings - Attach site map showing	tly disturbed? problematic?	Are "Normal Cir (If needed, exp	no, explain in Remarks.) cumstances" present? lain any answers in Rema transects, importa	Yes 💿 No 🔾 arks.)
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		e Sampled Area	fes \bigcirc No $lacksquare$	
Remarks: (Explain alternative procedures here or in a separate report A upland reference point located on a upslope of Wetland MCI-19 identification id for the sample point was identified as W-BJM-2020	along the edge	5	d an active agricultural fie	ોd. The field

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)					
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)						
Surface Water (A1)	Surface Water (A1) Water-Stained Leaves (B9)						
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)					
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)					
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)					
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)					
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)					
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)					
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)					
Field Observations:							
Surface Water Present? Yes O No 🖲	Depth (inches):						
Water Table Present? Yes O No O	Depth (inches):	drology Present? Yes \bigcirc No \odot					
Saturation Present? Yes No •	Depth (inches):	drology Present? Yes 🔾 No 🖲					
Describe Recorded Data (stream gauge, monito	pring well, aerial photos, previous inspections), if ava	ailable:					
N/A							
Remarks:	Remarks:						
No primary and/or secondary wetland hydrolog	v indicators were observed.						
···· p······ , ······ , ······· , ········	,						

Sampling Point:	Wetland MCI-19 UPL
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			04	
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC: (A)
2	0			Total Number of Dominant
3	0			Species Across All Strata: 2 (B)
4				
5				Percent of dominant Species
6				That Are OBL, FACW, or FAC:(A/B)
7				Prevalence Index worksheet:
		= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species $0 \times 1 = 0$
1	0			FACW species $0 \times 2 = 0$
2	0			· · · · ·
3				FAC species $0 \times 3 = 0$
4			-	FACU species $95 \times 4 = 380$
5				UPL species $\frac{5}{x} \times 5 = \frac{25}{x}$
6				Column Totals: <u>100</u> (A) <u>405</u> (B)
7				Prevalence Index = $B/A = 4.050$
		= Total Cover		
Herb Stratum (Plot size: 5' radius)				Hydrophytic Vegetation Indicators:
1. Trifolium pratense	30	\checkmark	FACU	Rapid Test for Hydrophytic Vegetation
2. Trifolium repens			FACU	Dominance Test is > 50%
3. Lolium perenne	45		FACU	\square Prevalence Index is \leq 3.0 1
			FACU	Morphological Adaptations ¹ (Provide supporting
			FACU	data in Remarks or on a separate sheet)
		\square	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
			UPL	¹ Indicators of hydric soil and wetland hydrology must
7. Bromus inermis			UPL	be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)	=	= Total Cover		greater than 3.28 ft (1m) tall.
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes No •
				Present? Yes V No 🔍
Remarks: (Include photo numbers here or on a separate sh	eet.)			
A dominance of hydrophytic vegetation was not observed.				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth		Matrix			dox Featu			absence of indicators		
(inches)			%	Color (moist) % Type ¹ Loc ²			Loc ²	Texture	Remarks	
0-14	10YR	5/4	40					Silty Loam	Mixed Soils	
	10YR	4/1	30							
	10YR	4/6	20	·						
	-		-	·				-	· · · · ·	
	10YR	5/2	100	·						
				·						
				·						
			-							
 1 Turney C. Cerr		Doulatio	DM Ded					tion DL Doublining N	1 Na-k-:	
		=Depietic	n. RM=Red	luced Matrix, CS=Covere		ed Sand Gra	INS ² LOCa	ation: PL=Pore Lining. M		
Hydric Soil				Polyvalue Belov	Curferen			Indicators for Pr	oblematic Hydric Soils : ³	
Histosol (MLRA 149B)	v Surface	(S8) (LRR R,		2 cm Muck (A	10) (LRR K, L, MLRA 149B)	
Black Hist	pedon (A2)			Thin Dark Surfa	ace (S9) (LRR R, MLRA	A 149B)	Coast Prairie Redox (A16) (LRR K, L, R)		
	uc (AS) 1 Sulfide (A4)			Loamy Mucky N	lineral (F1) LRR K, L)				
_ , ,	Layers (A5)			Loamy Gleyed	Matrix (F2))			(S7) (LRR K, L, M)	
	Below Dark S	Surface (A	11)	Depleted Matrix	k (F3)				w Surface (S8) (LRR K, L)	
	k Surface (A:	•		Redox Dark Su	rface (F6)			_	ace (S9) (LRR K, L)	
	uck Mineral (S			Depleted Dark	Surface (F	7)			se Masses (F12) (LRR K, L, R)	
	eyed Matrix (,		Redox Depress	ions (F8)				dplain Soils (F19) (MLRA 149B)	
Sandy Cla		51)							TA6) (MLRA 144A, 145, 149B)	
	Matrix (S6)							Red Parent Ma	· · ·	
	ace (S7) (LR		140R)					Very Shallow Dark Surface (TF12)		
								Other (Explain	in Remarks)	
'Indicators o	f hydrophytic	vegetatio	n and wetla	and hydrology must be p	present, un	less disturbe	ed or probl	ematic.		
Restrictive L	ayer (if obs	erved):								
Туре:								Hydric Soil Presen	t? Yes 🖲 No 🔾	
Depth (inc	hes):							Hydric Soli Presen		
Remarks:										
	th depletior								f disturbance (i.e mixed soils) that nd due to the lack of hydrology and	

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplir	ng Date: 12-Ju	n-20		
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetla	nd MCI-20			
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N		R. 4W		
Landform (hillslope, terrace, etc.): Flat	Local relief (co	oncave, convex, none	concave	Slope: 2.	<u>0</u> %/_1.1°		
Subregion (LRR or MLRA): LRR R Lat.:	41.177263	Long.: -	80.829203	Datum:	NAD 83		
Soil Map Unit Name: RsB - Rittman silt loam, 2 to 6 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 , 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?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		Sampled Area	es 🖲 No 🔾				
Remarks: (Explain alternative procedures here or in a separate repo	ort.)						
A PEM wetland located along a swale along the edge of Highland A PEM wetland was confined to the swale area and was dominated b sample point is W-BJM-2020-06-12-004 (PEM).					,		

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)	
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	✓ Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🔍	Depth (inches):	
Water Table Present? Yes O No O	Depth (inches):	
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	drology Present? Yes $ullet$ No $igodot$
	pring well, aerial photos, previous inspections), if available	ailable:
N/A		
Remarks:		
Source of hydrology was identified as precipitat	ion and stormwater runoff from the abutting agricu	tural field.

VEGETATION - Use scientific names of pla	ints		Sa	mpling Point: Wetland MCI-20
Tree Stratum (Plot size: 30' radius)	Absolute % Cover		Indicator Status	
1				Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4 5				Percent of dominant Species
6				That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7				Prevalence Index worksheet:
		= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species $30 \times 1 = 30$
1				FACW species 70 x 2 = 140
2				FAC species $0 \times 3 = 0$
3	_			FACU species $0 \times 4 = 0$
4				UPL species $0 \times 5 = 0$
5				Column Totals: 100 (A) 170 (B)
6	-			
7				Prevalence Index = $B/A = 1.700$
Herb Stratum (Plot size: 5' radius)		= Total Cover		Hydrophytic Vegetation Indicators:
1. Phalaris arundinacea	70	\checkmark	FACW	 ✓ Rapid rest for Hydrophydic Vegetation ✓ Dominance Test is > 50%
2. Typha angustifolia	30	\checkmark	OBL	
3	0			✓ Prevalence Index is ≤3.0 ¹ Markelanise Adaptations ¹ (Provide comparties)
4				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)		= Total Cover		greater than 3.28 ft (1m) tall.
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cover		
				Hydrophytic Vegetation Present? Yes O No O
Remarks: (Include photo numbers here or on a separate sh See Appendix D of the Wetland Delineation and Stream As	-	eport for repre	esentative	e photographs of the habitat and soil profile.

	ription: (De	scribe to	the depth	needed to d	locument	the indic	cator or c	onfirm the	absence of indicators.)		
Depth (inches)	Calar (Matrix		(dox Featu	ures	1 2	-		
	Color (<u>%_</u>	Color (%	Type ¹		<u>Texture</u>	Remarks	
0-5	10YR	4/1	95	10YR	4/6	5	C	PL	Silty Loam		
5-18	10YR	4/1	90	10YR	5/4	10	C	<u>M</u>	Silty Clay Loam		
	-	-	-	-	-	-	-	-	-		
					-		_				
		8									
								- <u></u>			
							_				
1											
		=Depletic	on. RM=Red	uced Matrix, (CS=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=N		
Hydric Soil									Indicators for Probl	lematic Hydric Soils: ³	
Histosol	. ,				alue Belov A 149B)	w Surface	(S8) (LRR	R,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)	
	ipedon (A2)				,	ace (S9) (LRR R, ML	RA 149B)	Coast Prairie Red	ox (A16) (LRR K, L, R)	
Black His	. ,				Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) LRR K, L)				5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)	
	n Sulfide (A4) Layers (A5)			_		Matrix (F2)		,	Dark Surface (S7)) (LRR K, L, M)	
	Below Dark S	Surface (A	(11)		eted Matri				_	Surface (S8) (LRR K, L)	
	rk Surface (Al		\ 11)			rface (F6)			Thin Dark Surface		
	uck Mineral (S			Deple	eted Dark	Surface (F	7)		_	Masses (F12) (LRR K, L, R)	
	eyed Matrix (Redo	x Depress	sions (F8)			_	ain Soils (F19) (MLRA 149B)	
Sandy Re		0.)								6) (MLRA 144A, 145, 149B)	
	Matrix (S6)								Red Parent Mater		
	face (S7) (LRI	R R, MLRA	A 149B)						 Very Shallow Dark Surface (TF12) Other (Explain in Remarks) 		
3 Indicators	f hydrophytic	voqotatio	n and wate	and hydrology	must ha r	wasant un	loco dictur	had ar prabl		Remarks)	
			on and wetta	and hydrology	must be p	present, un	iless distur	bea or probl	ematic.		
Restrictive I	.ayer (if obs	erved):									
Туре:									Hydric Soil Present?	Yes 💿 No 🔿	
Depth (inc	ches):								injunc son Present:	tes S No C	
Remarks:											
Due to the p	resence of h	nydrolog	y, hydroph	iytic vegetat	ion, and	hydric so	ils, the a	rea was ide	entified as meeting the f	ederal definition of a wetland.	

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	Date: 12-Jun-20			
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland N	1CI-20 UPL			
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W			
Landform (hillslope, terrace, etc.): Hillside	Local relief (c	oncave, convex, none):	convex	Slope: <u>2.0</u> % / <u>1.1</u> °			
Subregion (LRR or MLRA): LRR R Lat.	41.1768493	Long.: -8	0.82925996	Datum: NAD 83			
Soil Map Unit Name: RsB - Rittman silt loam, 2 to 6 percent slopes	5	<u></u>	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 related and the site typical for this time of year? Yes No (If no, explain in Remarks.) Are Vegetation , Soil , or Hydrology related and the site typical for this time of year? Yes No (If no, explain in Remarks.) Are Vegetation , Soil , or Hydrology related and the site typical for this time of year? No (If no, explain in Remarks.) Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.							
Hydrophytic Vegetation Present? Yes ○ No ● Hydric Soil Present? Yes ○ No ● Wetland Hydrology Present? Yes ○ No ●		e Sampled Area n a Wetland? Yes	. 🔿 No 🖲				
Remarks: (Explain alternative procedures here or in a separate rep A upland reference point located upslope of Wetland MCI-20 and id for the sample point was identified as W-BJM-2020-06-12-004	along the edge o	of Highland Ave. and an	active agricultural fie	ld. The field identification			

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)					
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)						
Surface Water (A1)							
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10) Moss Trim Lines (B16)					
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)					
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)					
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)					
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)					
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)					
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)					
Field Observations:							
Surface Water Present? Yes O No 🖲	Depth (inches):						
Water Table Present? Yes O No •	Depth (inches):						
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	ydrology Present? Yes 🔾 No 🖲					
	pring well, aerial photos, previous inspections), if a	vailable:					
N/A							
Remarks:	Remarks:						
No primary and/or secondary wetland hydrolog	v indicators were observed.						

Sampling Point:	Wetland MCI-20 UPL
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			••••	
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC: (A)
2				Tatal Number of Device st
3				Total Number of Dominant Species Across All Strata: 1 (B)
4				
5				Percent of dominant Species
6				That Are OBL, FACW, or FAC: 0.0% (A/B)
7				Prevalence Index worksheet:
		= Total Cove		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				$\begin{array}{c} \hline \begin{array}{c} \hline \end{array} \\ \hline \\ \\ \hline \end{array} \\ \\ \hline \end{array} \\ \\ \hline \\ \\ \hline \end{array} \\ \\ \hline \\ \\ \hline \end{array} \\ \\ \\ \hline \end{array} \\ \\ \hline \\ \\ \hline \\ \\ \hline \\ \\ \\ \\$
1	0			
2				FACW species $15 \times 2 = 30$
3				FAC species $0 \times 3 = 0$
4				FACU species $85 \times 4 = 340$
т 5				UPL species $0 \times 5 = 0$
				Column Totals: 100 (A) 370 (B)
6				
7				Prevalence Index = $B/A = 3.700$
Herb Stratum (Plot size: 5' radius)	0	= Total Cove		Hydrophytic Vegetation Indicators:
A California anna danaia	75		FACU	Rapid Test for Hydrophytic Vegetation
1. Solidago canadensis			FACU	Dominance Test is > 50%
2. Phalaris arundinacea			FACW	Prevalence Index is \leq 3.0 ¹
3. Holcus lanatus			FACU	Morphological Adaptations ¹ (Provide supporting
4. Cirsium arvense			FACU	data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				
12.,		= Total Cove		Sapling/shrub - Woody plants less than 3 in. DBH and
_Woody Vine Stratum (Plot size: 30' radius)				greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2.	0			size, and woody plants less than 3.28 ft tall.
3	0	\Box		Manda and Allower that the second start have 0.00 ft in
J.	0	\Box		Woody vine - All woody vines greater than 3.28 ft in height.
4		= Total Cove		noight.
	0			
				Under which in
				Hydrophytic Vegetation
				Present? Yes No •
Remarks: (Include photo numbers here or on a separate sh	eet)			
A dominance of hydrophytic vegetation was not observed.				
A dominance of hydrophytic vegetation was not observed.				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth		Matrix			Re	dox Featu	res				
(inches) Color (moist) %		%	<u>Redox Features</u> Color (moist) % Type ¹ Lo			Type ¹	Loc ²				
0-4	10YR	4/2	100						Silty Loam		
4-18	10YR	5/4	60	10YR	5/2	30	D	м	Silty Clay Loam		
				10YR	4/1	10	D	M			
						-			·		
									·		
						-					
									·		
Type: C=Conce	ntration. D=	Depletic	on. RM=Redu	uced Matrix, (CS=Cover	ed or Coate	d Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=Matrix		
Hydric Soil In	dicators:								Indicators for Problematic Hydric Soils : ³		
Histosol (A1		Polyvalue Below Surface (S8) (LRR R,									
Histic Epipedon (A2)				MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B)					Coast Prairie Redox (A16) (LRR K, L, R)		
Black Histic (A3)									5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
🗌 Hydrogen S	ulfide (A4)					Mineral (F1		1	\square Dark Surface (S7) (LRR K, L, M)		
Stratified La	yers (A5)			Loamy Gleyed Matrix (F2)					Polyvalue Below Surface (S8) (LRR K, L)		
Depleted Be	elow Dark Su	urface (A	.11)		eted Matri				Thin Dark Surface (S9) (LRR K, L)		
Thick Dark S	Surface (A12	2)				rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy Muck	Mineral (S1)				Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Gleye	ed Matrix (S	4)		Redo	x Depress	sions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Redo	x (S5)								Red Parent Material (F21)		
Stripped Ma	trix (S6)								Very Shallow Dark Surface (TF12)		
Dark Surfac	e (S7) (LRR	R, MLRA	\ 149B)						Other (Explain in Remarks)		
³ Indicators of h	ydrophytic v	vegetatio	on and wetlar	nd hydrology	must be p	present, un	less disturl	ed or proble			
Restrictive Lay											
Туре:											
Donth (insta	s):								Hydric Soil Present? Yes \bigcirc No $oldsymbol{igen}$		
Depth (inche											

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplir	ng Date: 12	2-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetla	nd MCI-21	L
Investigator(s): B.Miller	Section, To	wnship, Range: S.	T. 3N		R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (co	ncave, convex, none	concave	Slope:	<u>2.0</u> %/ <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.176295	Long.:	80.82826	Datu	im: NAD 83
Soil Map Unit Name: RsB - Rittman silt loam, 2 to 6 percent slopes			NWI classification:	N/A	-
	tly disturbed? problematic?	Are "Normal Circ (If needed, expla	no, explain in Remarks umstances" present? ain any answers in Rep ransects, impo l	Yes 🖲 marks.)	
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		Sampled Area	es 🖲 No 🔾		
Remarks: (Explain alternative procedures here or in a separate repo	ort.)				
A small PEM wetland located along the edge of an existing gravel ac PEM wetland formed along the concave area between the road and latifolia and Eleocharis obtusa. The field verification number for this	the agricultura	field and the bound	ary was identified due	5	

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	✓ Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🔍	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	vdrology Present? Yes 🖲 No 🖯
Saturation Present? Yes No •	Depth (inches):	ydrology Present? Yes 🔍 No 🔾
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspections), if a	vailable:
N/A		
Remarks:		
	ion and sharmourshow war off forms the aboutting again	www.walfield
Source of hydrology was identified as precipitat	ion and stormwater runoff from the abutting agric	

			Sai	mpling Point: Wetland MCI-21
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC:(A)
2				
3				Total Number of Dominant
				Species Across All Strata: <u>2</u> (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
	0 =	= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 95 x 1 = 95
1	0			FACW species $0 \times 2 = 0$
2	0			
3				FAC species $0 \times 3 = 0$
4				FACU species $0 \times 4 = 0$
				UPL species $0 \times 5 = 0$
5				Column Totals: 95 (A) 95 (B)
6				
7				Prevalence Index = $B/A = 1.000$
Herb Stratum (Plot size: <u>5' radius</u>)	0 =	= Total Cover		Hydrophytic Vegetation Indicators:
				Rapid Test for Hydrophytic Vegetation
1. Eleocharis obtusa	55	\checkmark	OBL	✓ Dominance Test is > 50%
2. Typha latifolia	35	\checkmark	OBL	
3. Scirpus atrovirens	5		OBL	✓ Prevalence Index is \leq 3.0 ¹
4				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5				
				Problematic Hydrophytic Vegetation ¹ (Explain)
6				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				
12		= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)				greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
•	0			size, and woody plants less than 3.28 ft tall.
2	0			
3				Woody vine - All woody vines greater than 3.28 ft in
4				height.
	0 =	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes No
				1
Remarks: (Include photo numbers here or on a separate she	et.)			
See Appendix D of the Wetland Delineation and Stream Ass	essment Re	port for repre	esentative	photographs of the habitat and soil profile.

(Inches) Color (moist) % Color (moist) % Type Loc2 Texture Remarks 0-3 10YR 4/1 95 10YR 4/6 5 C PL Silty Loam 3-6 10YR 4/2 100	Depth		Matrix			Re	dox Featu			_	
3-6 10YR 4/2 100 Silty Loam 6-14 10YR 5/2 60 10YR 5/4 40 C M Silty Loam 6-14 10YR 5/2 60 10YR 5/4 40 C M Silty Loam 6-14 10YR 5/2 60 10YR 5/4 40 C M Silty Loam 6-14 10YR 5/2 60 10YR 5/4 40 C M Silty Loam 6-14 10YR 5/2 60 10YR 5/4 40 C M Silty Loam 6 10YR 5/2 60 10YR 5/4 40 C M Silty Loam Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators Indicators for Problematic Hydric Soils : 3 Histic Epipedion (A2) Indicators Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, MLRA 149B) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Sord Mack Surface (S9) (LRR K, L, M	(inches)				Color ((moist)	%			Texture	Remarks
6-14 10YR 5/2 60 10YR 5/4 40 C M Silty Loam 6-14 10YR 5/2 60 10YR 5/4 40 C M Silty Loam 6-14 10YR 5/2 60 10YR 5/4 40 C M Silty Loam 6 10YR 5/2 60 10YR 5/4 40 C M Silty Loam 7 10YR 5/2 60 10YR 5/4 40 C M Silty Loam 7 10<	0-3	10YR	4/1	95	10YR	4/6	5	С	PL	Silty Loam	
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils : ³ Histic Epipedon (A2) MLRA 1498) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 1498) Hydrogen Suffide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Loamy Gleyed Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (S1) Depleted Dark Surface (F7) Sandy Muck (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S4) Wesic Spodic (TA6) (MLRA 1448) Stripped Matrix (S6) Perferent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)	3-6	10YR	4/2	100						Silty Loam	
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils : ³ Histic Epipedon (A2) MLRA 1498) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 1498) Hydrogen Suffide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Loamy Gleyed Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (S1) Depleted Dark Surface (F7) Sandy Muck (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S4) Wesic Spodic (TA6) (MLRA 1448) Stripped Matrix (S6) Perferent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)	6-14	10YR	5/2	60		5/4	40	c		Silty Loam	
hydric Soil Indicators: Indicators: Indicators: Indicators for Problematic Hydric Soils : ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Indicators for Problematic Hydric Soils : ³ Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Depleted Below Dark Surface (A11) Ø Depleted Matrix (F3) Dopleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F7) Displeted Dark Surface (F7) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1448, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks)							-			· · · · · · · · · · · · · · · · · · ·	
lydric Soil Indicators: Indicators: Indicators: Indicators for Problematic Hydric Soils : ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Indicators for Problematic Hydric Soils : ³ Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A10) (LRR K, L, MLRA 149B) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Coast Prairie Redox (A16) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F3) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Redox (S5) Red Ox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks)	·						 		 		
hydric Soil Indicators: Indicators: Indicators: Indicators for Problematic Hydric Soils : ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Indicators for Problematic Hydric Soils : ³ Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Depleted Below Dark Surface (A11) Ø Depleted Matrix (F3) Dopleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F7) Displeted Dark Surface (F7) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1448, 145, 149B) Sandy Redox (S5) Stripped Matrix (S6) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks)										·	
Hydric Soil Indicators: Indicators: Indicators: Indicators for Problematic Hydric Soils : ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Indicators for Problematic Hydric Soils : ³ Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Depleted Below Dark Surface (A11) Polpeted Matrix (F3) Doepleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Inon-Manganese Masses (F12) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks)		contration D	-Doplatic		Icod Matrix			od Sand Cr			
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Polepleted Matrix (F3) Thin Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1449, 145, 149B) Sandy Redox (S5) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) 3rndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks)			=Depieuc	JII. RM=Real	iceu Matrix,	CS=COVEN					2
Restrictive Layer (if observed):	 Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 			A 149B)	MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) ✓ Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)					Coast Prairie Redox (At S cm Mucky Peat or Pe Dark Surface (S7) (LRR Polyvalue Below Surface Thin Dark Surface (S9) Iron-Manganese Masse Piedmont Floodplain Sc Mesic Spodic (TA6) (MI Red Parent Material (F2 Very Shallow Dark Surf Other (Explain in Rema	16) (LRR K, L, R) at (S3) (LRR K, L, R) & K, L, M) e (S8) (LRR K, L) (LRR K, L) is (F12) (LRR K, L, R) bils (F19) (MLRA 149B) LRA 144A, 145, 149B) 21) ace (TF12)
estrictive Layer (il observed):				on and weda	ια πγατοιοgy	must be j	Jresent, un				
Type:	Туре:		erved):							Hydric Soil Present? Y	′es

Project/Site: Magellan Interconnect Project/Project/Site:	oject	City/County:	Trumbull	Samplin	g Date: 12-Jun-20		
Applicant/Owner: FirstEnergy		State: OH	Sampling Point:	Wetland MC	CI-21 & 22 UPL		
Investigator(s): B.Miller		Section, To	ownship, Range: S.	T. 3N	R. 4W		
Landform (hillslope, terrace, etc.):	Hillside	Local relief (co	oncave, convex, none)	convex	Slope: <u>2.0</u> % / <u>1.1</u> °		
Subregion (LRR or MLRA): LRR R	Lat.:	41.17650563	Long.: -{	30.82780614	Datum: NAD 83		
Soil Map Unit Name: RsB - Rittman	silt loam, 2 to 6 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? Hydric Soil Present? Wetland Hydrology Present?	Yes ○ No ● Yes ○ No ● Yes ○ No ●		Sampled Area n a Wetland? Ye	s 🔿 No 🖲			
Remarks: (Explain alternative proc	edures here or in a separate repo	ort.)					
A upland reference point located b active agricultural field. The field in		5	5 55	5	l Substation and within an		

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)	
Surface Water (A1)	Drainage Patterns (B10)	
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No 💿	Depth (inches):	drology Present? Yes 🔿 No 🖲
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	drology Present? Yes 🔾 No 🖲
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous inspections), if available	ailable:
N/A		
Remarks:		
No primary and/or secondary wetland hydroloc	iv indicators were observed.	
······································	,,	

Sampling Point:	Wetland MCI-21	& 22	UPL
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	A	Dominant	T	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30' radius</u>)	Absolute % Cover	Species?	Indicator Status	Dominance rest worksheet.
			Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC:(A)
2	0			
3				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
				Species Across Air Strata. $\underline{5}$ (b)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC:(A/B)
6	0			
7	0			Prevalence Index worksheet:
	0 =	= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species $0 \times 1 = 0$
1	0			
				FACW species $0 \times 2 = 0$
2				FAC species <u>10</u> x 3 = <u>30</u>
3				FACU species <u>55</u> x 4 = <u>220</u>
4	0			
5	0			UPL species $30 \times 5 = 150$
6				Column Totals: <u>95</u> (A) <u>400</u> (B)
	-			Durandan an Index D/A 4 214
7				Prevalence Index = $B/A = 4.211$
Herb Stratum (Plot size: 5' radius)	=	= Total Cover		Hydrophytic Vegetation Indicators:
				Rapid Test for Hydrophytic Vegetation
1. Bromus inermis	30	\checkmark	UPL	Dominance Test is > 50%
2. Lolium perenne	30	\checkmark	FACU	
3. Trifolium pratense	25	\checkmark	FACU	Prevalence Index is ≤3.0 ¹
	10		FAC	Morphological Adaptations ¹ (Provide supporting
••				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7	0			¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
9				
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12				Continue Weads along them 2 in DDU and
	-	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size: 30' radius)				
1	0			Herb - All herbaceous (non-woody) plants, regardless of
	0			size, and woody plants less than 3.28 ft tall.
2				
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes O No 🖲
Remarks: (Include photo numbers here or on a separate she	et.)			
A dominance of hydrophytic vegetation was not observed.				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth	 Mati	•		lox Featu			absence of indicators.)		
(inches)	Color (moist		Color (moist)	%	Type 1	Loc ²	Texture	Remarks	
0-14	10YR 4/	/2 100					Silty Loam		
				<u>.</u>		<u>.</u>			
				<u>.</u>		<u>.</u>			
	P		a	<u>.</u>					
				5					
¹ Type: C=Con	centration. D=Dep	letion. RM=Red	uced Matrix, CS=Covere	d or Coate	d Sand Gra	iins ² Loca	ation: PL=Pore Lining. M=I	Matrix	
Hydric Soil	Indicators:						Indicators for Prob	lematic Hydric Soils : ³	
Histosol (A1)		Polyvalue Belov	v Surface (58) (LRR R	1	2 cm Muck (A10)	(LRR K, L, MLRA 149B)	
Histic Epi	pedon (A2)		MLRA 149B)			A 140D)	_ ```	ox (A16) (LRR K, L, R)	
Black Hist	tic (A3)		Thin Dark Surfa			A 149B)		or Peat (S3) (LRR K, L, R)	
	n Sulfide (A4)		Loamy Mucky N				Dark Surface (S7		
	Layers (A5)		Loamy Gleyed I					Surface (S8) (LRR K, L)	
	Below Dark Surfac	e (A11)	Depleted Matrix				Thin Dark Surface		
Thick Dar	k Surface (A12)		Redox Dark Sur	. ,				Masses (F12) (LRR K, L, R)	
Sandy Mu	uck Mineral (S1)		Depleted Dark)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Gle	Sandy Gleyed Matrix (S4)						6) (MLRA 144A, 145, 149B)		
Sandy Re							Red Parent Material (F21)		
	Matrix (S6)						Very Shallow Dar	k Surface (TF12)	
Dark Surf	ace (S7) (LRR R, M	1LRA 149B)					Other (Explain in	Remarks)	
³ Indicators o	f hydrophytic vege	tation and wetla	nd hydrology must be p	resent, unl	ess disturb	ed or proble	ematic.		
	ayer (if observed		, , ,						
	ayer (il observet								
Type:	h) .						Hydric Soil Present?	Yes 🔿 No 🖲	
Depth (inc	nes):						•		
Remarks:									
Due to the la	ck of hydrology,	hydrophytic v	egetation, and hydrid	c soils, the	e area dic	l not meet	t the characteristics of a	wetland.	

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampli	Sampling Date: 12-Jun-20			
Applicant/Owner: FirstEnergy	State: OH	Sampling Point	Wetla	nd MCI-22			
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W			
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, non	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °			
Subregion (LRR or MLRA): LRR R	Lat.: 41.177028	Long.:	-80.826363	Datum: NAD 83			
Soil Map Unit Name: Ud - Udorthents, loamy	-		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 "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?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		e Sampled Area	Yes 🖲 No 🔿				
Remarks: (Explain alternative procedures here or in a separate report.) A PEM wetland located along the edge of an existing gravel access road into the Highland Substation and borders an active agricultural field. The PEM wetland formed along the concave area between the road and the agricultural field and the boundary continues to the north and outside of the survey area. Outside of the survey area the wetland continues along a drainage swale and likely terminates within the agricultural field due to drainage tiles. The boundary of the PEM wetland was identified by the dominance of Eleocharis obtusa and Typha latifolia. The field verification number for this sample point is W-BJM-2020-06-12-006 (PEM).							
Hydrology							
Wotland Hydrology Indicators		-					

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)	
Primary Indicators (minimum of one required;	✓ Surface Soil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)	
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)	
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)	
Sediment Deposits (B2)	 Oxidized Rhizospheres along Living Roots (C3) 	Saturation Visible on Aerial Imagery (C9)	
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes O No 🖲	Depth (inches):		
Water Table Present? Yes O No O	Depth (inches):	irology Present? Yes $ullet$ No $igodom$	
Saturation Present? (includes capillary fringe) Yes O No O	Depth (inches):	Irology Present? Yes ● No ∪	
Describe Recorded Data (stream gauge, monito	pring well, aerial photos, previous inspections), if ava	ilable:	
N/A			
Remarks:			
	ion and stormwater runoff from the abutting agricut	ural field	
Source of Hydrology was identified as precipitat			

			Sar	mpling Point:	Wetland MCI-22	
	Absolute	Dominant	Indicator	Dominance	Test worksheet:	
Tree Stratum (Plot size: 30' radius)	% Cover	Species?	Status	Number of Dr	ominant Species	
1	0				, FACW, or FAC: 2	(A)
2	0					
3	0				r of Dominant	
				Species Acros	ss All Strata:2	(B)
4				Percent of c	dominant Species	
5					BL, FACW, or FAC: <u>100.0%</u>	(A/B)
6						
7	0			Prevalence I	Index worksheet:	
Sapling/Shrub Stratum (Plot size: 15' radius)	0 =	= Total Cover		Total	% Cover of: Multiply by:	_
	0	_		OBL species	s <u>95</u> x 1 = <u>95</u>	
1				FACW specie	es <u>0</u> x 2 = <u>0</u>	_
2					s x 3 =	
3	0			FACU specie		
4	0					
5	0			UPL species	s x 5 =	
6				Column Tota	als: <u>95</u> (A) <u>95</u>	(B)
7	0			Prevale	nce Index = $B/A = 1.000$	
	0 =	= Total Cover				
Herb Stratum (Plot size: 5' radius)					Vegetation Indicators:	
1. Eleocharis obtusa	55	\checkmark	OBL		Test for Hydrophytic Vegetation	
	35		OBL	🖌 Domina	ance Test is > 50%	
O Columna atmaniana			OBL	✓ Prevale	ence Index is \leq 3.0 1	
0			ODL	Morpho	ological Adaptations 1 (Provide supp	oorting
4				data in	Remarks or on a separate sheet)	
5				Probler	matic Hydrophytic Vegetation 1 (Exp	olain)
6				1		
7	0				s of hydric soil and wetland hydrolog unless disturbed or problematic.	gy must
8	0				-	
9	0			Definitions	s of Vegetation Strata:	
10				Tree - Wood	dy plants, 3 in. (7.6 cm) or more in d	liameter
11					ight (DBH), regardless of height.	
12						
12.,		= Total Cover			ub - Woody plants less than 3 in. DE	3H and
Woody Vine Stratum (Plot size: 30' radius)				greater than	3.28 ft (1m) tall	
1	0			Herb - All he	erbaceous (non-woody) plants, rega	rdless of
2	0			size, and wo	oody plants less than 3.28 ft tall.	
3	0			Manakarata		6 in
4	0			height.	- All woody vines greater than 3.28	ft in
4		Total Course		neight.		
	=	= Total Cover				
					_	
				Hydrophytic Vegetation		
				Present?	Yes 💿 No 🔾	
Remarks: (Include photo numbers here or on a separate she	et.)					
See Appendix D of the Wetland Delineation and Stream Ass	-	nort for room	contativo	nhotographs	of the habitat and coil profile	
	essment Ke	port for repre	schlative	priotographs	or the habitat and son prome.	

Color (Matrix			Budy E 1			
		%	Color (mo	Redox Featurist) %	ures Type ¹	Loc ²	 Texture Remarks
10YR	4/1	95	10YR	4/6 5	C C	 PL	Silty Loam
				-1/0 <u>5</u>			·
10YR	4/2	100					Silty Loam
10YR	5/2	60		<u>5/4</u> <u>40</u> 	C	M	Silty Loam
			· ·				
	8		· ·				
	=Depletio	n. RM=Red	uced Matrix, CS=	Covered or Coat	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=Matrix
) don (A2) (A3) ulfide (A4) yers (A5) dow Dark S Surface (A1 Mineral (S cd Matrix (S x (S5) trix (S6) e (S7) (LRF ydrophytic er (if obse	Gurface (A .2) 51) 54) R R, MLRA vegetatio	A 149B)	MLRA 14	19B) k Surface (S9) (Mucky Mineral (F1 ileyed Matrix (F2 I Matrix (F3) ark Surface (F6) I Dark Surface (F epressions (F8)	LRR R, MLF 1) LRR K, L)) 7)	RA 149B)	Indicators for Problematic Hydric Soils : 3 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
sence of h	ydrology	y, hydroph	ytic vegetation	, and hydric sc	ils, the ar	ea was ide	entified as meeting the federal definition of a wetland.
	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark § Surface (A1) Mineral (S ad Matrix (S x (S5) trix (S6) e (S7) (LRF ydrophytic er (if obs s):	ntration. D=Depletic dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5) trix (S6) e (S7) (LRR R, MLRA ydrophytic vegetatic er (if observed): s):	ntration. D=Depletion. RM=Red dicators:) don (A2) (A3) ulfide (A4) yers (A5) How Dark Surface (A11) Surface (A12) Mineral (S1) ed Matrix (S4) x (S5) trix (S6) e (S7) (LRR R, MLRA 149B) ydrophytic vegetation and wetla er (if observed): s):	Image: state of the state	ntration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coatu iticators:)	Image: Sector of the sector	Image: Second Secon

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplir	ng Date: 12-Jun-20		
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetlan	d MCI-23a		
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W		
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, none	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °		
Subregion (LRR or MLRA): LRR R Lat.:	41.178291	Long.:	-80.826031	Datum: NAD 83		
Soil Map Unit Name: Ud - Udorthents, loamy			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 isignificantly 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 Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No No No No No No No No						
Wetland Hydrology Present? Yes NO Remarks: (Explain alternative procedures here or in a separate report of a PEM/PSS wetland complex, Wetland MCI-drainage swale with upland mounds on both sides. The wetland both the concave swale dominated by Typha angustifolia and Scirpus 2020-06-12-007 (PEM).	23a/b, located oundary continu	ies outside of the sur	vey area to the east a	nd boundary was confined		

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🔍	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	
Saturation Present? Yes O No •	Depth (inches):	rdrology Present? Yes 🖲 No 🔾
	pring well, aerial photos, previous inspections), if av	ailable:
N/A		
Remarks:		
	·	
Source of hydrology was identified as precipitat	ion and stormwater runoff from the abutting agricu	tural field.

VEGETATION - Use scientific names of pla	nts		Sai	mpling Point: Wetland MCI-23a
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC: <u>2</u> (A)
2				Total Number of Dominant
3	0			Species Across All Strata: <u>2</u> (B)
4				
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	0 =	= Total Cover	r	Total % Cover of: Multiply by:
	0			OBL species $90 \times 1 = 90$
1				FACW species $10 \times 2 = 20$
2				FAC species $0 \times 3 = 0$
3				FACU species $0 \times 4 = 0$
4				UPL species $0 \times 5 = 0$
5	·			Column Totals: 100 (A) 110 (B)
6				
7		= Total Cove		Prevalence Index = B/A =
Herb Stratum (Plot size: 5' radius)				Hydrophytic Vegetation Indicators:
1. Typha angustifolia	60	\checkmark	OBL	✓ Rapid Test for Hydrophytic Vegetation
2. Scirpus atrovirens			OBL	✓ Dominance Test is > 50%
3. Carex scoparia	10		FACW	✓ Prevalence Index is \leq 3.0 ¹
4 Juncus effusus	-		OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				
	-	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size: 30' radius)				
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cover	r	
				Hydrophytic
				Vegetation
				Present? Yes • No
Remarks: (Include photo numbers here or on a separate she	eet.)			
See Appendix D of the Wetland Delineation and Stream Ass	sessment Re	port for repr	esentative	photographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers

Depth		Matrix			Re	dox Featu				
(inches)	Color (moist)	%	Color ((moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	10YR	3/2	100						Silty Loam	
2-18	10YR	5/2	80	10YR	5/6	20	C		Silty Loam	
									·	
/pe: C=Con		=Depletio	n. RM=Redu	uced Matrix,	CS=Covere	ed or Coate	ed Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=Matri	x
dric Soil	Indicators:								Indicators for Problem	atic Hydric Soils : ³
Black Hist Hydroger Stratified Depleted Thick Dar Sandy Mu Sandy Glag Sandy Re Stripped Dark Surf ndicators o	n Sulfide (A4) Layers (A5) Below Dark S rk Surface (A1 uck Mineral (S eyed Matrix (S edox (S5) Matrix (S6) face (S7) (LRF f hydrophytic	Gurface (A .2) 51) 54) R R, MLRA vegetatio	A 149B)	 ☐ Thin ☐ Loar ☐ Loar ☑ Depl ☐ Redo ☐ Depl ☐ Redo 	ny Mucky I ny Gleyed leted Matri: ox Dark Su leted Dark ox Depress	Mineral (F1 Matrix (F2) x (F3) rface (F6) Surface (F Sions (F8)	7)		Dark Surface (S7) (LF Polyvalue Below Surface (S2) Thin Dark Surface (S2) Iron-Manganese Mass Piedmont Floodplain Mesic Spodic (TA6) (I Red Parent Material (Very Shallow Dark Su Other (Explain in Ren	A16) (LRR K, L, R) Peat (S3) (LRR K, L, R) RR K, L, M) ace (S8) (LRR K, L) 9) (LRR K, L) 50 (LRR K, L) 50 (LRR K, L) 50 (LRR K, L, R) 50 (LRR K, L, R) 50 (LRR K, L, R) 50 (LRR K, L) 50 (LRR K, L, R) 50 (LRR K, L) 50
Туре:	ayer (if obs	erved):							Hydric Soil Present?	Yes 🔍 No 🔾
Depth (inc emarks:	:hes):								Tryunc Son Present:	
	resence of h	iydrolog	y, hydroph	ytic vegeta	tion, and	hydric so	ils, the are	ea was ide	ntified as meeting the fede	ral definition of a wetlar

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampli	ng Date: 12-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetlar	nd MCI-23b
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (o	concave, convex, none):	concave	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.178398	Long.: -{	30.824179	Datum: NAD 83
Soil Map Unit Name: Ud - Udorthents, loamy			NWI classification:	N/A
	tly disturbed? problematic?	Are "Normal Circu (If needed, explai	o, explain in Remark Imstances" present? in any answers in Re r ansects, impo	Yes • No ·
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		e Sampled Area in a Wetland? Ye	s 🖲 No 🔿	
Remarks: (Explain alternative procedures here or in a separate repo A linear PSS portion of a PEM/PSS wetland complex, Wetland MCI-2 drainage swale with upland mounds on both sides. The wetland bo by the concave swale dominated by Populus tremuloides, Quercus I identification id for the sample point was identified as W-BJM-2020-	23a/b, located bundary contin bicolor, Frangu	ues outside of the surve la alnus, Scirpus atrovi	ey area to the east a	and boundary was confined

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No 🖲	Depth (inches):	
Saturation Present? Yes No •	Depth (inches):	drology Present? Yes $ullet$ No $igodot$
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspections), if available	ailable:
N/A		
Remarks:		
Source of hydrology was identified as precipitat	ion and stormwater runoff from the abutting agricu	tural field.

Sampling Point:	Wetland MCI-23b
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Tree Stratum (Plot size: _30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 Quarque bicolor	20		FACW	Number of Dominant Species
			FACW	That are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata:5_ (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)
6				
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	20=	= Total Cove	r	Total % Cover of: Multiply by:
1. Populus tremuloides	15	\checkmark	FACU	OBL species $35 \times 1 = 35$
2 Frangula alnus	15		FAC	FACW species $40 \times 2 = 80$
3. Cornus racemosa			FAC	FAC species <u>30</u> x 3 = <u>90</u>
4	-			FACU species $25 \times 4 = 100$
5				UPL species $0 \times 5 = 0$
6				Column Totals: <u>130</u> (A) <u>305</u> (B)
7	0			Prevalence Index = B/A = 2.346
		= Total Cove	r	
Herb Stratum (Plot size: 5' radius)				Hydrophytic Vegetation Indicators:
1. Scirpus atrovirens	25	\checkmark	OBL	Rapid Test for Hydrophytic Vegetation
2. Carex granularis	20		FACW	✓ Dominance Test is > 50%
3. Juncus tenuis	10		FAC	V Prevalence Index is \leq 3.0 ¹
4. Holcus lanatus	10		FACU	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. Carex vulpinoidea			OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
6. <i>Epilobium coloratum</i>			OBL	
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
0 10				Trans Manda da Circa (7.0 and) and an discussion
11				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12	0			
12		= Total Cove		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30' radius)			•	greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cove	r	
				Hydrophytic
				Vegetation Present? Yes • No ·
Dowella, (Include whete sumbars have a set of the	ot)			
Remarks: (Include photo numbers here or on a separate she	-		an and the the	whether would be fight and sold sold sold and
See Appendix D of the Wetland Delineation and Stream Ass	essment Re	eport for repr	esentative	priolographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

100 70 10YR 70 10YR	(moist)	r Coated Sand G Irface (S8) (LRR (S9) (LRR R, ML iral (F1) LRR K, I rix (F2) 3)	M	Texture Remarks Silty Loam
100 70 10YR 70 10YR	5/6 30	0 C	M	Silty Loam Silty Loam
70 10YR 70 10YR 10YR 10YR	In Dark Surface (amy Mucky Mine amy Gleyed Matr pleted Matrix (F3 dox Dark Surface	r Coated Sand G Irface (S8) (LRR (S9) (LRR R, ML iral (F1) LRR K, I rix (F2) 3)	 	Silty Loam
(A11)	lyvalue Below Su .RA 149B) in Dark Surface (amy Mucky Mine amy Gleyed Matr pleted Matrix (F3 dox Dark Surface	ırface (S8) (LRR (S9) (LRR R, ML eral (F1) LRR K, I rix (F2) 3)	R, RA 149B)	Indicators for Problematic Hydric Soils : ³ 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M)
(A11)	lyvalue Below Su .RA 149B) in Dark Surface (amy Mucky Mine amy Gleyed Matr pleted Matrix (F3 dox Dark Surface	ırface (S8) (LRR (S9) (LRR R, ML eral (F1) LRR K, I rix (F2) 3)	R, RA 149B)	Indicators for Problematic Hydric Soils : ³ 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M)
(A11)	lyvalue Below Su .RA 149B) in Dark Surface (amy Mucky Mine amy Gleyed Matr pleted Matrix (F3 dox Dark Surface	ırface (S8) (LRR (S9) (LRR R, ML eral (F1) LRR K, I rix (F2) 3)	R, RA 149B)	Indicators for Problematic Hydric Soils : ³ 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M)
(A11)	lyvalue Below Su .RA 149B) in Dark Surface (amy Mucky Mine amy Gleyed Matr pleted Matrix (F3 dox Dark Surface	ırface (S8) (LRR (S9) (LRR R, ML eral (F1) LRR K, I rix (F2) 3)	R, RA 149B)	Indicators for Problematic Hydric Soils : ³ 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M)
(A11)	lyvalue Below Su .RA 149B) in Dark Surface (amy Mucky Mine amy Gleyed Matr pleted Matrix (F3 dox Dark Surface	ırface (S8) (LRR (S9) (LRR R, ML eral (F1) LRR K, I rix (F2) 3)	R, RA 149B)	Indicators for Problematic Hydric Soils : ³ 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M)
(A11)	ŔA 149B) in Dark Surface (amy Mucky Mine amy Gleyed Matr pleted Matrix (F3 dox Dark Surface	(S9) (LRR R, ML ral (F1) LRR K, L rix (F2) 3)	RA 149B)	 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M)
RA 149B)	pleted Dark Surfa dox Depressions gy must be prese	ace (F7) 5 (F8)	bed or proble	 Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
: 				Hydric Soil Present? Yes 🖲 No 🔿
tio :	n and wetland hydrolog	n and wetland hydrology must be prese	n and wetland hydrology must be present, unless distur	۱498) n and wetland hydrology must be present, unless disturbed or probl

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	g Date: 12-Jun-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland M	CI-23a/b UPL
Investigator(s): B.Miller	Section, T	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, none):	convex	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.17829517	Long.: -8	0.82607971	Datum: NAD 83
Soil Map Unit Name: Ud - Udorthents, loamy	<u>.</u>	<u> </u>	NWI classification:	N/A
	ntly disturbed? problematic?	Are "Normal Circu (If needed, explai	o, explain in Remarks. mstances" present? n any answers in Rem "ansects, impor	Yes • No Onarks.)
Hydrophytic Vegetation Present?Yes ○No ●Hydric Soil Present?Yes ○No ●Wetland Hydrology Present?Yes ○No ●		e Sampled Area n a Wetland? Ye	s 🔿 No 🖲	
Remarks: (Explain alternative procedures here or in a separate rep	ort.)			
A upland reference point located on a between Wetlands MCI-23a, and adjacent to an active agricultural field. The field identification		5	5	5 1

	Secondary Indicators (minimum of 2 required)
check all that apply)	Surface Soil Cracks (B6)
Water-Stained Leaves (B9)	Drainage Patterns (B10)
Aquatic Fauna (B13)	Moss Trim Lines (B16)
Marl Deposits (B15)	Dry Season Water Table (C2)
Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Thin Muck Surface (C7)	Shallow Aquitard (D3)
Other (Explain in Remarks)	Microtopographic Relief (D4)
	FAC-neutral Test (D5)
Depth (inches):	
Depth (inches):	vdrology Present? Yes \bigcirc No $ullet$
Depth (inches):	ydrology Present? Yes \bigcirc No $ullet$
oring well, aerial photos, previous inspections), if av	vailable:
iv indicators were observed	
	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Wetland Here

Sampling Point:	Wetland	MCI-23a/b	UPL
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(Plet size, 20' radius)	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' radius)	% Cover	Species	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC:(A)
2	0			
3				Total Number of Dominant Species Across All Strata: 4 (B)
4				
5				Percent of dominant Species
				That Are OBL, FACW, or FAC:
6				
7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	0	= Total Cover		Total % Cover of: Multiply by:
A Francula aloue	25		FAC	OBL species x 1 =
1. Frangula alnus			FAC	FACW species $10 \times 2 = 20$
2. Elaeagnus angustifolia	-		FACU	FAC species25 x 3 =75
3	0			FACU species $95 \times 4 = 380$
4	0			
5	0			UPL species $0 \times 5 = 0$
6			-	Column Totals: <u>130</u> (A) <u>475</u> (B)
7	0			Prevalence Index = $B/A = 3.654$
·		= Total Cover		
Herb Stratum (Plot size: 5' radius)	35			Hydrophytic Vegetation Indicators:
A Authorization a damation	25		EACU	Rapid Test for Hydrophytic Vegetation
1. Anthoxanthum odoratum			FACU	Dominance Test is > 50%
2. Solidago altissima			FACU	Prevalence Index is \leq 3.0 ¹
3. Holcus lanatus	15		FACU	Morphological Adaptations ¹ (Provide supporting
4. Achillea millefolium	10		FACU	data in Remarks or on a separate sheet)
5. Dipsacus fullonum	10		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
6. Carex granularis	10		FACW	
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
9				_
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
	95	= Total Cover		greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size: 30' radius)		_		
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cover		
				I hadaa ahadia
				Hydrophytic Vegetation
				Present? Yes No 💿
Remarks: (Include photo numbers here or on a separate she	• • • •			
	et.)			
A dominance of hydrophytic vegetation was not observed.				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth		Matrix	•			dox Featu			absence of indicators.)	
(inches)	Color (%	Color (me		<u>40x reatu</u> %	Type ¹	Loc ²	Texture	Remarks
0-6	10YR	4/3	100		5150)				Silty Loam	Keinarko
6-18		5/2	60		5/4	40	c		Silty Clay Loam	
0 10		5/2			5/1					
						- <u></u>			<u> </u>	
						- <u> </u>				
¹ Type: C=Con	centration. D	=Depletic	on. RM=Red	uced Matrix, CS	=Covere	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=Matri	ix
Hydric Soil									Indicators for Problem	
Black Hist Hydroger Stratified Depleted Thick Dar Sandy Mu Sandy Gle Sandy Re Stripped Dark Surf ³ Indicators o	pedon (A2) tic (A3) a Sulfide (A4) Layers (A5) Below Dark S k Surface (A1) ack Mineral (S ayed Matrix (S dox (S5) Matrix (S6) face (S7) (LRF f hydrophytic	Surface (A 12) 51) 54) R R, MLRA vegetatic	A 149B)	MLŔA 1	.49B) ark Surfa Mucky N Gleyed I ed Matrix Dark Sur d Dark Sur Depress	ace (S9) (I Mineral (F1 Matrix (F2) x (F3) rface (F6) Surface (F6) ions (F8)	7)	RA 149B)	2 cm Muck (A10) (LR Coast Prairie Redox (5 cm Mucky Peat or F Dark Surface (S7) (LF Polyvalue Below Surface Thin Dark Surface (S9 Iron-Manganese Mass Piedmont Floodplain S Mesic Spodic (TA6) (1 Red Parent Material (Very Shallow Dark Su Other (Explain in Rem	R K, L, MLRA 149B) A16) (LRR K, L, R) Peat (S3) (LRR K, L, R) RR K, L, M) ace (S8) (LRR K, L) Ø) (LRR K, L) Soils (F12) (LRR K, L, R) Soils (F19) (MLRA 149B) MLRA 144A, 145, 149B) F21) rface (TF12)
Type: Depth (inc	hes).								Hydric Soil Present?	Yes 🔿 No 🖲
Remarks:										
	ck of hydro	logy, hyd	drophytic v	egetation, and	d hydrio	c soils, th	e area up	slope of th	ne Wetland MCI-20 did not	meet the characteristics of a

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampli	ng Date: 12-Jur	1-20
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetla	nd MCI-24	
Investigator(s): B.Miller	Section, To	wnship, Range: S.	T. 3N		R. 4W
Landform (hillslope, terrace, etc.): Toeslope	Local relief (co	ncave, convex, none):	concave	Slope:2.()%/ <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.177381	Long.: -{	30.822333	Datum:	NAD 83
Soil Map Unit Name: Ud - Udorthents, loamy			NWI classification:	N/A	
	ntly disturbed? problematic?	Are "Normal Circu (If needed, explai	o, explain in Remark Imstances" present? In any answers in Re r ansects, impo	Yes 🔍 Marks.)	[№] ○
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		Sampled Area a Wetland? Ye	s 🖲 No 🔿		
Remarks: (Explain alternative procedures here or in a separate rep	ort.)				
A PEM wetland located along the hillside of the existing Highland S boundary of the wetland was identified by the dominance of Typha area, it is bordered by agricultural fields and likely continues throug Creek. The field identification id for the sample point was identified	a angustifolia and gh the agricultur	l Glyceria striata. As t al field as drainage tile	the wetland continue	es outside of the	e survey

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	✓ Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 💿	Depth (inches):	
Water Table Present? Yes O No O	Depth (inches):	drology Present? Yes 💿 No 🔿
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):	drology Present? Yes $ullet$ No $igcup$
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspections), if ava	ailable:
N/A		
Remarks:		
Source of hydrology was identified as precipitati	ion and stormwater runoff from the substation and	hillside.

VEGETATION - Use scientific names of pla	nts		Sa	mpling Point: Wetland MCI-24			
	Absolute	O	Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Number of Dominant Species			
1				That are OBL, FACW, or FAC:(A)			
2				Total Number of Dominant			
3				Species Across All Strata: (B)			
4							
5				Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)			
6	0						
7	0			Prevalence Index worksheet:			
Sapling/Shrub Stratum (Plot size: 15' radius)	0 :	= Total Cover		Total % Cover of: Multiply by:			
	0			OBL species <u>105</u> \times 1 = <u>105</u>			
1				FACW species $25 \times 2 = 50$			
2				FAC species $0 \times 3 = 0$			
3				FACU species $0 \times 4 = 0$			
4				UPL species $0 \times 5 = 0$			
5				Column Totals:(A)(B)			
6 7							
		= Total Cover		Prevalence Index = $B/A = 1.192$			
Herb Stratum (Plot size: 5' radius)				Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation			
1. Typha angustifolia	80	\checkmark	OBL				
2. Glyceria striata	20		OBL	✓ Dominance Test is > 50%			
3. Onoclea sensibilis	15		FACW	✓ Prevalence Index is ≤3.0 ¹			
4. Impatiens capensis	4.0		FACW	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
5. Carex vulpinoidea	-		OBL	Problematic Hydrophytic Vegetation ¹ (Explain)			
6							
7				¹ Indicators of hydric soil and wetland hydrology must			
8				be present, unless disturbed or problematic.			
9				Definitions of Vegetation Strata:			
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter			
11				at breast height (DBH), regardless of height.			
12							
	-	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall			
Woody Vine Stratum (Plot size: 30' radius)							
1	0			Herb - All herbaceous (non-woody) plants, regardless of			
2	0			size, and woody plants less than 3.28 ft tall.			
3	0			Woody vine - All woody vines greater than 3.28 ft in			
4	0			height.			
	0 :	= Total Cover	•				
				Hydrophytic Vegetation			
				Present? Yes • No			
Remarks: (Include photo numbers here or on a separate she	et.)						
See Appendix D of the Wetland Delineation and Stream Ass	essment Re	eport for repr	esentative	photographs of the habitat and soil profile.			

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers

	ription: (De	scribe to	the depth	needed to a	locument	the indic	cator or co	onfirm the	absence of indicators.)	
Depth (inches)		Matrix				dox Featu			- <u>-</u> .	
	Color (Color (%	Type 1		Texture	Remarks
0-6	10YR	4/1	95	10YR	4/6	5	C	PL	Silty Loam	
6-18	<u> </u>	4/	98	7.5YR	5/6	2	C	M	Silty Clay Loam	
								· · · · · · · · · · · · · · · · · · ·		
		=Depletic	on. RM=Rec	uced Matrix,	CS=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=N	
Histosol Histic Ep Black His Hydroge Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Sur	Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) 2 cm Muck (A10) (LRR K, L, MLRA 149E) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, F Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, F Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K Sandy Muck Mineral (S1) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MLRP						LRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Coast Prairie Redox (A16) (LRR K, L, R) S cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)			
Restrictive Type: Depth (in Remarks:	Layer (if obs	served):							Hydric Soil Present?	Yes No ederal definition of a wetland.

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	Date: 12-Jun-20				
Applicant/Owner: FirstEnergy	State: OH	Sampling Point:	Wetland M	CI-24 UPL				
Investigator(s): B.Miller	Section, To	ownship, Range: S.	T. 3N	R. 4W				
Landform (hillslope, terrace, etc.): Flat	Local relief (co	oncave, convex, none): convex	Slope: <u>2.0</u> % / <u>1.1</u> °				
Subregion (LRR or MLRA): LRR R Lat.:	41.17728654	Long.:	-80.82191161	Datum: NAD 83				
Soil Map Unit Name: Ud - Udorthents, loamy	-		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 isignificantly disturbed? Are "Normal Circumstances" present? Yes No Are 'No Are 'Normal Circumstances' present? Yes No Are 'No Ciff 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 Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No No No No No No No No								
Remarks: (Explain alternative procedures here or in a separate report A upland reference point for Wetlands MCI-24 located along the education sample point was identified as W-BJM-2020-06-12-008 UPL.	,	nd and within a agric	ultural field. The field ide	entification id for the				

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No O	Depth (inches):	drology Present? Yes \bigcirc No \odot
Saturation Present? Yes No •	Depth (inches):	drology Present? Yes 🔾 No 🖲
Describe Recorded Data (stream gauge, monito	pring well, aerial photos, previous inspections), if ava	ailable:
N/A		
Remarks:		
No primary and/or secondary wetland hydrolog	v indicators were observed.	
···· p······ , ····· , ······· , ········	,	

Sampling Point:	Wetland MCI-24 UPL
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Tree Stratum (Plot size: <u>30' radius</u>)	Absolute % Cover		Indicator Status	Dominance Test worksheet:
		. <u> p</u> .	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata: <u>2</u> (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC:
6				
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' radius)	=	= Total Cover		Total % Cover of: Multiply by:
	0			OBL species $5 \times 1 = 5$
1				FACW species $0 \times 2 = 0$
2				FAC species $0 \times 3 = 0$
3	_			FACU species $100 \times 4 = 400$
4	-			UPL species $0 \times 5 = 0$
5				Column Totals: <u>105</u> (A) <u>405</u> (B)
6				
7				Prevalence Index = $B/A = 3.857$
Herb Stratum (Plot size: 5' radius)	0 =	= Total Cover		Hydrophytic Vegetation Indicators:
	40		FACU	Rapid Test for Hydrophytic Vegetation
1. Solidago canadensis	40		FACU	Dominance Test is > 50%
2. Festuca arundinacea	25		FACU	Prevalence Index is \leq 3.0 ¹
3. Poa pratensis	20		FACU	Morphological Adaptations ¹ (Provide supporting
4. Holcus lanatus	15		FACU	data in Remarks or on a separate sheet)
5. Juncus effusus			OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			4
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12	0			Carling/about Maadu plants lass than 2 in DDU and
	105 =	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size: <u>30' radius</u>)		_		
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	=	= Total Cover		
	-			
				Hydrophytic Vegetation
				Present? Yes No 💿
Remarks: (Include photo numbers here or on a separate she	et.)			

A dominance of hydrophytic vegetation was not observed. The vegetation was significantly disturbed due to the active agricultural field, i.e. hayfield was previsously cut.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth			uie depui	neeueu to u					absence of indicators.)			
(inches)	Color (Matrix moist)	%	Color (r		dox Featı %	Type ¹	Loc ²	Texture	Remarks		
0-4	10YR	4/2	100						Silty Loam			
4-18	10YR	4/1	90	10YR	4/6	10	С	М	Silty Clay Loam			
										•		
u	<u>.</u>							-				
	-	67-										
	L		-	<u>.</u>	-							
1 Type: C=Cor		=Denletio	n RM=Red	uced Matrix (S=Cover	ed or Coate		ains 21 oc	ation: PL=Pore Lining. M=M	atrix		
Hydric Soil		Depictio								ematic Hydric Soils : ³		
Histosol (Polyv	alue Belo	w Surface	(S8) (LRR R	- - 7				
Histic Epi	pedon (A2)			_	A 149B)					(LRR K, L, MLRA 149B) x (A16) (LRR K, L, R)		
Black His	tic (A3)						LRR R, MLR			or Peat (S3) (LRR K, L, R)		
Hydroger	n Sulfide (A4)				Loarny Mucky Mineral (F1) LKK K, L)							
Stratified	Layers (A5)			_		Matrix (F2))			urface (S8) (LRR K, L)		
Depleted	Below Dark S	Surface (A	11)		eted Matri				Thin Dark Surface (S9) (LRR K, L)			
Thick Dar	rk Surface (Al	12)				irface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)			
Sandy Mu	uck Mineral (S	51)				Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)			
Sandy Gl	eyed Matrix (S4)			x Depress	sions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy Re	edox (S5)								Red Parent Material (F21)			
Stripped	Matrix (S6)								Very Shallow Dark Surface (TF12)			
Dark Surf	face (S7) (LRI	r r, mlra	A 149B)						Other (Explain in Remarks)			
³ Indicators o	f hydrophytic	vegetatio	on and wetla	nd hydrology	must be p	oresent, un	less disturb	ed or probl	lematic.			
Restrictive L	ayer (if obs.	erved):										
Туре:										~ • • •		
Depth (inc	:hes):								Hydric Soil Present?	Yes 🔍 No 🔾		
Remarks:												
Even though	there is a p	presence	of hydric s	soil, the lack	of vege	tation and	d hydrolog	y confirm	s that the area does not	meet the federal definition of a		
wetland and	is an upland	d represe	entative to	Wetlands M	ICI-24.							

Project/Site: Magellan Interconnect Project	City/County: Trumbull	Sampling Date: 28-Sep-20						
Applicant/Owner: FirstEnergy	State: Ohio Sampling Point:	Wetland MCI-31a						
Investigator(s): Brian Miller and Renne Massa	Section, Township, Range: S.	T. 3N R. 4W						
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none):	concave Slope: <u>2.0</u> % / <u>1.1</u> °						
Subregion (LRR or MLRA): LRR R Lat.:	41.174872147 Long.: -80	.829718510 Datum: NAD83						
Soil Map Unit Name: Rittman silt loam, 6 to 12 percent slopes	N	WI classification: NA						
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?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo	Is the Sampled Area within a Wetland? Yes	● No ○						
Remarks: (Explain alternative procedures here or in a separate repo A PEM portion (Wetland MCI-31a) of a PEM/PSS wetland complex (confined to the south by an existing railroad. The boundary of the and Phragmites australis. Wetland MCI-31 a/b continues along the identification id for the sample point was identified as W-09-28-202	Wetland MCI-31a/b) located along the PEM wetland was identified by dominar edge of the railroad and is directly conn	nce of Typha latifolia, Phalaris arundinacea,						

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)			
Primary Indicators (minimum of one required	Surface Soil Cracks (B6)				
Surface Water (A1)	Drainage Patterns (B10)				
High Water Table (A2)	Water-Stained Leaves (B9)	Moss Trim Lines (B16)			
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)			
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)			
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)			
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)			
Field Observations:					
Surface Water Present? Yes O No 🔍	Depth (inches): 0				
Water Table Present? Yes O No 🖲	Depth (inches):0	rology Present? Yes 💿 No 🔾			
Saturation Present? Yes O No O	Depth (inches): 0 Wetland Hy	ydrology Present? Yes 🔍 No 🔾			
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous inspections), if av	vailable:			
NA					
Remarks:					
	cipitation that collects in the concave area between t	the farm read and railroad			
The source of flyarology was identified as pred					

			Sar	mpling Point: Wetland MCI-31a
	Absolute	• • •	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	<u></u>	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC:(A)
2	0			Total Number of Dominant
3	0			Species Across All Strata: <u>2</u> (B)
4	0			
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size:)	0 =	= Total Cover		Total % Cover of: Multiply by:
	0			OBL species <u>65</u> x 1 = <u>65</u>
1	0			FACW species $40 \times 2 = 80$
2				FAC species x 3 =
3	_			FACU species $0 \times 4 = 0$
4	-			UPL species $0 \times 5 = 0$
5				Column Totals: 105 (A) 145 (B)
6				$\begin{array}{c} \text{Column lotals:} \underline{105} \text{ (A)} \underline{145} \text{ (b)} \end{array}$
7	0			Prevalence Index = $B/A = 1.381$
Herb Stratum (Plot size: 5ft radius)	0 =	= Total Cover		Hydrophytic Vegetation Indicators:
A Twelve letterte	65		OBL	Rapid Test for Hydrophytic Vegetation
	25		FACW	✓ Dominance Test is > 50%
O Dhua amitaa awatwalia	15		FACW	✓ Prevalence Index is ≤3.0 1
0.			TACW	Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8	0			Definitions of Vegetation Strata:
9	0			
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	105 =	= Total Cover		greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
0	0			size, and woody plants less than 3.28 ft tall.
3	0			
3	0			Woody vine - All woody vines greater than 3.28 ft in height.
4		= Total Cover		noight.
				Hydrophytic
				Vegetation Present? Yes • No ·
Pomarka (Includo photo numbero haro es en a correcto aba				<u> </u>
Remarks: (Include photo numbers here or on a separate shee See Appendix D of the Wetland Delineation and Stream Asse	-	nort for repr	econtetivo	nhotographs of the babitat and soil profile
See Appendix D of the Weddid Deinfeddorf and Stream Asse	Join Church	port for repre	Schauve	photographs of the hubitat and soll profile.

Profile Descr	iption: (De	scribe to	the depth	needed to do	ocument	the indic	cator or co	onfirm the	absence of indicators.)				
Depth		Matrix			Re	dox Featu			_				
(inches)	Color (moist)		Color (n	noist)	%	Type ¹	Loc ²	Texture	Remarks			
0-6	10YR	4/1	100						Silt Loam				
6-18	10YR	5/1	85	10YR	6/8	15	С	М	Silty Clay Loam				
		<u>ir</u>	-										
		<u>ir</u>											
		<u>1</u>	-				-						
						-							
		<u></u>				-							
1													
		=Depletio	on. RM=Red	uced Matrix, C	S=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=N	Aatrix			
Hydric Soil I				_					Indicators for Prob	lematic Hydric Soils: ³			
Histosol (/				Polyva ULRA		w Surface	(S8) (LRR I	२,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)			
	pedon (A2)					aca (SQ) (LRR R, MLI	0A 140B)	Coast Prairie Red	ox (A16) (LRR K, L, R)			
Black Hist				_		. , .		,	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)				
_	Sulfide (A4)						l) LRR K, L)	Dark Surface (S7) (LRR K, L, M)			
_	Layers (A5)					Matrix (F2))		Polyvalue Below Surface (S8) (LRR K, L)				
	Below Dark S		.11)						Thin Dark Surface (S9) (LRR K, L)				
Thick Darl	k Surface (A	12)				rface (F6)				Masses (F12) (LRR K, L, R)			
Sandy Mu	ick Mineral (S	51)				Surface (F ions (F8)	.7)			ain Soils (F19) (MLRA 149B)			
	eyed Matrix (S4)			Depress	10115 (FO)			_	6) (MLRA 144A, 145, 149B)			
Sandy Red									Red Parent Mater	ial (F21)			
	Matrix (S6)								Very Shallow Dar	k Surface (TF12)			
Dark Surfa	ace (S7) (LRI	R R, MLRA	A 149B)						Other (Explain in Remarks)				
³ Indicators of	f hydrophytic	vegetatio	n and wetla	ind hydrology r	nust be p	present, un	nless disturl	ped or probl	ematic.				
Restrictive La					-								
Type:	ayei (ii obs	eiveu).											
Depth (incl	haa)ı								Hydric Soil Present?	Yes 🔍 No 🔾			
	nes).								-				
Remarks:													
The soil profil	le meets th	e criteria	for deple	ted matrix.	Due to t	ne preser	nce of we	land hydro	ology, dominance of hyd	Irophytic vegetation, and hydric			
soils, the area	a along the	edge of	the existin	ng farm road	meets t	he federa	al definitio	on of a wet	land.				

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Project/Site: Magellan Interconnect Project	City/County: Trumbuli	Sampling Date: 28-Sep-20
Applicant/Owner: FirstEnergy	State: Ohio Sampling Point:	Wetland MCI-31b
Investigator(s): Brian Miller and Renne Massa	Section, Township, Range: S.	T. 3N R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none): concave Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.174848343 Long.:	-80.830339703 Datum: NAD83
Soil Map Unit Name: Rittman silt loam, 6 to 12 percent slopes		NWI classification: NA
	ntly disturbed? Are "Normal Circ problematic? (If needed, expl	no, explain in Remarks.) cumstances" present? Yes • No · ain any answers in Remarks.) transects, important features, etc.
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo	Is the Sampled Area within a Wetland? Y	ies 🖲 No 🔿
Remarks: (Explain alternative procedures here or in a separate repo	ort.)	
A PSS portion (Wetland MCI-31b) of a PEM/PSS wetland complex (confined to the south by an existing railroad. The boundary of the Wetland MCI-31 a/b continues along the edge of the railroad and is point was identified as W-09-28-2020-BJM-001 PSS.	PSS wetland was identified by domin	nance of Typha latifolia and Cornus racemosa.

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one requ	Surface Soil Cracks (B6)	
Surface Water (A1)	Drainage Patterns (B10)	
High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No	Depth (inches): 0	
Water Table Present? Yes O No		rdrology Present? Yes 🖲 No 🔿
Saturation Present? Yes O No	Depth (inches): 0	ydrology Present? Yes ● No ∪
Describe Recorded Data (stream gauge, m	onitoring well, aerial photos, previous inspections), if av	ailable:
Remarks:		
The source of hydrology was identified as	precipitation that collects in the concave area between t	he farm road and railroad.

			Sar	mpling Point: Wetland MCI-31b
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC: <u>3</u> (A)
2	0			
3	0			Total Number of Dominant Species Across All Strata: 3 (B)
4				
5				Percent of dominant Species
6				That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7				Prevalence Index worksheet:
		- Tatal Causa		
Sapling/Shrub Stratum (Plot size: 15ft radius)	0	= Total Cover		
1 _ Cornus racemosa	35	\checkmark	FAC	
2. Spiraea alba	10		FACW	FACW species 20 x 2 = 40
3				FAC species X 3 =105
4				FACU species $0 \times 4 = 0$
+ 5				UPL species $0 \times 5 = 0$
				Column Totals: 145 (A) 235 (B)
6	0			
7				Prevalence Index = B/A = <u>1.621</u>
Herb Stratum (Plot size: 5ft radius)	45	= Total Cover		Hydrophytic Vegetation Indicators:
A Turke letter	75		OBL	Rapid Test for Hydrophytic Vegetation
				✓ Dominance Test is > 50%
2. Eutrochium maculatum			OBL	✓ Prevalence Index is \leq 3.0 ¹
3. Phalaris arundinacea			FACW	Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				1
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
	100	= Total Cover		greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size:)		_		
1	0			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2	0			size, and woody plants less than 5.26 it tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cover		
				Hydrophytic
				Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate she	et.)			
See Appendix D of the Wetland Delineation and Stream Asse	-	anort for rapro	contativo	photographs of the babitat and soil profile
See Appendix D of the Weddid Delineadon and Stream Asse	Joshielit Re	sport for repre	Scinarive	photographs of the habitat and soll prome.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

	ription: (De		the depth	needed to d				onfirm the	absence of indicators.)			
Depth (inches)	Color (Matrix (moist)	%	Color (dox Featı %	Type 1	Loc ²	Texture	Remarks		
0-5	10YR	4/1	100		moisty	70	Туре	LUC	Silt Loam	Remarks		
5-18	10YR	5/1	95	10YR	5/6	5	C	M	Silty Clay Loam	<u>.</u>		
	-											
	-											
				u	u							
				-								
1												
		=Depletic	on. RM=Red	uced Matrix,	CS=Covere	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=M			
Hydric Soil									Indicators for Proble	ematic Hydric Soils: ³		
Histosol (. ,				value Belo [,] A 149B)	w Surface	(S8) (LRR F		2 cm Muck (A10)	(LRR K, L, MLRA 149B)		
	pedon (A2)			_		ace (59) (LRR R, MLR	A 149B)	Coast Prairie Redo	ox (A16) (LRR K, L, R)		
Black His							.) LRR K, L)		5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
	n Sulfide (A4))		_		Matrix (F2			Dark Surface (S7) (LRR K, L, M)			
	Layers (A5)	C	11\		eted Matri		/		Polyvalue Below Surface (S8) (LRR K, L)			
	Below Dark Surface (A		.11)		ox Dark Su				Thin Dark Surface (S9) (LRR K, L)			
		,				Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R)			
	uck Mineral (S eyed Matrix (ox Depress		,		Piedmont Floodplain Soils (F19) (MLRA 149B)			
Sandy Gi		57)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Matrix (S6)								Red Parent Materi			
	face (S7) (LR		4 149B)						Very Shallow Dark Surface (TF12)			
									Other (Explain in I	Remarks)		
³ Indicators o	f hydrophytic	c vegetatio	on and wetla	nd hydrology	must be p	present, un	iless disturb	ed or probl	ematic.			
Restrictive L	ayer (if obs.	erved):										
Туре:												
Depth (inc	:hes):								Hydric Soil Present?	Yes 🖲 No 🔾		
Remarks:												
The soil profi	ile meets th	e criteria	for deplet	ed matrix.	Due to t	he preser	nce of wet	land hydro	ology, dominance of hydi	rophytic vegetation, and hydric		
soils, the are	a along the	edge of	the existin	ig farm roa	d meets t	he federa	al definitio	n of a wet	land.	, , , , , , , , , , , , , , , , , , ,		

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	g Date: 28-Sep-20
Applicant/Owner: FirstEnergy	State: Ohio	Sampling Point:	Wetland Mo	CI-31a/b UPL
Investigator(s): Brian Miller and Renne Massa	Section, T	ownship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (c	oncave, convex, none)	: convex	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.174817092	Long.: -	80.830537842	Datum: NAD83
Soil Map Unit Name: Rittman silt loam, 6 to 12 percent slopes	-		NWI classification:	NA
	tly disturbed? problematic?	Are "Normal Circ (If needed, expla	no, explain in Remarks. umstances" present? nin any answers in Rem r ansects, impor	Yes • No Onarks.)
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No ●		e Sampled Area n a Wetland? Ye	es 🔿 No 🖲	
Remarks: (Explain alternative procedures here or in a separate repo Upland representative to wetland located along edge of farm field a of the active farm field and west of the wetland area. The field ider	and railroad. Th			

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)	
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches): 0	
Water Table Present? Yes O No O	Depth (inches): 0	rdrology Present? Yes 🔿 No 🖲
Saturation Present? Yes No •	Depth (inches):0	rdrology Present? Yes 🔾 No 🖲
Describe Recorded Data (stream gauge, monitor	pring well, aerial photos, previous inspections), if av	ailable:
Remarks:		
No sources of hydrology were observed.		
		North control and North control Design (Marrison 2.0

Sampling Point: Wetland MCI-31a/b UPL

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft radius</u>)	% Cover	Species?	Status	Dominance rest worksheet.
ince buddani				Number of Dominant Species
1. Acer rubrum	25		FAC	That are OBL, FACW, or FAC:5(A)
2. Robinia pseudoacacia	20	\checkmark	FACU	Total Number of Dominant
3. Ulmus americana	15	\checkmark	FACW	Species Across All Strata: 7 (B)
4	0		-	
				Percent of dominant Species
5				That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B)
6				
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15ft radius)	60 =	= Total Cover		Total % Cover of: Multiply by:
				OBL species x 1 =
1. Carya glabra	15	\checkmark	FACU	FACW species $20 \times 2 = 40$
2. Cornus racemosa	10	\checkmark	FAC	
3. Lindera benzoin	5		FACW	
4	-			FACU species $50 \times 4 = 200$
				UPL species $0 \times 5 = 0$
5				Column Totals: 135 (A) 435 (B)
6				
7	0			Prevalence Index = $B/A = 3.222$
(Distant on Efferencies)	30 =	= Total Cover		Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5ft radius)				Rapid Test for Hydrophytic Vegetation
1. Toxicodendron radicans	15	\checkmark	FAC	
2. Solidago rugosa	10		FAC	✓ Dominance Test is > 50%
O Bruthananianua avianuafalia	-		FACU	\Box Prevalence Index is ≤3.0 1
				Morphological Adaptations ¹ (Provide supporting
4. Rosa multiflora	5		FACU	data in Remarks or on a separate sheet)
5. Potentilla simplex	5		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
6. Persicaria virginiana	5		FAC	
7	0			¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
9				
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			Carling/shuth Weads glants less than 2 in DDU and
		= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
_Woody Vine Stratum (Plot size:)				
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
-	0			
3				Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	=	= Total Cover		
				Hydrophytic
				Verstetien
				Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate she	et)			

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth		Matrix			Re	dox Featı	ires		_	
(inches)	Color (moist)	%	Color ((moist)	%	Туре ¹	Loc ²	Texture	Remarks
0-4	10YR	3/2	100						Silt Loam	
4-18	10YR	6/6	70	10YR	4/1	30	D	M	Silty Clay Loam	
Hydric Soil I Histosol (/ Histic Epip Black Histi Hydrogen Stratified Depleted I Thick Darl Sandy Mu	ndicators: A1) Dedon (A2) ic (A3) Sulfide (A4) Layers (A5) Below Dark S k Surface (A1 ck Mineral (S eyed Matrix (S	Surface (A 2)		Poly MLR Thin Loar Dep Redu	value Belor CS=Covera value Belor A 149B) Dark Surfa ny Mucky I ny Gleyed leted Matri ox Dark Su	w Surface (ace (S9) ((Mineral (F1 Matrix (F2) x (F3) Irface (F6) Surface (F	(58) (LRR F LRR R, MLF) LRR K, L)	R, RA 149B)	ation: PL=Pore Lining. M=Matr Indicators for Problem 2 cm Muck (A10) (LF Coast Prairie Redox (5 cm Mucky Peat or Dark Surface (S7) (L Polyvalue Below Surf Thin Dark Surface (S Iron-Manganese Mas Piedmont Floodplain	atic Hydric Soils : 3 R K, L, MLRA 149B) A16) (LRR K, L, R) Peat (S3) (LRR K, L, R) RR K, L, M) ace (S8) (LRR K, L) 9) (LRR K, L) ses (F12) (LRR K, L, R) Soils (F19) (MLRA 149B) MLRA 144A, 145, 149B)
Stripped N	. ,		1400)						Very Shallow Dark Su	Irface (TF12)
_	ace (S7) (LRF								Other (Explain in Rer	narks)
³ Indicators of	hydrophytic	vegetatio	n and wetla	nd hydrology	/ must be p	oresent, un	less disturt	ed or proble	ematic.	
Restrictive La	ayer (if obs	erved):								
Type:).								Hydric Soil Present?	Yes 🔿 No 🖲
Depth (incl	nes):								,	
Remarks:										

Project/Site: Magellan Interconnect Pr	oject	City/County:	Trumbull	Samplin	g Date: 28-Sep-20
Applicant/Owner: FirstEnergy		State: Ohio	Sampling Point:	Wetlan	nd MCI-32
Investigator(s): Brian Miller and Renr	ne Massa	Section, To	wnship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.):	Flat	Local relief (co	ncave, convex, none	e): concave	Slope: 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR R	Lat.:	41.158537335	Long.:	-80.835076716	Datum: NAD83
Soil Map Unit Name: Rittman silt loa	am, 6 to 12 percent slopes	E.		NWI classification:	NA
Are climatic/hydrologic conditions o Are Vegetation , Soil Are Vegetation , Soil Summary of Findings - At	, or Hydrology Significan	, unit of the second seco	Are "Normal Cir (If needed, exp	no, explain in Remarks cumstances" present? lain any answers in Ren transects, impo r	Yes • No Onarks.)
Hydric Soil Present? Wetland Hydrology Present?	Yes Ves No Ves No Ves No Ves		Sampled Area a Wetland?	Yes $ullet$ No $igcap$	
Remarks: (Explain alternative prod A PEM wetland (Wetland MCI-32) The boundary of the PEM wetland as W-09-28-2020-BJM-002 PEM.	located along edge of active corr	n field that drains	•		

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)					
Primary Indicators (minimum of one required	Surface Soil Cracks (B6)						
Surface Water (A1)							
High Water Table (A2)	Aquatic Fauna (B13)	 ✓ Drainage Patterns (B10) Moss Trim Lines (B16) 					
Saturation (A3)							
Water Marks (B1)		Marl Deposits (B15) Dry Season Water Table (C2) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)					
Sediment Deposits (B2)		Oxidized Rhizospheres along Living Roots (C3) Saturation Visible on Aerial Imagery (C9)					
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)					
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)					
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)					
Field Observations:							
Surface Water Present? Yes O No O	Depth (inches): 0						
Water Table Present? Yes O No O		x 0 x 0					
Saturation Present? Yes O No O	Depth (inches): 0	ydrology Present? Yes 💿 No 🔾					
Describe Recorded Data (stream gauge, moni	toring well, aerial photos, previous inspections), if av	vailable:					
NA							
Remarks:							
The source of hydrology was identified as pre	cinitation and runoff from the corn field						
The source of flydrology was identified as pre-							

VEGETATION - Use scientific names of pla	nts		Sai	mpling Point: Wetland MCI-32
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata: <u>1</u> (B)
4				
5				Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6				
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum_ (Plot size:)	=	= Total Cover	r	Total % Cover of: Multiply by:
	0			OBL species $0 \times 1 = 0$
1				FACW species $90 \times 2 = 180$
2				FAC species $5 \times 3 = 15$
3				FACU species $5 \times 4 = 20$
4	-			UPL species $0 \times 5 = 0$
5				Column Totals: _100 (A) _215 (B)
6 7	-		<u>.</u>	
7		= Total Cover		Prevalence Index = B/A =
Herb Stratum (Plot size: 5ft radius)				Hydrophytic Vegetation Indicators:
1. Phalaris arundinacea	80	\checkmark	FACW	✓ Rapid Test for Hydrophytic Vegetation
2. Solidago gigantea			FACW	✓ Dominance Test is > 50%
3. Cirsium arvense	F		FACU	✓ Prevalence Index is ≤3.0 ¹
4. Symphyotrichum lateriflorum var. lateriflorum			FAC	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5				 Problematic Hydrophytic Vegetation ¹ (Explain)
6				
7				¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11				at breast height (DBH), regardless of height.
12				Carling/abride, Waadu alanta laas than 2 in DDU and
	100 =	= Total Cover	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				
1				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2				Size, and woody plants less than 5.20 ft tail.
3				Woody vine - All woody vines greater than 3.28 ft in
4	0		<u>.</u>	height.
	=	= Total Cover	r	
				Hydrophytic
				Vegetation
				Present? Yes Vo V
				l
Remarks: (Include photo numbers here or on a separate she				
See Appendix D of the Wetland Delineation and Stream Ass	essment Re	port for repr	esentative	photographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers

Depth Matrix Redox Features			
(inches) Color (moist) % Color (moist) % Type ¹ Loc ² Texture Remark	(S		
0-8 10YR 4/2 90 10YR 6/8 10 C M Silt Loam			
8-16 10YR 5/1 95 10YR 6/8 5 C PL Silt Loam			
¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix			
Hydric Soil Indicators: Indicators for Problematic Hydric So	- 3		
Hickie Epinodon (A2) MLRA 149B)			
Thin Dark Surface (S9) (LRR R, MLRA 149B)			
Hydrogen Sulfide (A4)	K, L, R)		
	Dark Surface (S7) (LRR K, L, M)		
Depleted Below Dark Surface (A11)	<, L)		
Thick Dark Surface (A12)	Thin Dark Surface (S9) (LRR K, L)		
Capity Mindred (S1) Depleted Dark Surface (F7) Depleted Dark Surface (F7)			
Capity Clauded Matrix (C4) Redox Depressions (F8)			
	5, 149B)		
	 Red Parent Material (F21) Very Shallow Dark Surface (TF12) 		
Dark Curface (C7) (LDD D. MLDA 140D)	Other (Explain in Remarks)		
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
Restrictive Layer (if observed):			
Type:	- ()		
Depth (inches): Hydric Soil Present? Yes • N	o ()		
Remarks:			
The soil profile meets the criteria for depleted matrix. Due to the presence of wetland hydrology, dominance of hydrophytic vegetat	tion, and hydric		
soils, the area along the edge of the existing farm road meets the federal definition of a wetland.			

Project/Site: Magellan Interconnect Project	City/County: T	rumbull	Sampling	Date: 28-Sep-20
Applicant/Owner: FirstEnergy	State: Ohio	Sampling Point:	Wetland M	ICI-32 UPL
Investigator(s): Brian Miller and Renne Massa	Section, Tow	nship, Range: S.	T. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (con	cave, convex, none	e): concave	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.158504449	Long.:	-80.834961837	Datum: NAD83
Soil Map Unit Name: Rittman silt loam, 6 to 12 percent slopes	8		NWI classification: N	A
	tly disturbed? problematic?	Are "Normal Cir	no, explain in Remarks.) cumstances" present? lain any answers in Rema transects, import	Yes 💿 No 🔾 urks.)
Hydrophytic Vegetation Present? Yes ○ No ● Hydric Soil Present? Yes ○ No ● Wetland Hydrology Present? Yes ○ No ●		ampled Area Wetland?	∕es ○ No ●	
Remarks: (Explain alternative procedures here or in a separate repo Upland representative to a PEM wetland (Wetland MCI-32) located identified as W-09-28-2020-BJM-002 UPL.		ive corn field. The	field identification id for	the sample point was

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)			
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)				
Surface Water (A1) Water-Stained Leaves (B9)		Drainage Patterns (B10)			
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)			
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)			
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)			
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)			
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)			
Field Observations:					
Surface Water Present? Yes O No 💿	Depth (inches): 0				
Water Table Present? Yes O No •	Depth (inches):0	drology Present? Yes 🔿 No 🖲			
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):0	drology Present? Yes 🔾 No 鱼			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					
No sources of hydrology were observed.					

Sampling Point:	Wetland MCI-32 UPL
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			041	······································
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover		Status	
				Number of Dominant Species
1	0			That are OBL, FACW, or FAC:(A)
2	0			
				Total Number of Dominant
3				Species Across All Strata:(B)
4	0			
5	0			Percent of dominant Species
				That Are OBL, FACW, or FAC:
6	0			. ,
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size:)	0 =	= Total Cover		Total % Cover of: Multiply by:
				OBL species $0 \times 1 = 0$
1				FACW species $0 \times 2 = 0$
2	0			
				FAC species $0 \times 3 = 0$
3	0			FACU species $100 \times 4 = 400$
4	0			
	-			UPL species $0 \times 5 = 0$
5				
6	0			Column Totals: <u>100</u> (A) <u>400</u> (B)
7	0			Prevalence Index = $B/A = 4.000$
1				$\frac{1}{1000}$
Herb Stratum (Plot size: 5ft radius)	0 =	= Total Cover		Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size. Stradius)				
1. Trifolium repens	60	\checkmark	FACU	Rapid Test for Hydrophytic Vegetation
••				Dominance Test is > 50%
2 Dactylis glomerata	15		FACU	Prevalence Index is ≤3.0 ¹
3. Cirsium arvense	10		FACU	
A Transmission (Galanda			FACU	Morphological Adaptations ¹ (Provide supporting
4. Taraxacum officinale	5		FACU	data in Remarks or on a separate sheet)
5. Plantago lanceolata	5		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
			FACU	
			TACO	1 m d'antes et la della sella estis est
7	0			¹ Indicators of hydric soil and wetland hydrology must
8				be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
9	0			
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
				at breast height (DBH), regardless of height.
11				at breast height (DBH), regardless of height.
12	0			Oraclia af character Mars de antes la constitución DDU const
	-	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)				greater than 3.28 ft (1m) tall
woody vine stratum (************************************				
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
		Tabal Cause		, , , , , , , , , , , , , , , , , , ,
	=	= Total Cover		
				Hydrophytic
				Vegetation
				Present? Yes No •
Remarks: (Include photo numbers here or on a separate she	et.)			

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

	iption: (Des		the depth						absence of indicators	5.)	
	DepthMatrix(inches)Color (moist)%		Redox Features Color (moist) % Type 1 Loc2			1 ?		Remarks			
							Type ¹	Loc ²	Texture	shovel refusal	
0-8	10YR	4/3	95	10YR	5/8 5		C	M	Silt Loam		
										,	
	<u>.</u>	L									
		-									
		-									
¹ Type: C=Con	centration. D	=Depletio	n. RM=Redu	iced Matrix, CS=0	Covered o	r Coated	Sand Gra	iins ² Loca	tion: PL=Pore Lining.	M=Matrix	
Hydric Soil I	Indicators:								Indicators for P	roblematic Hydric Soils : ³	
Histosol (A1)			Polyvalue	Below Su	urface (S8	3) (LRR R				
`	pedon (A2)			MLRA 14			, (,	`	10) (LRR K, L, MLRA 149B)	
				Thin Dark	Surface	(S9) (I RI	R R. MIR	A 149B)	Coast Prairie F	Redox (A16) (LRR K, L, R)	
Black Hist	tic (A3)			Loamy Mucky Mineral (F1) LRR K, L			A 1190)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
Hydrogen	n Sulfide (A4)					• •	LRR K, L)				
Stratified	Layers (A5)			Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)		 Dark Surface (S7) (LRR K, L, M) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) 					
	Below Dark S	Surface (A	11)								
		•	11)								
	k Surface (A1										
Sandy Mu	uck Mineral (S	51)									
Sandy Gle	eyed Matrix (S	54)									
Sandy Re	dox (S5)										
	Matrix (S6)								Red Parent Ma		
	. ,		1400)						Very Shallow	Dark Surface (TF12)	
Dark Surf	ace (S7) (LRF	R R, MLRA	(149B)						Other (Explain	n in Remarks)	
³ Indicators o	f hvdrophytic	vegetatio	n and wetla	nd hydrology mus	t be prese	ent, unles	ss disturb	ed or probl	ematic.		
				ia iiyai ology iilaa				ea e. p.es.			
Restrictive L	ayer (if obs	erved):									
Type:											
Depth (inc	hes):								Hydric Soil Presen	nt? Yes 🔾 No 🖲	
Remarks:											
Shovel refuse	al due to ara	avel belo	w 8inches.	Due to lack of	⁻ hvdrolo	av. hvdr	rophytic	vegetatio	n, and hydric soils, t	he area was not identified as	
meeting the o	criteria for a	wetland	1.		,	577		j	.,,,, .		
J											

Project/Site: Magellan Interconnect Project		City/County:	Trumbull	Samplir	ng Date: 29-Sep-20	
Applicant/Owner: FirstEnergy		State: Ohio	Sampling Poin	t: Wetlan	d MCI-33a	
Investigator(s): Brian Miller and Renne Massa		Section, To	wnship, Range: S	. т. ЗN	R. 4W	
Landform (hillslope, terrace, etc.): Flat		Local relief (co	oncave, convex, no	ne): concave	Slope: <u>2.0</u> % / <u>1.1</u> °	
Subregion (LRR or MLRA): LRR R	Lat.:	41.169193855	Long.:	-80.840312337	Datum: NAD83	
Soil Map Unit Name: Sebring silt loam, 0 to 2 percent s	lopes	1		NWI classification:	NA	
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 Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Yes No No Yes No No Yes No No No Yes No No No No No No No No						
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a PEM portion (Wetland MCI-33a) of PFO/PEM/PSS wetl soybean field. The PEM portion of the wetland is on t identified due to dominance of Phalaris arundinacea a BJM-001 PEM.	land complex he eastern si	(Wetland MCI- de of the gravel	road and continue	s to the east as PSS. Th	ne boundary of the PEM was	

Wetland Hydrology Indicat	ors:					Secondary Indicators (minimum of 2 required)
Primary Indicators (minim	um of one	required;	check all that apply)			Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (B9)						✓ Drainage Patterns (B10)
High Water Table (A2)			Aquatic Fauna (B13	()		Moss Trim Lines (B16)
Saturation (A3)			Marl Deposits (B15)			Dry Season Water Table (C2)
Water Marks (B1)			Hydrogen Sulfide O			Crayfish Burrows (C8)
Sediment Deposits (B2)			Oxidized Rhizosphe	()	oots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)			Presence of Reduce	5 5		Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)			Recent Iron Reduct	. ,	(C6)	Geomorphic Position (D2)
Iron Deposits (B5)			Thin Muck Surface		. ,	Shallow Aquitard (D3)
Inundation Visible on Aeri	al Imagery ((B7)	Other (Explain in Re	· /		Microtopographic Relief (D4)
Sparsely Vegetated Conca	ve Surface ((B8)				✓ FAC-neutral Test (D5)
Field Observations:						
Surface Water Present?	Yes \bigcirc	No 🖲	Depth (inches):	0		
Water Table Present?	Yes 🖲	No \bigcirc	Depth (inches):	10		
Saturation Present? (includes capillary fringe)	Yes 🖲	No \bigcirc	Depth (inches):	4	Wetland Hydi	ology Present? Yes 💿 No 🔾
Describe Recorded Data (s	tream gau	ge, monito	oring well, aerial photos	s, previous insp	ections), if avail	able:
Remarks:						
					tive drainage sv	vale connects the PFO portion of the wetland to
the PEM/PSS complex via a	an wxisting	metal cul	vert under the gravel r	oad.		

VEGETATION - Use scientific names of pla	mpling Point:Wetland MCI-33a			
Tree Stratum (Plot size:)	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1,				Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>2</u> (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC:(A/B)
6 7	-			Prevalence Index worksheet:
		= Total Cover		Total % Cover of:Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft radius)				$\begin{array}{c} \hline \hline \\ \textbf{OBL species} \\ 5 \\ \textbf{x 1} = 5 \\ \hline \end{array}$
1. Cornus racemosa	10	\checkmark	FAC	FACW species 95 x 2 = 190
2	0			FAC species $10 \times 3 = 30$
3	0			FACU species $0 \times 4 = 0$
4	-			UPL species $0 \times 5 = 0$
5				Column Totals: <u>110</u> (A) <u>225</u> (B)
6				
7		= Total Cover		Prevalence Index = $B/A = 2.045$
Herb Stratum (Plot size: 5ft radius)				Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
1. Phalaris arundinacea	95	\checkmark	FACW	✓ Dominance Test is > 50%
2. Typha latifolia	5		OBL	V Prevalence Index is \leq 3.0 ¹
3	0			Morphological Adaptations 1 (Provide supporting
4	0			data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6				1
7				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8 9				Definitions of Vegetation Strata:
9 10				
11				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12				
	-	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)				
1	0			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2	0			size, and woody plants less than 5.20 it tail.
3	00			Woody vine - All woody vines greater than 3.28 ft in
4	-			height.
	=	= Total Cover	•	
				Hydrophytic Vegetation
				Present? Yes • No
Remarks: (Include photo numbers here or on a separate she				
See Appendix D of the Wetland Delineation and Stream Ass	essment Re	port for repr	esentative	photographs of the habitat and soil profile.

Depth Matrix Redox Features (inches) Color (moist) % Ype 1 Loc2 Texture Remarks 0-16 10YR 4/1 80 10YR 5/4 10 C M Silt Loam 0-16 10YR 4/1 80 10YR 5/4 10 C M Silt Loam 0	Color (moist) % Color (moist) % Type 1 Loc2 Texture Remarks 0-16 10YR 4/1 80 10YR 5/4 10 C M Silt Loam			
7.5YR 3/4 10 C M 7				
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining, M=Matrix Yype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining, M=Matrix Yype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining, M=Matrix Yype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining, M=Matrix Yype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining, M=Matrix Yype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining, M=Matrix Histic Epipedon (A2) MiRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, R) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Diron-Manganese Masses (F12) (LRR K, L, R) Sandy Redox (S5) Seripped Matrix (S6) Depleted Matrix (S6) Depleted Matrix (S6) Shorty Redox (S5) Stratface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ³ Indicators of	7.5YR 3/4 10 C M			
Wydric Soil Indicators: Indicators: Indicators for Problematic Hydric Soils : ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Indicators for Problematic Hydric Soils : ³ Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A10) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Coast Prairie Redox (A16) (LRR K, L, R) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F3) Polyvalue Below Surface (S9) (LRR K, L) Thick Dark Surface (A11) V Depleted Matrix (F3) Polyvalue Below Surface (S9) (LRR K, L) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Gleyed Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 1449E) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No No				
ydric Soil Indicators: Indicators: Indicators for Problematic Hydric Soils : ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Indicators for Problematic Hydric Soils : ³ Histo: Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A10) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Coast Prairie Redox (A16) (LRR K, L, R) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F3) Polyvalue Below Surface (S9) (LRR K, L) Thick Dark Surface (A11) V Depleted Matrix (F3) Polyvalue Below Surface (S9) (LRR K, L) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Redox (S5) Stripped Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 1449B) Stripped Matrix (S6) Query Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No				
ydric Soil Indicators: Indicators: Indicators for Problematic Hydric Soils : ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Indicators for Problematic Hydric Soils : ³ Histo: Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A10) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Coast Prairie Redox (A16) (LRR K, L, R) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F3) Polyvalue Below Surface (S9) (LRR K, L) Thick Dark Surface (A11) V Depleted Matrix (F3) Polyvalue Below Surface (S9) (LRR K, L) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Redox (S5) Stripped Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 1449B) Stripped Matrix (S6) Query Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No				
ydric Soil Indicators: Indicators: Indicators: Indicators for Problematic Hydric Soils: 3 Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) 2 cm Muck (A10) (LRR K, L, MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S9) (LRR K, L, M) Thick Dark Surface (A11) Polpeleted Matrix (F3) Polyvalue Below Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Thin Dark Surface (F7) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1449E) Sandy Redox (S5) Stripped Matrix (S6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No				
Histosol (A1) Polyvalue Below Surface (S8) (LR R, MLRA 149B) Indicators for Problematic Hydric Soils : ³ Histosol (A1) MLRA 149B) Coast Prairie Redox (A10) (LRR K, L, MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LR R, MLRA 149B) Coast Prairie Redox (A16) (LR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Polyvalue Below Zurface (F6) Thin Dark Surface (F6) Thick Dark Surface (A12) Redox Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1449E) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1449E) Sandy Redox (S5) Stripped Matrix (S6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No				
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Indicators for Problematic Hydric Soils : ³ Histosol (A2) MLRA 149B) Coast Prairie Redox (A10) (LRR K, L, MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S9) (LRR K, L, M) Thick Dark Surface (A11) Polpeleted Matrix (F3) Polyvalue Below Surface (S9) (LRR K, L, C) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Redox (S5) Stripped Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 1449B) Britine K Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Sandy Redox (S5) Wesic Spodic (TA6) (MLRA 144A, 145, 149B) Britine K Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes No Type: Deptht (inches): </td <td></td> <td></td>				
Mydric Soil Indicators: Indicators: Indicators for Problematic Hydric Soils : ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Indicators for Problematic Hydric Soils : ³ Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A10) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Coast Prairie Redox (A16) (LRR K, L, R) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Depleted Matrix (F3) Polyvalue Below Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1449B Sandy Redox (S5) Stripped Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 1449B Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No				
Hydric Soil Indicators: Indicators: Indicators for Problematic Hydric Soils: ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Indicators for Problematic Hydric Soils: ³ Black Histic (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S9) (LRR K, L, M) Depleted Below Dark Surface (A11) Polpeleted Matrix (F3) Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L, R) Sandy Redox (S5) Stripped Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 1449, 145, 149B Stripped Matrix (S6) Dark Surface (TF12) Other (Explain in Remarks) Very Shallow Dark Surface (TF12) Shards urface (S7) (LRR R, MLRA 149B) Hydric Soil Present? Yes No No	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains 21 ocation: PI =Pore Lining, M=Matrix			
Histic Epipedon (A2) MLRA 149B) 2 cm MUck (A10) (LRR K, L, MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Thick Dark Surface (A11) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Stripped Matrix (S6) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 1449A, 145, 149B) Stripped Matrix (S6) Other (Explain in Remarks) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks) Type:	Hydric Soil Indicators: Indicators for Problematic Hydric Soil	s : ³		
Instit Epipedol (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A12) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1449E Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) 3 ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No Type:	Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149)			
Black firster (A3) Loamy Mucky Mineral (F1) LRR K, L) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F3) Dark Surface (S7) (LRR K, L, M) Depleted Below Dark Surface (A11) Image: Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Inon-Manganese Masses (F12) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149E Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Jardicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Very Soil Present? Yes No (Type:	This Dark Surface (CO) (LDD D MLDA 140D)	र)		
Invision of the control o	Diack Histor (AS)	L, R)		
Statulica Byers (RS) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Thick constructive Layer (if observed): Type: Type: Depth (inches): Polyvalue Below Surface (S8) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Type: Depth (inches): Yes No	Dark Surface (S7) (LRR K, L, M)			
Depicted below bank Surface (NT) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149E Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B Stripped Matrix (S6) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No Type:	Polyvalue Below Surface (S8) (LRR K,	L)		
Intex balk Surface (A12) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1498 Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. testrictive Layer (if observed): Type: Type:	Depicted below bark surface (KIT) Deduc Dedu Surface (S5) Thin Dark Surface (S9) (LRR K, L)			
Sandy Muck Minteral (31) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MLRA 149E Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Type: Pedmont Floodplain Soil Present? Yes (No ()	Inite Dark Surface (F12) Iron-Manganese Masses (F12) (LRR K	, L, R)		
Salidy Gleyeu Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No O Depth (inches): Mesic Spodic (TA6) (MLRA 144A, 145, 149B	Sandy Fluck Finiteral (51) Piedmont Floodplain Soils (F19) (MLRA	4 149B)		
Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. testrictive Layer (if observed): Type: Depth (inches): Matrix Soil Present? Yes	Sandy Gleyed Matrix (54)	149B)		
Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No O				
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No O	Stained Matrix (SC)			
estrictive Layer (if observed): Type: Depth (inches): Type:	Dark Surface (S7) (LRR R, MLRA 149B)			
Type:				
Depth (inches): Yes No				
	Hydric Soil Prosent? Voc 🔍 No.	0		
Remarks:	Remarks:			
ue to the presence of hydrology, hydrophytic vegetation, and hydric soils, the area along the edge of the road meets the definition of a w	ue to the presence of hydrology, hydrophytic vegetation, and hydric soils, the area along the edge of the road meets the definition of	f a wetland		

Project/Site: Magellan Interconnect Project	City/County: Trumbull	Sampling Date: 29-Sep-20				
Applicant/Owner: FirstEnergy	State: Ohio Sampling Point:	Wetland MCI-33b				
Investigator(s): Brian Miller and Renne Massa	Section, Township, Range: S. T	. 3N R. 4W				
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none): concave	e Slope:% /1.1 °				
Subregion (LRR or MLRA): LRR R Lat.:	41.169577474 Long.: -80.840433	Datum: NAD83				
Soil Map Unit Name: Sebring silt loam, 0 to 2 percent slopes	NWI clas	sification: NA				
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?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo	Is the Sampled Area within a Wetland? Yes • No	0				
Remarks: (Explain alternative procedures here or in a separate reportion (Wetland MCI-33b) of a PEM/PSS/PFO wetland comple soybean field. The boundary of the PFO wetland was identified by identification id for the sample point was identified as W-09-29-202	x (Wetland MCI-33a/b/c) located along the edg dominance of Ulmus rubes, Cornus racemosa, a	55				

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)	
Surface Water (A1)	Water-Stained Leaves (B9)	✓ Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8))	✓ FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes 🔾 No 🔍	Depth (inches):0	
Water Table Present? Yes O No 🖲	Depth (inches):0	
Saturation Present? Yes O No •	Depth (inches): 0	ydrology Present? Yes $ullet$ No $igodoldsymbol{ imes}$
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspections), if a	vailable:
Remarks:		
	nitation Additionally a small yearstative during a	source compares the DEO parties of the wetland to
the PEM/PSS complex via an wxisting metal cul	,, 5 5	e swale connects the PFO portion of the wetland to

Sampling Point:	Wetland MCI-33b
-----------------	-----------------

		Dominant		
Tree Stratum (Plot size: _30ft radius)	Absolute % Cover	O	Indicator Status	Dominance Test worksheet:
1. Ulmus rubra	35	✓	FAC	Number of Dominant Species That are OBL, FACW, or FAC:5(A)
2. Salix nigra	10		OBL	
3				Total Number of Dominant Species Across All Strata: 5 (B)
4				
5				Percent of dominant Species
6				That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7	0			Prevalence Index worksheet:
(Distring, 15ft radius,)	45	= Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft radius)		_		OBL species35 x 1 =35
1. Cornus racemosa	35		FAC	FACW species <u>10</u> x 2 = <u>20</u>
2. Rosa multiflora	-		FACU	FAC species
3. Frangula alnus	-		FAC	FACU species $15 \times 4 = 60$
4. Lindera benzoin			FACW	UPL species $0 \times 5 = 0$
5				Column Totals: 150 (A) 385 (B)
6	-			
7				Prevalence Index = $B/A = 2.567$
Herb Stratum (Plot size: 5ft radius)	60	= Total Cover		Hydrophytic Vegetation Indicators:
	15	\checkmark	OBL	Rapid Test for Hydrophytic Vegetation
	10	\checkmark	OBL	✓ Dominance Test is > 50%
O Fragaria virginiana			FACU	✓ Prevalence Index is ≤3.0 1
A Poreiestia virainiana			FAC	Morphological Adaptations ¹ (Provide supporting
			FAC	data in Remarks or on a separate sheet)
			FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
•				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11				at breast height (DDH), regardless of height.
12	-	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	45			greater than 3.28 ft (1m) tall
1.	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0	= Total Cover	-	
				Hydrophytic
				Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate she	et)			
See Appendix D of the Wetland Delineation and Stream Ass	-	port for repr	sentative	nhotographs of the babitat and soil profile
	Cosment Re		Jointative	

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

	iption: (De	scribe to	the depth	needed to d	locument	t the indic	ator or co	onfirm the a	absence of indicators.)	
Depth (inches)	Calar (Matrix	0/	Calar (dox Featu		1.4.42		Demerica
	Color (<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR	4/1	100						Silt Loam	
4-16	10YR	5/1	95	10YR	4/6	5	C	M	Silty Clay Loam	
										· · · · · · · · · · · · · · · · · · ·
		=Depletic	on. RM=Redu	uced Matrix, (CS=Cover	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=N	latrix
Hydric Soil I									Indicators for Probl	ematic Hydric Soils : ³
Black Hist Hydrogen Stratified Depleted Thick Dar Sandy Mu Sandy Gle Sandy Ree Stripped N Dark Surfa	bedon (A2) ic (A3) Sulfide (A4) Layers (A5) Below Dark 5 k Surface (A3 ck Mineral (S ck Mineral (S cyed Matrix (S dox (S5) Matrix (S6) ace (S7) (LR	Surface (A 12) S1) S4) R R, MLRA	A 149B)	 Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) 				A 149B)	Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7) Polyvalue Below S Thin Dark Surface Iron-Manganese I Piedmont Floodpli Mesic Spodic (TAR Red Parent Mater Very Shallow Dark Other (Explain in	Surface (S8) (LRR K, L) (S9) (LRR K, L) Masses (F12) (LRR K, L, R) ain Soils (F19) (MLRA 149B) 5) (MLRA 144A, 145, 149B) ial (F21) < Surface (TF12)
	ayer (if obs	erved):								
Type:	hoc):								Hydric Soil Present?	Yes $ullet$ No $ightarrow$
Depth (incl	nes):									
Remarks: The soil profil soils, the area										rophytic vegetation, and hydric

Project/Site: Magellan Interconnect Project	City/County:	Frumbull	Samplin	g Date: 29-	Sep-20	
Applicant/Owner: FirstEnergy	State: Ohio	Sampling Point:	Wetlan	d MCI-33c	2	
Investigator(s): Brian Miller and Renne Massa	Section, Tov	nship, Range: S.	T. 3N		R.	. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (cor	cave, convex, none):	concave	Slope:	2.0 % /	1.1 °
Subregion (LRR or MLRA): LRR R Lat.:	41.169220044	Long.: -8	0.840324530	Datur	m: NAD83	
Soil Map Unit Name: Sebring silt loam, 0 to 2 percent slopes			NWI classification:	NA		
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 "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?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		Sampled Area a Wetland? Ye	s 🖲 No 🔾			
Remarks: (Explain alternative procedures here or in a separate reportion (Wetland MCI-33c) of PFO/PEM/PSS wetland complex (soybean field. The PSS portion of the wetland is on the eastern sid was identified due to dominance of Phalaris arundinacea and Cornu 2020-BJM-001 PSS.	(Wetland MCI-33 le of the gravel ro	ad and continues ou	tside survey area. T	he boundary	y of the PSS	5

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)		
Primary Indicators (minimum of one require	Surface Soil Cracks (B6)			
Surface Water (A1)	Drainage Patterns (B10)			
High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)	Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)		
Sediment Deposits (B2)	 Oxidized Rhizospheres along Living Roots (C3) 	Saturation Visible on Aerial Imagery (C9)		
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)		
Field Observations:				
Surface Water Present? Yes O No 🤆	Depth (inches): 0			
Water Table Present? Yes O No 🤆		× • • •		
Saturation Present? Yes O No	Depth (inches): 0	lydrology Present? Yes 🖲 No 🔾		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				
The source of hydrology was identified as pr	ecipitation and runoff from soybean field.			

VEGETATION - Use scientific names of plai	nts		Sai	mpling Point: Wetland MCI-33c
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata: <u>3</u> (B)
4	0			
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15ft radius)	:	= Total Cover	r	Total % Cover of: Multiply by:
A Corrue alla	35		FACW	OBL species $20 \times 1 = 20$
1. Cornus alba				FACW species <u>120</u> x 2 = <u>240</u>
2. Frangula alnus			FAC	FAC species <u>10</u> x 3 = <u>30</u>
3. Salix nigra	-		OBL	FACU species $0 \times 4 = 0$
4	-			UPL species $0 \times 5 = 0$
5	_			Column Totals: 150 (A) 290 (B)
6				
7		Tatal Gauss		Prevalence Index = B/A = <u>1.933</u>
Herb Stratum (Plot size: 5ft radius)	50	= Total Cover	r	Hydrophytic Vegetation Indicators:
1. Phalaris arundinacea	75	\checkmark	FACW	Rapid Test for Hydrophytic Vegetation
	15		OBL	✓ Dominance Test is > 50%
O Impotions cononsis	10		FACW	✓ Prevalence Index is ≤3.0 1
				Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11				at breast height (DDH), regardless of height.
12	-	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)			Γ	greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0		87 	size, and woody plants less than 3.28 ft tall.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4	0		M-	height.
	0 :	= Total Cover	r	
				Hydrophytic
				Vegetation Present? Yes • No ·
Remarks: (Include photo numbers here or on a separate she	et.)			
See Appendix D of the Wetland Delineation and Stream Ass	-	port for repr	esentative	photographs of the habitat and soil profile.

Depth	Matrix		Red	ox Features			
	r (moist)	%	Color (moist)		e ¹ Loc ²	Texture	Remarks
0-5 10YR	4/1	100				Silt Loam	
5-16 10YR	5/1	100				Silt Loam	
			·			·	
				u u	<u>1</u>		
				. <u> </u>			
	D-Doplotic	n DM-Dodu	and Matrix CE-Covere	d or Costod San	d Craine 21 oc	ation: PL=Pore Lining. M=Matr	iv
		n. Kri-Keuu					2
Hydric Soil Indicators Histosol (A1)	5:		Polyvalue Below	Surface (CO) (I	ם םם	Indicators for Problem	atic Hydric Soils : 3
Histic Epipedon (A2)	`		MLRA 149B)	Surface (So) (L	.κκ κ,	2 cm Muck (A10) (LR	
Black Histic (A3))		Thin Dark Surfa	ce (S9) (LRR R,	MLRA 149B)	Coast Prairie Redox (
Hydrogen Sulfide (A)	4)		Loamy Mucky Mineral (F1) LRR K, L)				Peat (S3) (LRR K, L, R)
Stratified Layers (AS			Loamy Gleyed Matrix (F2)			Dark Surface (S7) (L	RR K, L, M)
	,	Devileted Matrix (52)				Polyvalue Below Surf	ace (S8) (LRR K, L)
Thick Dark Surface					Thin Dark Surface (S	9) (LRR K, L)	
Sandy Muck Mineral	. ,		Depleted Dark S	. ,			ses (F12) (LRR K, L, R)
Sandy Gleyed Matrix	. ,		Redox Depressi	ons (F8)			Soils (F19) (MLRA 149B)
Sandy Redox (S5)	((34)						MLRA 144A, 145, 149B)
Stripped Matrix (S6)	,					Red Parent Material (
Dark Surface (S7) (I		140R)				Very Shallow Dark Su	. ,
						Other (Explain in Rer	narks)
Indicators of hydrophy	tic vegetatio	on and wetlar	d hydrology must be pr	esent, unless di	sturbed or probl	lematic.	
estrictive Layer (if o	bserved):						
Туре:							\sim
Depth (inches):						Hydric Soil Present?	Yes 🔍 No 🔾

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplir	ng Date: 29-Sep-20		
Applicant/Owner: FirstEnergy	State: Ohio	Sampling Point:	Wetland MC	I-33a/b/c-34-35		
Investigator(s): Brian Miller and Renne Massa	Section, To	wnship, Range: S.	T. 3N	R. 4W		
Landform (hillslope, terrace, etc.): Flat	Local relief (co	ncave, convex, non	e): concave	Slope: 2.0 % / 1.1 °		
Subregion (LRR or MLRA): LRR R Lat.:	41.169836128	Long.:	-80.840208525	Datum: NAD83		
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes	-		NWI classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Are Vegetation Are Vegetation or Hydrology isignificantly disturbed? Are "Normal Circumstances" present? Yes No Are Vegetation or Hydrology inaturally 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 Hydric Soil Present? Yes No Yes No Yes No No Is the Sampled Area within a Wetland? Yes No No No No No No No No						
Wetland Hydrology Present? Yes \bigcirc No $lacebox$						
Remarks: (Explain alternative procedures here or in a separate repo Upland representative to three wetlands (Wetland MCI-33a/b/c, We field identification id for the sample point was identified as W-09-29	etland MCI-34, a		i) located on edge of a	tive soybean field. The		

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)	
Surface Water (A1)	Drainage Patterns (B10)	
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	· · · · · · · · · · · · · · · · ·	FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 💿	Depth (inches): 0	
Water Table Present? Yes O No 🖲	Depth (inches):0	drology Present? Yes 🔿 No 🖲
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches): 0	drology Present? Yes 🔾 No 🖲
	oring well, aerial photos, previous inspections), if av	ailable:
Remarks:		
No sources of hydrology were observed.		

Sampling Point:	Wetland	MCI-33a/b/c	-34-35
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	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC:(A)
2	0			Total Number of Dominant
3	0			Species Across All Strata: <u>2</u> (B)
4	0			
5				Percent of dominant Species That Are OBL, FACW, or FAC:0.0%(A/B)
6				That Are OBL, FACW, or FAC:(A/B)
7				Prevalence Index worksheet:
		= Total Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species $0 \times 1 = 0$
1	0			FACW species $0 \times 2 = 0$
2	0			FAC species $0 \times 3 = 0$
3	0			
4				FACU species $50 \times 4 = 200$
5				UPL species $-\frac{5}{x} \times 5 = -\frac{25}{x}$
6			<u>.</u>	Column Totals: <u>55</u> (A) <u>225</u> (B)
7				Prevalence Index = $B/A = 4.091$
		= Total Cove	r	
Herb Stratum (Plot size: 5ft radius)				Hydrophytic Vegetation Indicators:
1. Echinochloa crusgalli	35	\checkmark	FACU	Rapid Test for Hydrophytic Vegetation
			FACU	Dominance Test is > 50%
			UPL	\Box Prevalence Index is \leq 3.0 ¹
•				Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				Demittons of Vegetation Strata.
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
		= Total Cove	r	greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size:)		_		
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0		<u>.</u>	size, and woody plants less than 3.28 ft tall.
3	0		<u>.</u>	Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cove	r	
	<u>.</u>			
				Hydrophytic
				Vegetation Present? Yes No •
				Present? Yes V NO
Remarks: (Include photo numbers here or on a separate sh	neet.)			
45 percent of sample plot is dominated by soybean.				

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth		Matrix			Re	edox Featu					
(inches)	Color	(moist)	%	Color (r		%	Type ¹	Loc ²	Texture	Remarks	
0-5	10YR	4/2	100						Silt Loam		
5-18	10YR	4/3	90	10YR	5/4	10	С	М	Silty Clay Loam		
	р.			. <u> </u>			-				
	-	-		I							
	-	-		,							
					-		-				
					-		-				
Type: C=Cor	ncentration. [D=Depletic	on. RM=Red	uced Matrix, C	S=Cover	red or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=Mat	rix	
Hydric Soil	Indicators:								Indicators for Problem	natic Hydric Soils : ³	
Histosol	(A1)			Polyv	alue Belo	ow Surface ((S8) (LRR I	२,	2 cm Muck (A10) (L		
	ipedon (A2)			_	. 149B) Dark Sur	faca (50) (I		0A 140P)	Coast Prairie Redox		
Black His				_		face (S9) (l				Peat (S3) (LRR K, L, R)	
	n Sulfide (A4					Mineral (F1)	Dark Surface (S7) (I		
Stratified	Layers (A5)					l Matrix (F2))		Polyvalue Below Sur		
_	Below Dark		.11)		ted Matr				Thin Dark Surface (S		
Thick Dark Surface (A12)								sses (F12) (LRR K, L, R)			
Sandy M	uck Mineral ((S1)				Surface (F	/)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Gl	eyed Matrix	(S4)			x Depres	sions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Re	edox (S5)								Red Parent Material (F21)		
Stripped	Stripped Matrix (S6)					Very Shallow Dark S					
Dark Sur	face (S7) (LR	RR R, MLRA	A 149B)						Other (Explain in Re		
³ Indicators c	of hydrophyti	c vegetatio	on and wetla	nd hydrology	must be	present, un	less disturl	bed or probl		(indite)	
Restrictive L				, ,		· ·		•			
Туре:											
Depth (ind	ches):								Hydric Soil Present?	Yes 🔾 No 🖲	
Remarks:											
ue to the a	bsence of a	all three v	vetland cri	teria, the are	ea was o	classified a	as an upla	and.			
				,							

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Samplin	g Date: 29	-Sep-20		
Applicant/Owner: FirstEnergy	State: Ohio	Sampling Point:	Wetlan	nd MCI-34			
Investigator(s): Brian Miller and Renne Massa	Section, To	wnship, Range: S.	T. 3N		R. 4W		
Landform (hillslope, terrace, etc.): Flat	Local relief (co	ncave, convex, none): concave	Slope:	<u>2.0</u> %/°		
Subregion (LRR or MLRA): LRR R Lat.:	41.169832957	Long.:	-80.840265743	Datu	m: NAD83		
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes	-		NWI classification:	NA	-		
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 , 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 ○Hydric Soil Present?Yes ●No ○Wetland Hydrology Present?Yes ●No ○		Sampled Area a Wetland? Y	es 🖲 No 🔿				
Remarks: (Explain alternative procedures here or in a separate rep	ort.)						
PEM wetland (Wetland MCI-34) located along a ditch of a active so 9-29-001. The boundary of the PEM wetland was identified by dor identified as W-09-29-2020-BJM-002 PEM.	,	55		5 1			

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)	
Primary Indicators (minimum of one required;	Surface Soil Cracks (B6)		
Surface Water (A1)	Drainage Patterns (B10)		
High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)	Moss Trim Lines (B16)	
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)	
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)	
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)	
		_ 、 、	
Field Observations:			
Surface Water Present? Yes O No 💿	Depth (inches): 0		
Water Table Present? Yes O No •	Depth (inches):0		
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches):0	rdrology Present? Yes $ullet$ No $igodot$	
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous inspections), if available	ailable:	
Remarks:			
The source of hydrology was identified as prec	ipitation and runoff from the soybean field.		

VEGETATION - Use scientific names of plat	nts		Sai	mpling Point: Wetland MCI-34		
	Absolute		Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species		
1				That are OBL, FACW, or FAC: (A)		
2				Total Number of Dominant		
3				Species Across All Strata: (B)		
4				Deveent of development Creation		
5				Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)		
6						
7	0			Prevalence Index worksheet:		
Sapling/Shrub Stratum (Plot size:)	0 =	= Total Cover	•	Total % Cover of: Multiply by:		
	0			OBL species $0 \times 1 = 0$		
1				FACW species <u>85</u> x 2 = <u>170</u>		
2				FAC species $10 \times 3 = 30$		
3				FACU species $5 \times 4 = 20$		
4				UPL species $0 \times 5 = 0$		
5				Column Totals: 100 (A) 220 (B)		
6 7				Prevalence Index = $B/A = 2.200$		
		= Total Cover				
Herb Stratum (Plot size: 5ft radius)				Hydrophytic Vegetation Indicators:		
1. Phalaris arundinacea	85	\checkmark	FACW	✓ Rapid Test for Hydrophytic Vegetation		
2. Symphyotrichum lateriflorum var. lateriflorum	10		FAC	✓ Dominance Test is > 50%		
3. Cirsium arvense	5		FACU	✓ Prevalence Index is $\leq 3.0^{1}$		
4				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
5				 Problematic Hydrophytic Vegetation ¹ (Explain) 		
6						
7				¹ Indicators of hydric soil and wetland hydrology must		
8				be present, unless disturbed or problematic.		
9				Definitions of Vegetation Strata:		
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter		
11				at breast height (DBH), regardless of height.		
12						
	-	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall		
Woody Vine Stratum (Plot size:)		_				
1	0			Herb - All herbaceous (non-woody) plants, regardless of		
2	0			size, and woody plants less than 3.28 ft tall.		
3				Woody vine - All woody vines greater than 3.28 ft in		
4				height.		
	=	= Total Cover	•			
				Live and the		
				Hydrophytic Vegetation		
				Present? Yes No		
Remarks: (Include photo numbers here or on a separate she	et.)					
See Appendix D of the Wetland Delineation and Stream Ass	essment Re	port for repr	esentative	photographs of the habitat and soil profile.		

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers

Depth Matrix		Redox Featu	res			
(inches) Color (moist)	% Color (m		Type 1	Loc ²	Texture	Remarks
(inches) Color (moist)	95 10YR -	oist) % 4/6 5 	1 	M	Silt Loam	
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 1)	MLŔA : ☐ Thin D. Loamy ☐ Loamy ☐ Loamy Ø Depleta ☐ Redox ☐ Depleta ☐ Redox	ark Surface (S9) (L Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3) Dark Surface (F6) ed Dark Surface (F7 Depressions (F8)	RR R, MLR) LRR K, L) ?)	A 149B)	2 cm Muck (A10) (Coast Prairie Redo: 5 cm Mucky Peat of Dark Surface (S7) Polyvalue Below Su Thin Dark Surface Iron-Manganese M Piedmont Floodplai Mesic Spodic (TA6) Red Parent Materia Very Shallow Dark Other (Explain in R	urface (S8) (LRR K, L) (S9) (LRR K, L) asses (F12) (LRR K, L, R) in Soils (F19) (MLRA 149B)) (MLRA 144A, 145, 149B) al (F21) Surface (TF12)
³ Indicators of hydrophytic vegetation Restrictive Layer (if observed): Type: Depth (inches): Remarks: The soil profile meets the criteria fi soils, the area along the edge of the	or depleted matrix. D	ue to the presen	ce of wet	and hydro	Hydric Soil Present?	Yes No ophytic vegetation, and hydric

Project/Site: Magellan Interconnect Project	City/County: Trumbull	Sampling Date: 29-Sep-20					
Applicant/Owner: FirstEnergy	State: Ohio Sampling Point:	Wetland MCI-35					
Investigator(s): Brian Miller and Renne Massa	Section, Township, Range: S. T.	3N R. 4W					
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none): concave	Slope:% /^					
Subregion (LRR or MLRA): LRR R Lat.:	41.170056423 Long.: -80.8402791	13 Datum: NAD83					
Soil Map Unit Name: Wadsworth silt loam, 0 to 2 percent slopes	NWI classi	fication: NA					
Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Are Vegetation I , Soil I , 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?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo	Is the Sampled Area within a Wetland? Yes • No)					
Remarks: (Explain alternative procedures here or in a separate report A PFO wetland (Wetland MCI-35) located along forested treeline not drainage patterns and dominance of Cornus alba, Fraxinus Pennsyl- identified as W-09-29-2020-BJM-003 PEM.	rth of existing gravel road. The boundary of the						

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)	
Primary Indicators (minimum of one required	Surface Soil Cracks (B6)		
Surface Water (A1)	✓ Drainage Patterns (B10)		
High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)	Moss Trim Lines (B16)	
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)	
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)	
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)	
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)		✓ FAC-neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes O No 🖲	Depth (inches): 0		
Water Table Present? Yes O No 🖲		drology Present? Yes $ullet$ No \bigcirc	
Saturation Present? Yes O No O	Depth (inches):0	drology Present? Yes $ullet$ No $igloodow$	
Describe Recorded Data (stream gauge, mon	itoring well, aerial photos, previous inspections), if availated	ailable:	
Remarks:			
The source of hydrology was identified as pre-	cipitation and presence of drainage areas within the F	PFO wetland.	

			Sar	mpling Point: Wetland MCI-35
Tree Stratum (Plot size: <u>30ft radius</u>)	Absolute % Cover	• • •	Indicator Status	Dominance Test worksheet:
1. Fraxinus pennsylvanica	30	\checkmark	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)
2. Acer rubrum	10		FAC	
				Total Number of Dominant
3				Species Across All Strata:6 (B)
4				Percent of dominant Species
5				That Are OBL, FACW, or FAC:100.0% (A/B)
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15ft radius)	40 =	= Total Cover		Total % Cover of:Multiply by:OBL species5x 1 =5
1. Cornus alba	55	\checkmark	FACW	
2. Ulmus americana			FACW	FACW species <u>115</u> x 2 = <u>230</u>
3. Lindera benzoin	_		FACW	FAC species $10 \times 3 = 30$
				FACU species $0 \times 4 = 0$
4	-			UPL species $0 \times 5 = 0$
5				Column Totals: 130 (A) 265 (B)
6				
7	 75 =	= Total Cover		Prevalence Index = B/A =
Herb Stratum (Plot size: 5ft radius)				Hydrophytic Vegetation Indicators:
1. Poa palustris	10	\checkmark	FACW	✓ Dominance Test is > 50%
2. Epilobium coloratum	5	\checkmark	OBL	
3	0			✓ Prevalence Index is $\leq 3.0^{1}$
4				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5				 Problematic Hydrophytic Vegetation ¹ (Explain)
6				
				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8				Definitions of Vegetation Strata:
9				
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	15 =	= Total Cover		greater than 3.28 ft (1m) tall.
1	0			Herb - All herbaceous (non-woody) plants, regardless of
	0			size, and woody plants less than 3.28 ft tall.
2	0			
3	0			Woody vine - All woody vines greater than 3.28 ft in
4				height.
		= Total Cover		
				Hydrophytic Vegetation Present? Yes O No O
Remarks: (Include photo numbers here or on a separate she See Appendix D of the Wetland Delineation and Stream Ass		port for repre	esentative	photographs of the habitat and soil profile.

Profile Desc	ription: (De	scribe to	the depth	needed to d	ocument	the indic	ator or co	onfirm the	absence of indicators.)			
Depth		Matrix			Re	dox Featu	ires		_			
(inches)	Color (moist)	%	Color (r	noist)	%	Type ¹	Loc ²	Texture	Remarks		
0-6	10YR	4/2	90	10YR	4/4	10	С	М	Silt Loam			
6-18	10YR	6/2	65	10YR	5/4	35	С	М	Silt Loam			
		-					<u>_</u>					
		-										
		-								- <u></u>		
		-										
						-						
1		Devlatio	- DM Ded						tion. DL Dave Lining M N			
		=Depletic	n. RM=Real	uced Matrix, C	S=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=N			
Hydric Soil				□				_	Indicators for Prob	lematic Hydric Soils: ³		
Histosol (alue Belov (149B)	w Surface	(S8) (LRR I	र,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)		
	pedon (A2)					ace (S9) (LRR R, MLI	RA 149B)	Coast Prairie Red	ox (A16) (LRR K, L, R)		
Black His	. ,						.) LRR K, L		5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)		
_	Sulfide (A4)			_		Matrix (F2))	Dark Surface (S7) (LRR K, L, M)		
_	Layers (A5)				eted Matri)		Polyvalue Below Surface (S8) (LRR K, L)			
	Below Dark S		.11)			rface (F6)			Thin Dark Surface	e (S9) (LRR K, L)		
	k Surface (A					Surface (F	7)		Iron-Manganese	Masses (F12) (LRR K, L, R)		
	uck Mineral (S	,			x Depress	•	,,		Piedmont Floodpl	ain Soils (F19) (MLRA 149B)		
	eyed Matrix (S4)			x Depress				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy Re									Red Parent Material (F21)			
	Matrix (S6)								Very Shallow Dar	k Surface (TF12)		
Dark Surf	face (S7) (LR	R R, MLRA	A 149B)						Other (Explain in	Remarks)		
³ Indicators o	f hydrophytic	vegetatio	n and wetla	nd hydrology	must be p	present, un	less distur	bed or probl	ematic.			
Restrictive L	aver (if obs	erved):										
Type:	, ,											
Depth (inc	hes):								Hydric Soil Present?	Yes 🔍 No 🔾		
Remarks:	,											
			6									
soils, the are	a along the	e criteria	the evistin	ed matrix. a farm road	Due to ti meets t	ne preser he federa	ICE OF WE	tiand hydro	ology, dominance of nyc	Irophytic vegetation, and hydric		
30113, the are	a along the	cuge of		g lann load	i incetta t				.idrid.			

Project/Site: Magellan Interconnect Project	City/County: Tr	umbull	Samplin	g Date: 29	9-Sep-20
Applicant/Owner: FirstEnergy	State: Ohio	Sampling Point:	Wetlan	d MCI-36	5a
Investigator(s): Brian Miller and Renne Massa	Section, Town	ship, Range: S.	T. 3N		R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (conc	ave, convex, none	e): convex	Slope:	<u>2.0</u> %/ <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.154635267	Long.:	-80.832247575	Date	um: NAD83
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes	-		NWI classification:	NA	-
	tly disturbed? problematic?	Are "Normal Cire (If needed, expl	no, explain in Remarks cumstances" present? ain any answers in Rer transects, impo i	Yes •	
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo		mpled Area Wetland? Y	'es 🖲 No		
Remarks: (Explain alternative procedures here or in a separate reportion (Wetland MCI-36a) of PSS/PEM complex (Wetland MC drains into a stream. The PEM boundary was identified by dominar identified as W-09-29-2020-BJM-004 PEM.	I-36a/b) located be				

Wetland Hydrology Indicators:				Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of	f one required; c	heck all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)		Water-Stained Leaves	; (B9)	Drainage Patterns (B10)
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lines (B16)
Saturation (A3)		Marl Deposits (B15)		Dry Season Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Odd	or (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizosphere	s along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduced	Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reductio	n in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)		Thin Muck Surface (C	7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imag	agery (B7)	Other (Explain in Ren	narks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Sur	rface (B8)			✓ FAC-neutral Test (D5)
Field Observations:				
Surface Water Present? Yes	; 🔿 No 🖲	Depth (inches):	0	
Water Table Present? Yes	; 🔿 🛛 No 🖲	Depth (inches):	0	drology Present? Yes $ullet$ No $igodoldsymbol{ imes}$
Saturation Present? (includes capillary fringe) Yes	· ○ No ●	Depth (inches):	0 Wetland Hy	drology Present? Yes $ullet$ No $igcup$
Describe Recorded Data (stream	n gauge, monitor	ing well, aerial photos,	previous inspections), if ava	ailable:
Remarks:				
The source of hydrology was ide	entified as precip	itation and runoff from	soybean field.	

	100		Sai	mpling Point:	Wetland MCI-36a	
	Absolute	Dominant	Indicator	Dominance	Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of De	ominant Species	
1	0				, FACW, or FAC: 1	(A)
2	0					
					r of Dominant	
3				Species Acros	ss All Strata:1	(B)
4						
5	0				lominant Species 3L, FACW, or FAC: <u>100.</u> ()% (A/B)
6	0			That Are Of	$\mathbf{SL}, \mathbf{FACW}, \mathbf{OFFAC}. \mathbf{\underline{-100.0}}$	<u>, , , , , , , , , , , , , , , , , , , </u>
7	0			Prevalence I	ndex worksheet:	
		= Total Cover			% Cover of: Multiply by:	
Sapling/Shrub Stratum (Plot size:)						0
1	0					
	0				es <u>100</u> x 2 =	
2				FAC species	s <u> </u>	0
3				FACU specie	es <u>0</u> x 4 =	0
4				UPL species		0
5	0					
6	0			Column Tota	als: <u>100</u> (A)	<u>200</u> (в)
7	0			Prevale	nce Index = $B/A = 2.00$	00
Herb Stratum (Plot size: 5ft radius)	0 =	= Total Cover		Hydrophytic	Vegetation Indicators:	
	100		FACIN	🖌 Rapid T	est for Hydrophytic Vegetation	ı
1. <i>Phalaris arundinacea</i>	100		FACW	✓ Domina	ance Test is > 50%	
2				✓ Prevale	ence Index is ≤3.0 ¹	
3	0				blogical Adaptations ¹ (Provide	
4					Remarks or on a separate she	
5					natic Hydrophytic Vegetation	-
6					natic nyurophytic vegetation	(Explain)
				¹ Indicators	s of hydric soil and wetland hy	drology must
7					unless disturbed or problemat	
8	0			Definitions	of Vegetation Strata:	
9	0			Demitions	sol vegetation strata.	
10	0			Tree - Wood	ly plants, 3 in. (7.6 cm) or mor	e in diameter
11	0			at breast hei	ight (DBH), regardless of heigl	nt.
12						
12.		= Total Cover			Ib - Woody plants less than 3 i 2 20 ft (1m) tall	n. DBH and
Woody Vine Stratum (Plot size:)				greater than	3.28 ft (1m) tall	
1	0			Herb - All he	erbaceous (non-woody) plants,	regardless of
0	0	\square			ody plants less than 3.28 ft ta	
	0					
3				,	- All woody vines greater than	3.28 ft in
4	0			height.		
	=	= Total Cover				
				Hydrophytic	c	
				Vegetation	Yes 💿 No 🔾	
				Present?		
Remarks: (Include photo numbers here or on a separate she	et.)					
See Appendix D of the Wetland Delineation and Stream Asse	essment Re	port for repre	sentative	photographs	of the habitat and soil profile.	
				. 5		

Profile Descr	iption: (Des	scribe to	the depth	needed to	document	t the indic	ator or co	onfirm the	absence of indicators.)					
Depth (inchos)		Matrix				dox Featu								
(inches)	Color (<u>%</u>	Color ((moist)	%	Type ¹	Loc ²	Texture	Remarks				
0-5	10YR	4/2	100						Silt Loam					
5-18	10YR	5/1	90	10YR	4/6	10	C	M	Silt Loam					
		-						67 						
	L			u			-		-					
	L													
				-										
-	-		-	-	-	-	-	-						
		=Depletic	on. RM=Redu	uced Matrix,	CS=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=M	1atrix				
Hydric Soil I									Indicators for Probl	lematic Hydric Soils: ³				
Histosol (/					value Belo [.] A 149B)	w Surface ((S8) (LRR F	२,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)				
	pedon (A2)					ace (59) (I		RA 149B)	Coast Prairie Redo	ox (A16) (LRR K, L, R)				
	Black Histic (A3)					or Peat (S3) (LRR K, L, R)								
	Sulfide (A4)					Matrix (F2))	Dark Surface (S7)) (LRR K, L, M)				
	Layers (A5)				leted Matri)		Polyvalue Below S	Surface (S8) (LRR K, L)				
	Below Dark S	•	.11)		ox Dark Su	. ,			Thin Dark Surface	e (S9) (LRR K, L)				
	k Surface (A1					Surface (F	Iron-Mangapose Massos (E12)			Masses (F12) (LRR K, L, R)				
	ck Mineral (S	,			ox Depress		.,		 Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) 					
	eyed Matrix (S	54)		_	·									
Sandy Red	Matrix (S6)								Red Parent Materi					
	ace (S7) (LRF		140B)						Very Shallow Dark					
									Other (Explain in	Remarks)				
³ Indicators of	fhydrophytic	vegetatio	on and wetlar	nd hydrology	must be p	present, un	less distur	ped or probl	ematic.					
Restrictive La	ayer (if obs	erved):												
Туре:														
Depth (incl	hes):								Hydric Soil Present?	Yes $oldsymbol{igodol}$ No $igodol$				
Remarks:									1					
The soil profil	le meets the	e criteria	for denlet	ed matrix	Due to t	he nreser	nce of wet	land hydro	ology dominance of hyd	rophytic vegetation, and hydric				
soils, the area										iophytic vegetation, and nythe				

Project/Site: Magellan Interconnect Project	City/County: Trumbull	Sampling Date: 29-Sep-20
Applicant/Owner: FirstEnergy	State: Ohio Sampling Po	wetland MCI-36b
Investigator(s): Brian Miller and Renne Massa	Section, Township, Range:	s. t. 3N R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, i	none): concave Slope:% /
Subregion (LRR or MLRA): LRR R Lat.:	41.154720969 Lon	g.: -80.834251134 Datum: NAD83
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes		NWI classification: NA
	tly disturbed? Are "Norma problematic? (If needed,	(If no, explain in Remarks.) I Circumstances" present? Yes • No · explain any answers in Remarks.) 15, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	Is the Sampled Area within a Wetland?	Yes No
Remarks: (Explain alternative procedures here or in a separate repo	ort.)	
A PSS portion (Wetland MCI-36b) of the PEM/PSS wetland complex residential and agricultural field. The PSS wetland was identified by field identification id for the sample point was identified as W-09-29	y dominance of Cornus racemos	

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required	; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	✓ Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	_ 、 ,	✓ FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🔍	Depth (inches): 0	
Water Table Present? Yes O No O	Depth (inches):0	drology Present? Yes \odot No \bigcirc
Saturation Present? (includes capillary fringe) Yes O No O	Depth (inches):0	drology Present? Yes $ullet$ No $igcup$
Describe Recorded Data (stream gauge, monit	coring well, aerial photos, previous inspections), if available	ailable:
Remarks:		
The source of hydrology is from precipitation a	and pond drainage.	

			Sar	mpling Point: Wetland MCI-36b
Tree Stratum (Plot size: <u>30ft radius</u>)	Absolute % Cover	O	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	10	\checkmark	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)
2	0			
				Total Number of Dominant
3	_			Species Across All Strata: (B)
4	-			Deveent of deminent Creation
5				Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6	0			
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15ft radius)	10 =	= Total Cover		Total % Cover of: Multiply by:
	25		FAC	OBL species $0 \times 1 = 0$
1. Cornus racemosa	35		FAC	FACW species <u>100</u> x 2 = <u>200</u>
2. Frangula alnus	15	\checkmark	FAC	FAC species60 x 3 =180
3	0			
4	0			· ·
5	0			UPL species $0 \times 5 = 0$
6				Column Totals: <u>160</u> (A) <u>380</u> (B)
7	0			Prevalence Index = $B/A = 2.375$ _
Herb Stratum (Plot size: <u>5ft radius</u>)	50	= Total Cover		Hydrophytic Vegetation Indicators:
				Rapid Test for Hydrophytic Vegetation
1. Phalaris arundinacea	85		FACW	✓ Dominance Test is > 50%
2. Impatiens capensis	15		FACW	✓ Prevalence Index is ≤3.0 ¹
3	0			
4	-			Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5				Problematic Hydrophytic Vegetation ¹ (Explain)
6				
				¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8	0			Definitions of Vegetation Strata:
9	0			Definitions of vegetation strata.
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12	0			
12.	100 =	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum(Plot size:)				greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
3	0			
3	0			Woody vine - All woody vines greater than 3.28 ft in
4				height.
	0 =	= Total Cover		
				Hydrophytic Vegetation
				Present? Yes No
Remarks: (Include photo numbers here or on a separate she	et.)			-
See Appendix D of the Wetland Delineation and Stream Asso		port for repre	esentative	photographs of the habitat and soil profile.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Depth Matrix Redox Features (Inches) Color (moist) % Type 1 Lo2 Texture Remarks 0-6 10YR 4/1 90 10YR 4/6 10 C M Sit Leam 6-16 10YR 5/1 95 10YR 5/4 5 M	Profile Description: (Desc	cribe to the	e depth	needed to d	locument	t the indic	ator or co	onfirm the	absence of indicators.)	
O-6 10YR 4/1 90 10YR 4/6 10 C M Sitt Loam 6-16 10YR 5/1 95 10YR 5/4 5 M 6-16 10YR 5/4 5 M 5 M 6-16 10YR 5/4 5 M 5 5 M 6 10									_	
6-16 10YR 5/1 95 10YR 5/4 5 M 6-16 10YR 5/1 95 10YR 5/4 5 M	(inches) Color (n	noist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils : ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 1498) Histosol (A1) MLRA 1458) Indicators for Problematic Hydric Soils : ³ Jack Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 1498) Black Histic (A3) Coast Parier Redox (A16) (LRR K, L, R) Stratified Layers (A5) Learny Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (F7) Thin Dark Surface (F7) Sandy Medvo (S5) Redox Depressions (F8) Stripped Matrix (S6) Redox Depressions (F8) Dark Surface (S7) (LRR K, MLRA 1498) Weise Spodic (T16) (MLRA 144A, 145, 1498)	0-6 10YR	4/1 9	90	10YR	4/6	10	C	М	Silt Loam	
Hydric Soil Indicators: Indic	6-16 10YR	5/1 9	95	10YR	5/4	5		М		
Hydric Soil Indicators: Indic				<u>.</u>	-		-	<u>.</u>	-	-
Hydric Soil Indicators: Indic					-				-	
Hydric Soil Indicators: Indit: Indicators: Indit: <td></td>										
Hydric Soil Indicators: Indit: Indicators: Indit: <td></td>										
Hydric Soil Indicators: Indit: Indicators: Indit: <td></td>										
Hydric Soil Indicators: Indit: Indicators: Indit: <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td>					-					
Hydric Soil Indicators: Indit: Indicators: Indit: <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td>							-			
Hydric Soil Indicators: Indit: Indicators: Indit: <td>p p p</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	p p p									
Hydric Soil Indicators: Indit: Indicators: Indit: <td></td>										
Hydric Soil Indicators: Indic										
Hydric Soil Indicators: Indic										
Hydric Soil Indicators: Indic										
Hydric Soil Indicators: Indic	¹ Type: C=Concentration D=	=Depletion	RM=Redu	ced Matrix	CS=Cover	ed or Coate	ed Sand Gr	ains ² l oca	ation: PI =Pore Lining M=N	 Matrix
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Redox (S5) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Other (Explain in Remarks) Very Shallow Dark Surface (TF12)	,,	Depiction							5	
Histic Epipedon (A2) MLŘA 149B) 2 cm Mučk (A10) (LRR K, L, MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L) Depleted Below Dark Surface (A11) V Depleted Matrix (F3) Polyvalue Below Surface (S8) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)				D Polya	value Belo	w Surface ((58) (100 [, ,	Indicators for Prob	lematic Hydric Soils :
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Odast Prainle Redux (A16) (LRR N, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Depleted Below Dark Surface (A11) V Depleted Matrix (F3) Polyvalue Below Surface (S8) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Piezdemorks)								Y	2 cm Muck (A10)	(LRR K, L, MLRA 149B)
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) S cm Mucky Peat OF Peat (S3) (LRR K, L, R) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Polyvalue Below Surface (S8) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Piecemarks)	_			🗌 Thin	Dark Surf	ace (S9) (I	LRR R, MLF	RA 149B)	Coast Prairie Red	ox (A16) (LRR K, L, R)
Induction Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Stratified Layers (A5) I Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Image: Depleted Matrix (F3) Image: Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Image: Thin Dark Surface (S9) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)				Loan	ny Mucky	Mineral (F1) LRR K, L)	5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
□ Strained Edyes (A) □ Polyvalue Below Surface (S8) (LRR K, L) □ Depleted Below Dark Surface (A11) □ Thin Dark Surface (S9) (LRR K, L) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) □ □ Sandy Muck Mineral (S1) □ Depleted Dark Surface (F7) □ Piedmont Floodplain Soils (F19) (MLRA 149B) □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) □ Mesic Spodic (TA6) (MLRA 144A, 145, 149B) □ Sandy Redox (S5) □ Red Parent Material (F21) □ Very Shallow Dark Surface (TF12) □ Dark Surface (S7) (LRR R, MLRA 149B) □ Other (Explain in Remarks)										
Thick Dark Surface (A12) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)		urface (A11)	`							
Sandy Muck Mineral (S1) Depleted Dark Surface (F7) If Off-Mariganese Masses (F12) (LRR R, L, R) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Redox (S5) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)		• •)	Redo	ox Dark Su	irface (F6)			Thin Dark Surface	e (S9) (LRR K, L)
Sandy Muck Milleral (31) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)				Depl	eted Dark	Surface (F	7)			
Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)		<i>.</i>								
Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)		4)			-					
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)										. ,
			10P)							
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			-						_ 、	Remarks)
	³ Indicators of hydrophytic v	vegetation a	and wetlar	nd hydrology	must be p	present, un	less disturt	ped or probl	ematic.	
Restrictive Layer (if observed):	Restrictive Layer (if obse	erved):								
Туре:	Туре:									
Depth (inches): Hydric Soil Present? Yes No	Depth (inches):								Hydric Soil Present?	Yes 🔍 No 🔾
Remarks:	Remarks:									
The soil profile meets the criteria for depleted matrix. Due to the presence of wetland hydrology, dominance of hydrophytic vegetation, and hydric		critoria fo	r doplot	od matrix	Due to t	ho procor	co of wot	land hydro	plagy dominance of byg	Irophytic vegetation, and hydric
soils, the area along the edge of the existing farm road meets the federal definition of a wetland.										
	,	J		5						

Project/Site: Magellan Interconnect Project	City/County:	Trumbull	Sampling	J Date: 29-Sep-20
Applicant/Owner: FirstEnergy	State: Ohio	Sampling Point:	Wetland N	MCI-36 UPL
Investigator(s): Brian Miller and Renne Massa	Section, To	wnship, Range: S.	t. 3N	R. 4W
Landform (hillslope, terrace, etc.): Flat	Local relief (co	ncave, convex, none): convex	Slope: <u>2.0</u> % / <u>1.1</u> °
Subregion (LRR or MLRA): LRR R Lat.:	41.154737394	Long.:	-80.834041787	Datum: NAD83
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes			NWI classification:	NA
	tly disturbed? problematic?	Are "Normal Cire	no, explain in Remarks. cumstances" present? ain any answers in Rem transects, impori	Yes • No O arks.)
Hydrophytic Vegetation Present? Yes ○ No ● Hydric Soil Present? Yes ○ No ● Wetland Hydrology Present? Yes ○ No ●		Sampled Area a Wetland? Y	′es ○ No ●	
Remarks: (Explain alternative procedures here or in a separate report A upland representative to PEM/PSS wetland complex (Wetland MC The field identification id for the sample point was identified as W-C	I-36a/b) located		ler that is surrounded by	y the wetland complex.

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 💿	Depth (inches): 0	
Water Table Present? Yes O No O	Depth (inches):0	drology Present? Yes \bigcirc No \odot
Saturation Present? (includes capillary fringe) Yes O No •	Depth (inches): 0	drology Present? Yes 🔾 No 🖲
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous inspections), if available	ailable:
Remarks:		
Due to land position, no signs of hydrology we	re observed.	

Sampling Point:	Wetland MCI-36 UPL
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	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30ft radius)	% Cover	Species?	Status	Number of Dominant Species
1 Quercus rubra	35	\checkmark	FACU	That are OBL, FACW, or FAC:(A)
•				
2. Prunus serotina	15		FACU	Total Number of Dominant
3	0			Species Across All Strata: 5 (B)
4				
				Percent of dominant Species
5	0			That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B)
6	0			$\frac{10.070}{10.070}$
7.				Prevalence Index worksheet:
Γ				
Sapling/Shrub Stratum (Plot size: 15ft radius)	50 =	= Total Cover		Total % Cover of: Multiply by:
				OBL species x 1 =
1. Frangula alnus	35	\checkmark	FAC	FACW species 0 x 2 = 0
2	0			
				FAC species X 3 =210
3				FACU species $75 \times 4 = 300$
4	0			
5	0			UPL species $0 \times 5 = 0$
				Column Totals:145 (A)510 (B)
6				
7	0			Prevalence Index = $B/A = 3.517$
	35 =	= Total Cover		·····
Herb Stratum (Plot size: 5ft radius)				Hydrophytic Vegetation Indicators:
			54.0	Rapid Test for Hydrophytic Vegetation
1. Frangula alnus	25	\checkmark	FAC	Dominance Test is > 50%
2. Potentilla simplex	15	\checkmark	FACU	
O Fasture amunding and	10		FACU	Prevalence Index is \leq 3.0 ¹
 To dead on a discuss 	10			Morphological Adaptations ¹ (Provide supporting
4. Toxicodendron radicans	10		FAC	data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6				
				¹ Indicators of hydric soil and wetland hydrology must
7	0			be present, unless disturbed or problematic.
8	0			
9				Definitions of Vegetation Strata:
10				Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12				
١٢	-			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	60 =	= Total Cove		greater than 3.28 ft (1m) tall
1	0			Herb - All herbaceous (non-woody) plants, regardless of
2	0			size, and woody plants less than 3.28 ft tall.
	0			
3				Woody vine - All woody vines greater than 3.28 ft in
4	0			height.
	0 =	= Total Cover		
				Hydrophytic
				Vegetation
				Present? Yes \bigcirc No \bigcirc
Remarks: (Include photo numbers here or on a separate she	eet.)			

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Profile Desc	ription: (De	scribe to	the depth	needed to document	the indicato	or or co	nfirm the	absence of indicators.)	
Depth		Matrix			dox Features	5		_	
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks
0-2	10YR	3/2	100					Silt Loam	
2-10	10YR	4/3	100					Silt Loam	
10-16	10YR	5/4	100					Silt Loam	
		-1.							
		<u>.</u>		. <u> </u>					
				. <u> </u>					
		-							
					·				
	contration D	-Doplotic	n DM-Dod	used Matrix CS-Cover	d or Costod 9	Cand Cra	inc 21.0cm	ation: PL=Pore Lining. M=N	
		=Depietic	n. k™=keu	uceu Matrix, CS=COVere	ed of Coaled S	Saliu Gra	IIS -LOCA		
Hydric Soil				□ - ·				Indicators for Prob	ematic Hydric Soils : ³
				Polyvalue Belov MLRA 149B)	v Surface (S8)) (LRR R,		2 cm Muck (A10)	(LRR K, L, MLRA 149B)
	pedon (A2)			Thin Dark Surfa	ace (S9) (LRR	R. MIR	A 149B)	Coast Prairie Red	ox (A16) (LRR K, L, R)
Black Hist				Loamy Mucky I			(1,00)	5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Gleyed		arry <u></u>		Dark Surface (S7) (LRR K, L, M)
	Layers (A5)			Depleted Matri				Polyvalue Below S	Surface (S8) (LRR K, L)
	Below Dark S	•	.11)	Redox Dark Su				Thin Dark Surface	e (S9) (LRR K, L)
	k Surface (Al	,		Depleted Dark	. ,			Iron-Manganese I	Masses (F12) (LRR K, L, R)
	uck Mineral (S			Redox Depress				Piedmont Floodpl	ain Soils (F19) (MLRA 149B)
	eyed Matrix (54)						Mesic Spodic (TA	5) (MLRA 144A, 145, 149B)
Sandy Re								Red Parent Mater	
	Matrix (S6)							Very Shallow Dar	< Surface (TF12)
Dark Surf	face (S7) (LRI	K R, MLRA	A 149B)					Other (Explain in	Remarks)
³ Indicators o	f hydrophytic	vegetatic	on and wetla	and hydrology must be p	resent, unless	s disturbe	ed or proble	ematic.	
Restrictive L	ayer (if obs	erved):							
Type:		,							
Depth (inc	hes):							Hydric Soil Present?	Yes 🔾 No 🖲
Remarks:									



APPENDIX B

OEPA WETLAND ORAM FORMS

	Ohio Rapid Assessment Metho for Wetland Categorization	od for Wetlands 10 Page Form
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information		
Name:	Brian J. Miller	
Date:	6/9/2020	
Affiliation:	AECOM	
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220	
Phone Number:	412-667-9172	
e-mail address:	brian.miller1@aecom.com	
Name of Wetland:	Wetland MCI-06a/b	
Vegetation Communit(ies):	РЕМ	
HGM Class(es):	Depressed	
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.	

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.153229, -80.855803
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/9/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-06a/b		
Wetland Size (delineated acres):	0.12	Wetland Size (Estimated total acres):	0.12
Sketch: Include north arrow, relationship	with other surface waters, vegetatio	n zones, etc.	
Sketch: Include north arrow, relationship Sketch: Include north arrow, relationsh	with other surface waters, vegetation with other surface waters, vegetation waters, veget	n zones, etc.	Image: selection of the selection
Final score:	22	Category:	4
Filial SCULE.	23	Caleyory.	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	X	
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.	X	
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.	x	
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.		x

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

Narrative Rating

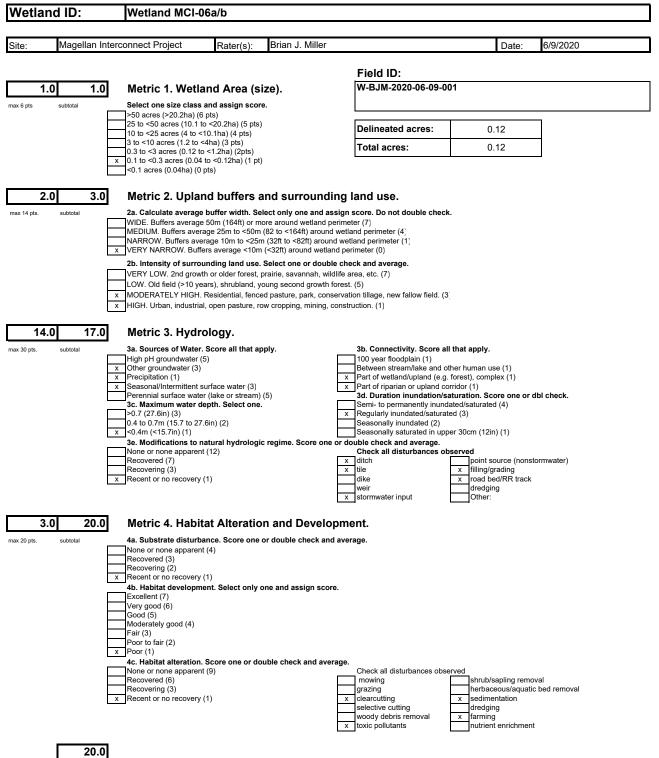
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural 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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	. 20	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	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	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*N0
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Vetlan	d ID:		Wetland MCI-06a/b					
ite:	Magella	n Inte	rconnect Project	Rater(s):	Bria	an J. Miller	Date:	6/9/202
		_				Field ID:		
	20.	0				W-BJM-2020-06-09-	-001	
	subtotal this pag	le						
0.0	0 20.	0	Metric 5. Special Wet	tlands.				
(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 wetlan	d-unrestricted hydrology (1)	0)			
			Lake Erie coastal/tributary wetlan		0)			
			Lake Plain Sand Prairies (Oak O					
			Relict Wet Praires (10)					
			Known occurrence state/federal t			(10)		
			Significant migratory songbird/wa Category 1 Wetland. See Question	- · ·	· · · ·			
2.0	0 00	~	Matria C. Diant comm				b	
3.(20pts.	0 23.		Metric 6. Plant comm 6a. Wetland Vegetation C	•	sion	Vegetation Comm	•	
			Score all present using 0 to 3 sca		0		1ha (0.2471 acres) contiguous area	
			Aquatic bed		1	Present and either compr	rises small part of wetland's 1	
			Emergent			-	erate quality, or comprises a	
			Shrub Forest			significant part but is of lo	ow quality rises significant part of wetland's 2	
			Mudflats		2		erate quality or comprises a small	
			Open water			part and is of high quality		
			Other		3	Present and comprises si	ignificant part, or more, of wetland's 3	
			6b. horizontal (plan view) Inters Select only one.	spersion.		vegetation and is of high	quality	
			High (5)			Narrative Description of	f Vegetation Quality	
			Moderately high(4)				predominance of nonnative or low	
			Moderate (3)			disturbance tolerant nativ		
			Moderately low (2) Low (1)				component of the vegetation, mod or disturbance tolerant native spp	
			None (0)				species diversity moderate to	
			6c. Coverage of invasive plants	s. Refer			erallyw/o presence of rare	
			Table 1 ORAM long form for list.	Add		threatened or endangered		
			or deduct points for coverage				e species, with nonnative spp high	
			Extensive >75% cover (-5) Moderate 25-75% cover (-3)				nt native spp absent or virtually	
			Sparse 5-25% cover (-1)				ersity and often, but not always, eatened, or endangered spp	
			Nearly absent <5% cover (0)					
			Absent (1)			Mudflat and Open Wate	r Class Quality	
			6d. Microtopography.		0	Absent <0.1ha (0.247 acr		
			Score all present using 0 to 3 sca Vegetated hummucks/tussucks	ale.		Low 0.1 to <1ha (0.247 to		
			Coarse woody debris >15cm (6in)	2	Moderate 1 to <4ha (2.47 High 4ha (9.88 acres) or	,	
			Standing dead >25cm (10in) dbh		5	1		
			Amphibian breeding pools			Microtopography Cover	r Scale	
					0	Absent		
					1	Present very small amount	nts or if more common	
					2	of marginal quality Present in moderate amo	ounts, but not of highest	
	22		AL (Max 100 pts)		2		, ç	
						quality or in small amount	÷ · ·	
		1 Cate	egory		3	Present in moderate or g	reater amounts	

and of highest quality

		answ	cle /er or 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	
	Metric 2. Buffers and surrounding land use		2	
	Metric 3. Hydrology	1	4	
	Metric 4. Habitat	í.	3	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography		3	
	TOTAL SCORE	23		Category based on score breakpoints

ORAM Summary Worksheet

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	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 <i>not</i> 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	*NO 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		

	Ohio Rapid Assessment Metho for Wetland Categorization	od for Wetlands 10 Page Form
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	6/9/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-07			
Vegetation Communit(ies):	PEM			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.153355, -80.853626
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/9/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-07		
Wetland Size (delineated acres):	0.02	Wetland Size (Estimated total acres):	0.02
Sketch: Include north arrow, relation	ship with other surface waters, ve	egetation zones, etc.	
Comments, Narrative Discussion, Ju		Wetand Wetand Kalon Alar Malon Wetand Kalon Alar Malon Malon Malon	Wetant Wetant
within a concave bowl that d	rains towards the south an minance of Juncus effusu	fallow field located downslope of the a d into upland fields / forest. The boun s, Scirpus atrovirens, and Phalaris aru	dary of the PEM wetland

Final score:	19	Category:	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	X	
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.	x	
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.		x

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

Narrative Rating

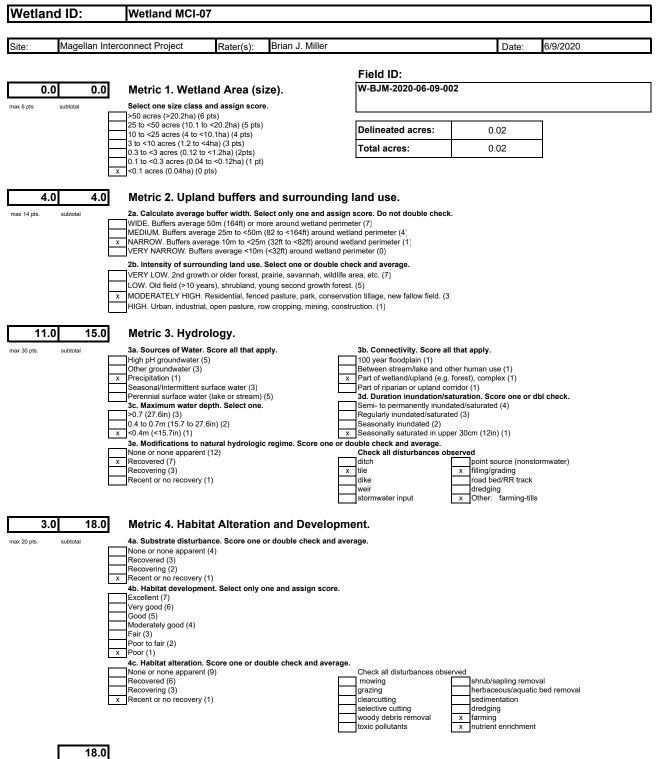
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural 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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	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	Go to Question 9a
92	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
Ju	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Wetlan	d ID:	Wetland MCI-07				
Site:	Magellan	Interconnect Project	Rater(s):	Brian J. Miller	Date:	6/9/202
		,			•	
	-	_		Field ID:		
	18.0			W-BJM-2020-06-09-	002	
	subtotal this page	-				
0.0	0 18.0	Metric 5. Special We	tlands.			
x 10 pts.	subtotal	Check all that apply and				
t to plo.	oubtotal	Bog (10)				
		Fen (10)				
		Old growth forest (10)				
		Mature forested wetland (5)		•		
		Lake Erie coastal/tributary wetlar		U)		
		Lake Erie coastal/tributary wetlar Lake Plain Sand Prairies (Oak O	• •• • •			
		Relict Wet Praires (10)	penings) (10)			
		Known occurrence state/federal t	hreatened or endangered s	pecies (10)		
		Significant migratory songbird/wa				
		Category 1 Wetland. See Question	on 5 Qualitative Rating (-10			
1.0	0 19.0	Metric 6. Plant comm	unities, interspe	sion, microtopograph	ıy.	
¢ 20pts.	subtotal	6a. Wetland Vegetation C	ommunities.	Vegetation Commu	unity Cover Scale	
		Score all present using 0 to 3 sca	ale.		ha (0.2471 acres) contiguous area	
		Aquatic bed			ises small part of wetland's 1	
		1 Emergent		-	erate quality, or comprises a	
		Shrub		significant part but is of lo		
		Forest			ises significant part of wetland's 2	
		Mudflats Open water		0	erate quality or comprises a small	
		Other		part and is of high quality	gnificant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inter	spersion.	vegetation and is of high		
		Select only one.		Norrative Description of	Vegetation Quality	
		High (5) Moderately high(4)		Narrative Description of	predominance of nonnative or low	
		Moderate (3)		disturbance tolerant nativ		
		Moderately low (2)			component of the vegetation, mod	
		x Low (1)			r disturbance tolerant native spp	
		None (0)		can also be present, and	species diversity moderate to	
		6c. Coverage of invasive plants		moderately high, but gene		
		Table 1 ORAM long form for list.	Add	threatened or endangered		
		or deduct points for coverage			species, with nonnative spp high	
		Extensive >75% cover (-5) Moderate 25-75% cover (-3)			nt native spp absent or virtually rsity and often, but not always,	
		x Sparse 5-25% cover (-1)			atened, or endangered spp	
		Nearly absent <5% cover (0)				
		Absent (1)		Mudflat and Open Water	r Class Quality	
		6d. Microtopography.		0 Absent <0.1ha (0.247 acr		
		Score all present using 0 to 3 sca	ale.	1 Low 0.1 to <1ha (0.247 to		
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4ha (2.47	,	
		0 Coarse woody debris >15cm (6in		3 High 4ha (9.88 acres) or r	nore	
		0 Standing dead >25cm (10in) dbh 0 Amphibian breeding pools		Microtopography Cover	Scale	
				Microtopography Cover 0 Absent	Scale	
				1 Present very small amour	nts or if more common	
				of marginal quality		
				2 Present in moderate amo	unts, but not of highest	
	19.0	TOTAL (Max 100 pts)		quality or in small amount	-	
		Category		3 Present in moderate or gr		
		_		and of highest quality		

and of highest quality

		answ	cle /er or 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	
	Metric 2. Buffers and surrounding land use		4	
	Metric 3. Hydrology	1	1	
	Metric 4. Habitat		3	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography		1	
	TOTAL SCORE	19		Category based on score breakpoint

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID:

Wetland MCI-07

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	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 <i>not</i> 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	*NO 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.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	6/9/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-08a/b			
Vegetation Communit(ies):	РЕМ			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.153276, -80.853015
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/9/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-08a/b		
Wetland Size (delineated acres):	2.47	Wetland Size (Estimated total acres):	4.41
Sketch: Include north arrow, relation	ship with other surface waters, ve	egetation zones, etc.	
		- Million - Million Million	
Wetland Wetland Wetland Comments, Narrative Discussion, Ju	MCI-02		Westlar Network Rock-10

A PEM/PSS wetland complex located along the edge of the fallow field that drains towards the south and into an intermittent channel, Stream MCI-03. The southern boundary of the wetland terminates at the edge of the agricultural field where there is a forested upland mound that separates the field from the edge of the railroad grade. The intermittent channel, Stream MCI-03, continues under the railroad via an existing culvert and outside of the survey area. The boundary of the wetland to the east and west is confined by row crops and extends to the north and terminates along the edge of the field.

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 wetlandbeing 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.	x	
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.	X	
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.	x	
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.		x

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

Narrative Rating

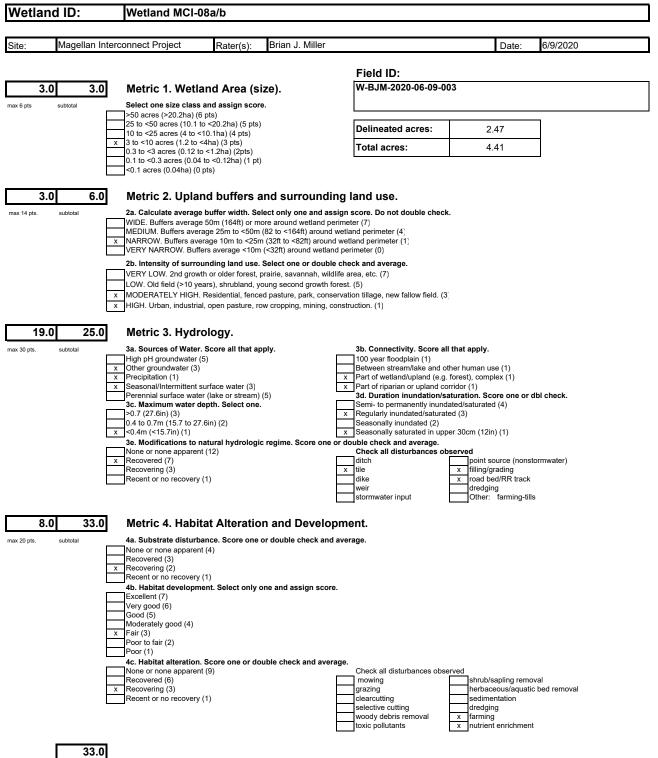
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural 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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	. 20	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
on	cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	*NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e		YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
-	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Wetlar	nd ID:	Wetland MCI-08a/b)				
Site:	Magellar	n Interconnect Project	Rater(s):	Brian J. N	liller	Date:	6/9/202
		-		Field			
	33.	D		W-BJ	M-2020-06-09-00	3	
	subtotal this page						
0.	.0 33.	Metric 5. Special V	Vetlands.				
x 10 pts.	subtotal	Check all that apply a	nd score as indicated.				
		Bog (10)					
		Fen (10)					
		Old growth forest (10) Mature forested wetland (5)					
			etland-unrestricted hydrology (1	0)			
		Lake Erie coastal/tributary we		,			
		Lake Plain Sand Prairies (Oa	k Openings) (10)				
		Relict Wet Praires (10)		. (10)			
			ral threatened or endangered s d/water fowl habitat or usage (1				
			estion 5 Qualitative Rating (-10				
4.	.0 37.	Metric 6. Plant con	nmunities, interspe	rsion. mic	rotopography	_	
c 20pts.	subtotal	6a. Wetland Vegetation	•		tation Communi		
		Score all present using 0 to 3	scale.			(0.2471 acres) contiguous area	
		Aquatic bed			•	s small part of wetland's 1	
		2 Emergent		-		e quality, or comprises a	
		1 Shrub Forest			ant part but is of low o	uality s significant part of wetland's 2	
		Mudflats				e quality or comprises a small	
		Open water		-	d is of high quality		
		Other		3 Preser	t and comprises signi	ficant part, or more, of wetland's 3	
		6b. horizontal (plan view) In Select only one.	terspersion.	vegeta	tion and is of high qua	lity	
		High (5)			ive Description of Ve		
		Moderately high(4)				dominance of nonnative or low	
		x Moderate (3) Moderately low (2)			ance tolerant native sp	pecies nponent of the vegetation, mod	
		Low (1)				sturbance tolerant native spp	
		None (0)				cies diversity moderate to	
		6c. Coverage of invasive pla	ants. Refer	moder	ately high, but general	lyw/o presence of rare	
		Table 1 ORAM long form for I			ned or endangered sp		
		or deduct points for coverage Extensive >75% cover (-5)				ecies, with nonnative spp high	
		x Moderate 25-75% cover (-3)				ative spp absent or virtually y and often, but not always,	
		Sparse 5-25% cover (-1)				ned, or endangered spp	
		Nearly absent <5% cover (0)				÷	
		Absent (1)			at and Open Water Cl		
		6d. Microtopography.			<0.1ha (0.247 acres)		
		Score all present using 0 to 3 1 Vegetated hummucks/tussucl			1 to <1ha (0.247 to 2.4 ate 1 to <4ha (2.47 to		
		0 Coarse woody debris >15cm			ha (9.88 acres) or mor		
		0 Standing dead >25cm (10in)		o 1911 -		-	
		0 Amphibian breeding pools			opography Cover Sc	ale	
				0 Absen	t It very small amounts	or if more commo-	
					ginal quality		
					nt in moderate amount	s, but not of highest	
	37.) TOTAL (Max 100 pts)			or in small amounts o	-	
	Modified				it in moderate or great		

and of highest quality

		answ	cle /er or 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	í.	3	
	Metric 2. Buffers and surrounding land use	í	3	
	Metric 3. Hydrology	1	9	
	Metric 4. Habitat	8	8	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography	4	4	
	TOTAL SCORE	3	7	Category based on score breakpoints

ORAM Summary Worksheet

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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 <i>"gray zone"</i> 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 <i>not</i> 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	*NO 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	

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization		
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001	

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	6/9/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-09			
Vegetation Communit(ies):	PEM			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.153144, -80.850403
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/9/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-09		
Wetland Size (delineated acres):	0.03	Wetland Size (Estimated total acres):	0.03
Sketch: Include north arrow, relationsh	ip with other surface waters, v	egetation zones, etc.	
		Prop Data	Partiel Bading Sinzawa Manada Sawasa Manada
Comments, Narrative Discussion, Just	ification of Cotogony Changes		
A small PEM wetland, Wetland mixed deciduous upland wood PEM wetland was identified by	I MCI-09, located along th ds that separates the wet v the slightly concave are ogic connectivity of the v	he edge of the active agricultural field t land from the edge of an active railroa ea that was dominated by Carex squar wetland was observed as driange to th	ad. The boundary of the rosa, Poa palustris, and

Final score: 19 Category: 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	X	
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.	x	
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.		x

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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

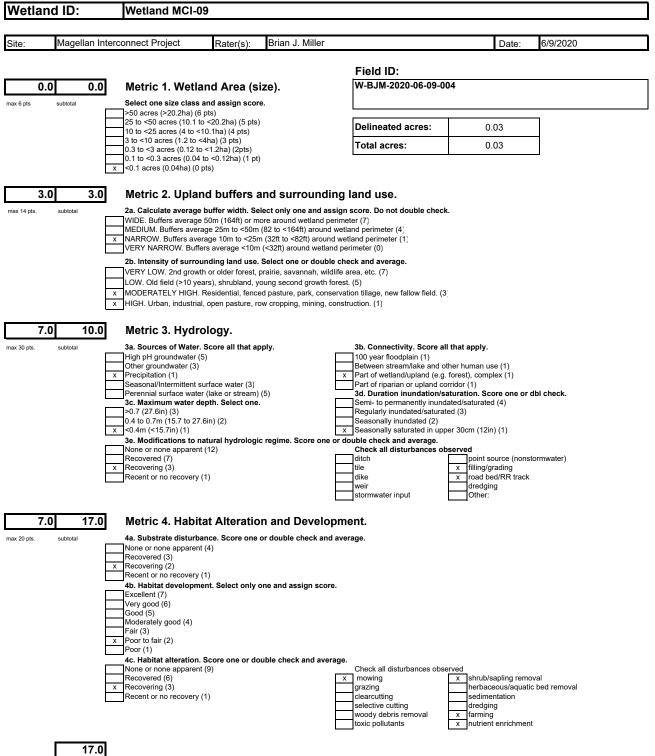
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11 Go to Question 11	
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible Category 3 status	Complete Quantitative Rating

Wetland ID:

Wetland MCI-09

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Netla	nd ID):		Wetland MCI-09					
Site:	Ма	gellan	Inte	erconnect Project	Rater(s):	Bria	ın J. Miller	Date:	6/9/202
		<u> </u>		,					
			_				Field ID:		
		17.0					W-BJM-2020-06-09-0	04	
	subtota	al this page							
	-		-						
0	.0	17.0		Metric 5. Special Wetland	s.				
x 10 pts.	subtot	tal		Check all that apply and score	as indicated.				
				Bog (10) Fen (10)					
				Old growth forest (10)					
				Mature forested wetland (5)					
				Lake Erie coastal/tributary wetland-unres		0)			
				Lake Erie coastal/tributary wetland-restric Lake Plain Sand Prairies (Oak Openings					
				Relict Wet Praires (10)	,()				
				Known occurrence state/federal threaten			10)		
				Significant migratory songbird/water fowl					
				Category 1 Wetland. See Question 5 Qua	antative Rating (-10)	,			
2	2.0	19.0		Metric 6. Plant communiti	es, interspei	rsion	, microtopograph	у.	
c 20pts.	subtot	tal	4	6a. Wetland Vegetation Commu	unities.		Vegetation Commu	nity Cover Scale	
				Score all present using 0 to 3 scale.		0		a (0.2471 acres) contiguous area	
			4	Aquatic bed		1		es small part of wetland's 1	
			1	Emergent Shrub			vegetation and is of moder significant part but is of low		
				Forest		2		es significant part of wetland's 2	
				Mudflats			vegetation and is of moder	ate quality or comprises a small	
				Open water			part and is of high quality		
				Other 6b. horizontal (plan view) Interspersio	n	3	Present and comprises sign vegetation and is of high qu	nificant part, or more, of wetland's 3	
				Select only one.			vegetation and is of high qu	uanty	
				High (5)			Narrative Description of	Vegetation Quality	
				Moderately high(4)				edominance of nonnative or low	
				Moderate (3) Moderately low (2)			disturbance tolerant native	species omponent of the vegetation, mod	
			x	Low (1)				disturbance tolerant native spp	
				None (0)				pecies diversity moderate to	
				6c. Coverage of invasive plants. Refer			moderately high, but gener		
				Table 1 ORAM long form for list. Add or deduct points for coverage			threatened or endangered	spp to species, with nonnative spp high	
				Extensive >75% cover (-5)				native spp absent or virtually	
				Moderate 25-75% cover (-3)				sity and often, but not always,	
				Sparse 5-25% cover (-1)			the presence of rare, threat	tened, or endangered spp	
			х	Nearly absent <5% cover (0)			Mudflet and Onen Water	Class Quality	
			L	Absent (1) 6d. Microtopography.		0	Mudflat and Open Water Absent <0.1ha (0.247 acres		
				Score all present using 0 to 3 scale.		1	Low 0.1 to <1ha (0.247 to 2		
				Vegetated hummucks/tussucks		2	Moderate 1 to <4ha (2.47 t	·	
				Coarse woody debris >15cm (6in)		3	High 4ha (9.88 acres) or m	ore	
				Standing dead >25cm (10in) dbh Amphibian breeding pools			Microtopography Cover S	Scale	
			Ľ	I		0	Absent		
						1	Present very small amount	s or if more common	
							of marginal quality	nte la trata de la color de	
		40.0	1	TAL (May 400 mt-)		2	Present in moderate amou	-	
				TAL (Max 100 pts)			quality or in small amounts		
		1	(Cat	egory		3	Present in moderate or gre	ater amounts	

and of highest quality

		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			
	Metric 2. Buffers and surrounding land use		3		
	Metric 3. Hydrology	,	7		
	Metric 4. Habitat	,	7		
	Metric 5. Special Wetland Communities	0 2 19			
	Metric 6. Plant communities, interspersion, microtopography				
	TOTAL SCORE			Category based on score breakpoints	

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID: W

Wetland MCI-09

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.		
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	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 <i>not</i> 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	*NO 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.

	Ohio Rapid Assessment Metho for Wetland Categorization	od for Wetlands 10 Page Form
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	6/9/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-10			
Vegetation Communit(ies):	PEM			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.153154, -80.848966
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/9/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-10		
Wetland Size (delineated acres):	1.31	Wetland Size (Estimated total acres):	1.31
Sketch: Include north arrow, relations	hip with other surface waters, ve	getation zones, etc.	
			Ř
Million Control of Con		Market Control of Cont	
			Proposate Miting Smitteres Subgators Anna Proposate Miting Tonumestors Line Exiloated Status Tonumestors Line Exiloated Status 5 Defined Wetlands AECOM Survey Baumbary
			GM Mixins, LLC (GM) Landstrom Salary Cel Prat Project Survey Area
mixed deciduous upland woo PEM wetland was identified by	d MCI-09, located along the ds that separates the weth y the slightly concave area logic connectivity of the w	e edge of the active agricultural field and from the edge of an active railroa a that was dominated by Carex squar retland was observed as driange to th urvey area.	ad. The boundary of the rosa, Poa palustris, and

Final score: 37 Category: Modified 2

Wetland ID: Wetland MCI-10

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	X	
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.	x	
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.		x

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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	 hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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? 	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

Wetland ID: Wetland MCI-10

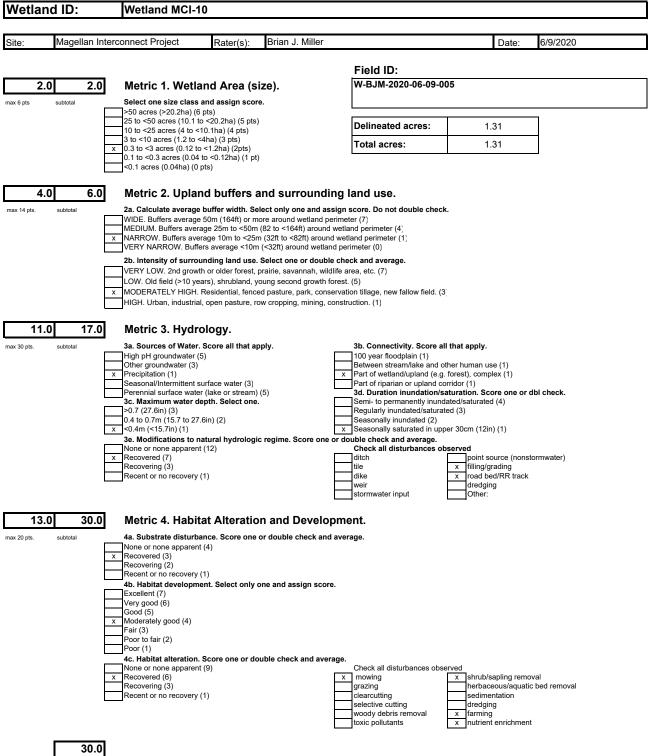
h		1	
8b	Mature forested wetlands . Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	*NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at 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?	YES Go to Question 9b	*NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to 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?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	*NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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.	YES Go to Question 9d	*NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	*NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	*NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in 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	YES Wetland is a Category 3 wetland. Go to Question 11	*NO Go to Question 11
11	gramineous vegetation listed in Table 1 (woody species may also be 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. Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	YES Wetland should be evaluated for	*NO Complete Quantitative Rating
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	possible Category 3 status Complete Quantitative Rating	

Wetland ID:

Wetland MCI-10

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Wetlar	nd ID:	Wetland MCI-10				
Site:	Magellar	n Interconnect Project	Rater(s):	Brian J. Miller	Date:	6/9/202
		-		Field ID:		
	30.0	D		W-BJM-2020-06-09	0-005	
	subtotal this page					
0.	0 30.0	Metric 5. Special W	etlands.			
x 10 pts.	subtotal	Check all that apply an	d score as indicated.			
		Bog (10)				
		Fen (10)				
		Old growth forest (10)				
		Mature forested wetland (5)	and unrestricted bydrology (1	0)		
		Lake Erie coastal/tributary wetl Lake Erie coastal/tributary wetl		0)		
		Lake Plain Sand Prairies (Oak				
		Relict Wet Praires (10)				
		Known occurrence state/federa	al threatened or endangered s	pecies (10)		
		Significant migratory songbird/				
		Category 1 Wetland. See Ques	tion 5 Qualitative Rating (-10)		
7.	.0 37.0	Metric 6. Plant com	munities, interspe	rsion, microtopograp	hy.	
20pts.	subtotal	6a. Wetland Vegetation		Vegetation Comm	,	
		Score all present using 0 to 3 s	cale.		1ha (0.2471 acres) contiguous area	
		Aquatic bed			prises small part of wetland's 1	
		1 Emergent 1 Shrub		significant part but is of l	lerate quality, or comprises a	
		2 Forest			prises significant part of wetland's 2	
		Mudflats			lerate quality or comprises a small	
		Open water		part and is of high qualit		
		Other		3 Present and comprises s	significant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inte Select only one.	erspersion.	vegetation and is of high	quality	
		High (5)		Narrative Description of	of Vegetation Quality	
		Moderately high(4)			predominance of nonnative or low	
		x Moderate (3)		disturbance tolerant nati		
		Moderately low (2)			t component of the vegetation, mod	
		Low (1) None (0)		_	or disturbance tolerant native spp I species diversity moderate to	
		6c. Coverage of invasive plar	nts. Refer		nerallyw/o presence of rare	
		Table 1 ORAM long form for lis		threatened or endangere		
		or deduct points for coverage			e species, with nonnative spp high	
		Extensive >75% cover (-5)		and/or disturbance tolera	ant native spp absent or virtually	
		Moderate 25-75% cover (-3)			ersity and often, but not always,	
		Sparse 5-25% cover (-1)		the presence of rare, thr	eatened, or endangered spp	
		x Nearly absent <5% cover (0)		Mudflat and Open Wat		
		Absent (1) 6d. Microtopography.		0 Absent <0.1ha (0.247 ad		
		Score all present using 0 to 3 s	cale.	1 Low 0.1 to <1ha (0.247 t		
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4ha (2.4		
		0 Coarse woody debris >15cm (6	ðin)	3 High 4ha (9.88 acres) or		
		0 Standing dead >25cm (10in) dt	bh			
		0 Amphibian breeding pools		Microtopography Cove	er Scale	
				0 Absent	into ar if mara comr	
				 Present very small amound of marginal quality 	unis or it more common	
				2 Present in moderate am	ounts, but not of highest	
	37.0) TOTAL (Max 100 pts)		quality or in small amou	-	
	Modified			3 Present in moderate or g		
					,	

and of highest quality

Wetland ID: Wetland MCI-10

		answ	cle /er or 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	ź	2	
	Metric 2. Buffers and surrounding land use		4	
	Metric 3. Hydrology	1	1	
	Metric 4. Habitat	1	3	
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	7		
	TOTAL SCORE 3		7	Category based on score breakpoint

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID: Wetland MCI-10

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	*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	*NO 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	ne Category 1	*Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

Instructions

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Background Information				
Name:	Brian J. Miller			
Date:	6/10/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-11a/b			
Vegetation Communit(ies):	PEM/PFO			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.153118, -80.844212
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/10/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-11a/b		
Wetland Size (delineated acres):	0.09	Wetland Size (Estimated total	0.09
Sketch: Include north arrow, relationshi		acres):	0.09
Sketch: Include north arrow, relationship	p with other surface waters, vegetation		Poponadi C ded ng Structures Poponadi C ded ng Structures
			Celevised Searces CR485 Science Recently Discussed Wetlands AECOM Survey Bacretery GM Metana, LLC (GM) Landalower Ballwy Call Plant Project Survey Areas
Comments, Narrative Discussion, Justif	ication of Category Changes:		
A small PEM wetland, Wetland I			
mixed deciduous upland woods PEM wetland was identified by t			
Solidago gigantea. The hydrolog	gic connectivity of the wetlan	d was observed as driange to	
eventually connects to other res	sources outside of the survey	area.	
Final score:	25	Category:	1

Wetland ID: Wetland MCI-11a/b

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	x	
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.	x	
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.		x

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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	 hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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? 	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

Wetland ID: Wetland MCI-11a/b

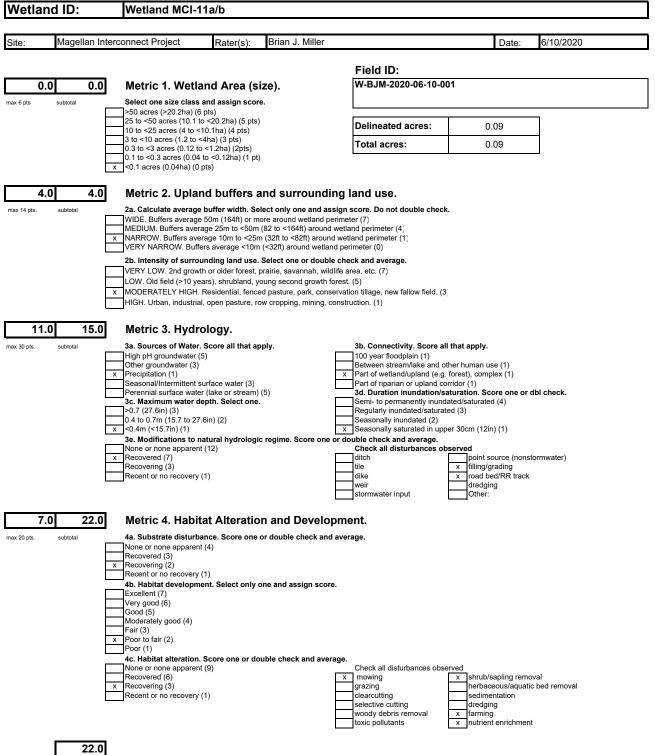
Mature forested wetlands . Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.	*NO Go to Question 9a
		Go to Question 9a
	Go to Question 9a	
Lake Frie coastal and tributary wetlands Is the wetland located at an elevation less	VES	*NO
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
Does the wetland's hydrology result from measures designed to prevent erosion and the	VES	*NO
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 10	Go to Question 9c
Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 10
Does the wetland have a predominance of native species within its vegetation	YES	*NO
communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
	YES	*N0
species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties) and possible (Complete Quantitative Rating
	Erie that is accessible to fish? Does the wetland's hydrology result from measures designed to 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? Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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. Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities, although non-native or disturbance tolerant native plant species within its vegetation communities? Lake Plain Sand Prairies (Oak Openings) Is the wetland located in 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 is server and can the wetland and free with oflowing description: the wetland has a sandy substrate with interspersed organic matter, a water dashe dren within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be 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. Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species. In Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (W	than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Go to Question 9b Discrete that is accessible to fish? Go to Question 9b Does the wetland's hydrology result from measures designed to 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? YES Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland is hydrological and education, estimated wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation. YES Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present? YES Does the wetland have a predominance of non-native or disturbance tolerant native plant should be evaluated for poscies within its vegetation communities? YES Does the wetland have a predominance of non-native or disturbance tolerant native plant should be evaluated for poscies within its vegetation communities? YES Metand should be valuated for poscies of the wetland have a and predominance of non-native or disturbance tolerant native plant should be evaluated for poscies within its vegetation communities? YES Wetland is a Category 3 satus Go to Question 10 YES Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fu

Wetland ID:

Wetland MCI-11a/b

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Wetlar	nd ID:	Wetland MCI-11a/b					
Site:	Magellar	n Interconnect Project	Rater(s):	Bria	n J. Miller	Date:	6/10/202
		7			Field ID:		
	22.0	D			W-BJM-2020-06-10-	001	
	subtotal this page						
0.	0 22.0	Metric 5. Special We	etlands.				
< 10 pts.	subtotal	Check all that apply and					
. 10 ptd.	oubtotal	Bog (10)					
		Fen (10)					
		Old growth forest (10)					
		Mature forested wetland (5)					
		Lake Erie coastal/tributary wetla		10)			
		Lake Erie coastal/tributary wetla					
		Lake Plain Sand Prairies (Oak (Openings) (10)				
		Relict Wet Praires (10)	I threatened or endengered a	nacion (10)		
		Known occurrence state/federal Significant migratory songbird/w	-		10)		
		Category 1 Wetland. See Quest					
3.	0 25.0	Metric 6. Plant com	munities. interspe	rsion.	microtopograph	IV.	
20pts.	subtotal	6a. Wetland Vegetation		,	Vegetation Commu	-	
		Score all present using 0 to 3 so	cale.	0	Absent or comprises <0.1	ha (0.2471 acres) contiguous area	
		Aquatic bed		1	Present and either compri	ses small part of wetland's 1	
		1 Emergent			-	rate quality, or comprises a	
		Shrub			significant part but is of lo		
		1 Forest		2		ses significant part of wetland's 2	
		Mudflats Open water			part and is of high quality	rate quality or comprises a small	
		Other		3		gnificant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inte	erspersion.	0	vegetation and is of high o		
		Select only one. High (5)			Narrative Description of	Vegetation Quality	
		Moderately high(4)				predominance of nonnative or low	
		Moderate (3)			disturbance tolerant native		
		Moderately low (2)				component of the vegetation, mod	
		x Low (1)			although nonnative and/or	disturbance tolerant native spp	
		None (0)				species diversity moderate to	
		6c. Coverage of invasive plan			moderately high, but gene		
		Table 1 ORAM long form for list	t. Add		threatened or endangered		
		or deduct points for coverage Extensive >75% cover (-5)				species, with nonnative spp high at native spp absent or virtually	
		Moderate 25-75% cover (-3)				rsity and often, but not always,	
		Sparse 5-25% cover (-1)				atened, or endangered spp	
		x Nearly absent <5% cover (0)			· · · ·	, , , , , , , , , , , , , , , , , , , ,	
		Absent (1)			Mudflat and Open Water	Class Quality	
		6d. Microtopography.			Absent <0.1ha (0.247 acro		
		Score all present using 0 to 3 so	cale.		Low 0.1 to <1ha (0.247 to		
		0 Vegetated hummucks/tussucks			Moderate 1 to <4ha (2.47	· · · · · · · · · · · · · · · · · · ·	
		0 Coarse woody debris >15cm (6i		3	High 4ha (9.88 acres) or r	nore	
		0 Standing dead >25cm (10in) db	'n		Mierotonography Course	Sacla	
		0 Amphibian breeding pools		0	Microtopography Cover Absent	Scale	
					Absent Present very small amoun	ts or if more common	
				'	of marginal quality		
				2	Present in moderate amou	unts, but not of highest	
	25 () TOTAL (Max 100 pts)		-	quality or in small amount		
	-	I Category		3	Present in moderate or gr	eater amounts	

and of highest quality

Wetland ID: Wetland MCI-11a/b

		answ	cle /er or 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	
	Metric 2. Buffers and surrounding land use	4	4	
	Metric 3. Hydrology	1	1	
	Metric 4. Habitat	,	7	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography	3		
	TOTAL SCORE	25		Category based on score breakpoints

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID: Wetland MCI-11a/b

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 <i>less</i> than the Category 2 scoring three (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wet using the narrative criteria in OAC Rule 3745-1-54(C) and biologic and/or functional assessments to determine if the wetland has bee over- categorized 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 may also be used to determine the wetland's category.		
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	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 <i>not</i> 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	*NO 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		

	Ohio Rapid Assessment Metho for Wetland Categorization	od for Wetlands 10 Page Form
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	6/10 & 9/28/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-12, MCI-13 a/b/c, and MCI-14			
Vegetation Communit(ies):	PEM/PSS/PFO			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.155755, -80.838552
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/10 & 9/28/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-12, MCI-13 a/b/c	, and MCI-14	
Wetland Size (delineated acres):	18.85	Wetland Size (Estimated total acres):	59.85
Sketch: Include north arrow, relationship	o with other surface waters, vegetatio	n zones, etc.	
egend Propried External Propried External Propri	ication of Category Changes: complex located within an exite e scoring boundary that conti	sting right-of-way that extend nues to the west wtihin the for	rested area directly
connects both Wetland MCI-12 a by multiple electric transmission segements. The majority of the roads were identified within the	n lines, agricutlutral fields, an PEM wetland habitat is domir	d areas of selective tree remo nated by Phalaris arundinacea	val within the forested a and several dirt paths/farm
Final score:	53	Category:	2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	x	
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.		x
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.		x

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

Narrative Rating

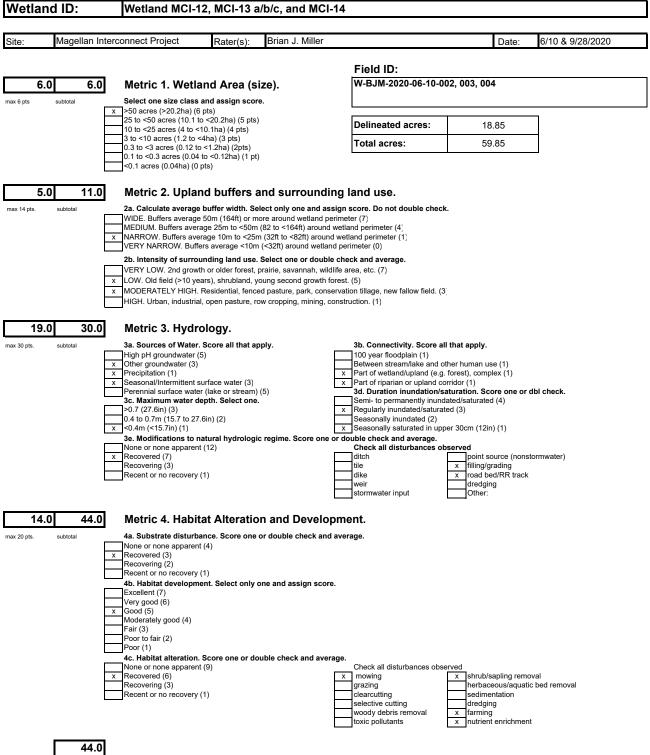
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves Natural Heritage 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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*N0
	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	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	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	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	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
<u></u>			
9b	Does the wetland's hydrology result from measures designed to 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?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	*NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation communities, although non-native or disturbance tolerant native species can also be	YES	*NO
	present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies . Is the wetland a relict wet prairie community dominated by some or	YES	*NO
all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), and the former of the second sec		Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

e: I	Magellan	Interconnect Project	Rater(s):	Bria	n J. Miller	Date:	6/10 & 9/28/202
				Dria		Duto.	
					Field ID:		
Г	44.0				W-BJM-2020-06-10-0	02, 003, 004	
s	ubtotal this page	•					
0.0	44.0						
pts. s	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 wetland		0)			
		Lake Erie coastal/tributary wetland Lake Plain Sand Prairies (Oak Op					
		Relict Wet Praires (10)	chings) (10)				
		Known occurrence state/federal th	reatened or endangered s	pecies (1	0)		
		Significant migratory songbird/wat					
		Category 1 Wetland. See Questio	n 5 Qualitative Rating (-10))			
9.0	53.0	Metric 6. Plant comm	unitios intorenou	reion	microtopograph		
	subtotal	6a. Wetland Vegetation C	•		Vegetation Commu		
Jua. a	Subtotal	Score all present using 0 to 3 scal				a (0.2471 acres) contiguous	area
		Aquatic bed		1	Present and either compris	es small part of wetland's 1	
		1 Emergent			vegetation and is of modera		
		2 Shrub 1 Forest			significant part but is of low	quality es significant part of wetland	le 0
		Mudflats				ate quality or comprises a sm	
		Open water			part and is of high quality		
		Other		3	Present and comprises sig	nificant part, or more, of wetl	and's 3
		6b. horizontal (plan view) Inters Select only one.	persion.	,	vegetation and is of high qu	Jality	
		High (5)			Narrative Description of \	egetation Quality	
		Moderately high(4)				edominance of nonnative or	low
		x Moderate (3) Moderately low (2)			disturbance tolerant native	species omponent of the vegetation, i	nod
		Low (1)				disturbance tolerant native s	
		None (0)				becies diversity moderate to	
		6c. Coverage of invasive plants			noderately high, but gener		
		Table 1 ORAM long form for list. A or deduct points for coverage	/dd		hreatened or endangered	spp to species, with nonnative spp h	iah
		x Extensive >75% cover (-5)				native spp absent or virtually	-
		Moderate 25-75% cover (-3)		4	absent, and high spp divers	sity and often, but not always	3
		Sparse 5-25% cover (-1)		1	he presence of rare, threat	ened, or endangered spp	
		Nearly absent <5% cover (0) Absent (1)			Mudflat and Open Water	Class Quality	
		6d. Microtopography.			Absent <0.1ha (0.247 acres		
		Score all present using 0 to 3 scal	ıe.		_ow 0.1 to <1ha (0.247 to 2	/	
		1 Vegetated hummucks/tussucks			Moderate 1 to <4ha (2.47 to		
		2 Coarse woody debris >15cm (6in) 2 Standing dead >25cm (10in) dbh		3	High 4ha (9.88 acres) or m	ore	
		2 Amphibian breeding pools		1	Microtopography Cover S	Scale	
				0	Absent		
					Present very small amount	s or if more common	
					of marginal quality Present in moderate amou	nts but not of bigbest	
				2		-	
	53.0	TOTAL (Max 100 pts)			quality or in small amounts		

		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		6	
	Metric 2. Buffers and surrounding land use	4	5	
	Metric 3. Hydrology	19		
	Metric 4. Habitat	1	4	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography	9	9	
	TOTAL SCORE		3	Category based on score breakpoints

ORAM Summary Worksheet

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	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	*NO 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 Catego	ry	
Choose	one Category	1 *Category 2	Category 3	

Version 5.0	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization			
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001		

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information			
Name:	Brian J. Miller		
Date:	6/11/2020		
Affiliation:	AECOM		
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220		
Phone Number:	412-667-9172		
e-mail address:	brian.miller1@aecom.com		
Name of Wetland:	Wetland MCI-15		
Vegetation Communit(ies):	РЕМ		
HGM Class(es):	Depressed		
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.		

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.159658, -80.837492
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/11/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-15			
Wetland Size (delineated acres):	0.09	Wetland Size (Estimated total acres):	0.09	
Sketch: Include north arrow, relationshi	with other surface waters, veg	etation zones, etc.		
	, located within a concave	e area within an existing electric o iduous woods. An upland sample		
downslope portion of the wetlar	nd complex and did not co hydric soils and indicated	ontain the dominance of hydrophy I that hydrology from this wetland	tic vegetation; however,	

Final score:	18	Category:	1

Wetland ID: Wetland MCI-15

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	x	
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.	x	
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.		x

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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b
	aged structure and multilayered canopies; aggregations of canopy trees interspersed with		

Wetland ID: Wetland MCI-15

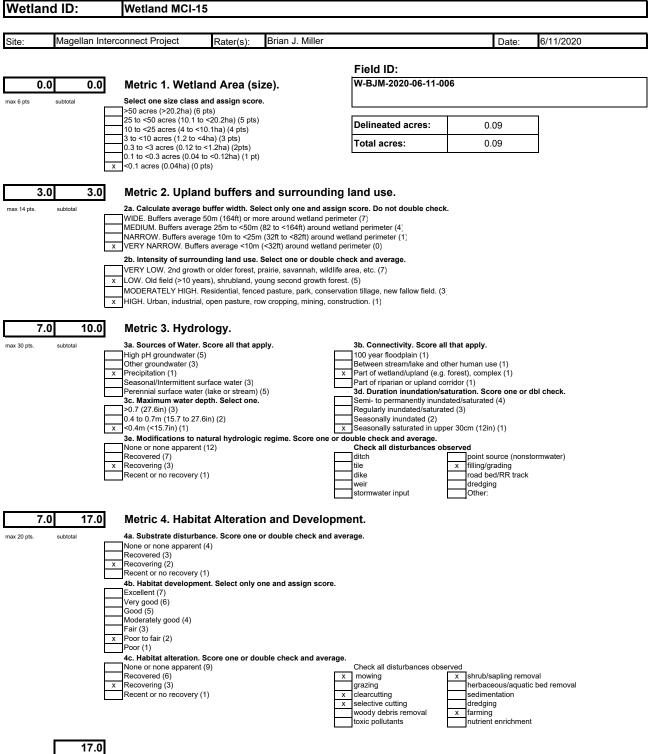
	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	VEC	-110
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	*NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	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 prevent erosion and the	NEO.	1110
55	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?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	*NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	\/F0	1010
		YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	*NO Go to Question 9e
9e	present? Does the wetland have a predominance of non-native or disturbance tolerant native plant	Wetland is a Category 3 wetland	
9e	present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	present? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	Wetland is a Category 3 wetland Go to Question 10 YES Wetland should be evaluated for possible Category 3 status	Go to Question 9e *NO
	present? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	Wetland is a Category 3 wetland Go to Question 10 YES Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 9e *NO Go to Question 10
10	present? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Lake Plain Sand Prairies (Oak Openings) Is the wetland located in 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 gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide	Wetland is a Category 3 wetland Go to Question 10 YES Wetland should be evaluated for possible Category 3 status Go to Question 10 YES Wetland is a Category 3 wetland. Go to Question 11	Go to Question 9e *NO Go to Question 10 Co to Question 11
	present? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Lake Plain Sand Prairies (Oak Openings) Is the wetland located in 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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland Go to Question 10 YES Wetland should be evaluated for possible Category 3 status Go to Question 10 YES Wetland is a Category 3 wetland.	Go to Question 9e *NO Go to Question 10 *NO

Wetland ID:

Wetland MCI-15

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Wetla	nd ID:	Wetland MCI-15				
Site:	Magellar	n Interconnect Project	Rater(s):	Brian J. Miller	Date:	6/11/202
				Field ID:		
	47.0	ิจ		W-BJM-2020-06-11-	006	
	17.0)		W-BJM-2020-06-11	-006	
	subtotal this page					
0	.0 17.0	Metric 5. Special W	etlands.			
x 10 pts.	subtotal	Check all that apply an	d score as indicated.			
		Bog (10)				
		Fen (10)				
		Old growth forest (10)				
		Mature forested wetland (5)	and uprostricted bydrology /1	2)		
		Lake Erie coastal/tributary weth Lake Erie coastal/tributary weth		0)		
		Lake Plain Sand Prairies (Oak				
		Relict Wet Praires (10)	oponiiigo) (10)			
		Known occurrence state/federa	al threatened or endangered s	pecies (10)		
		Significant migratory songbird/	water fowl habitat or usage (1	0)		
		Category 1 Wetland. See Ques	stion 5 Qualitative Rating (-10			
1	.0 18.0	Metric 6. Plant com	munities, interspe	sion, microtopograpl	hy.	
x 20pts.	subtotal	6a. Wetland Vegetation		Vegetation Comm	/	
		Score all present using 0 to 3 s	cale.		1ha (0.2471 acres) contiguous area	
		Aquatic bed		-	rises small part of wetland's 1	
		1 Emergent Shrub		-	erate quality, or comprises a	
		Forest		significant part but is of lo	rises significant part of wetland's 2	
		Mudflats		-	erate quality or comprises a small	
		Open water		part and is of high quality		
		Other			ignificant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inte Select only one.	erspersion.	vegetation and is of high		
		High (5)		Narrative Description of	f Vegetation Quality	
		Moderately high(4)		Low spp diversity and/or	predominance of nonnative or low	
		Moderate (3)		disturbance tolerant nativ		
		Moderately low (2)			component of the vegetation, mod	
		x Low (1)		-	or disturbance tolerant native spp	
		None (0) 6c. Coverage of invasive plar	nts Refer		species diversity moderate to erallyw/o presence of rare	
		Table 1 ORAM long form for lis		threatened or endangered		
		or deduct points for coverage			e species, with nonnative spp high	
		Extensive >75% cover (-5)			nt native spp absent or virtually	
		Moderate 25-75% cover (-3)		absent, and high spp dive	ersity and often, but not always,	
		x Sparse 5-25% cover (-1)		the presence of rare, three	eatened, or endangered spp	
		Nearly absent <5% cover (0)			-	
		Absent (1)		Mudflat and Open Wate		
		6d. Microtopography. Score all present using 0 to 3 s	cale	0 Absent <0.1ha (0.247 acr 1 Low 0.1 to <1ha (0.247 to		
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4ha (2.47		
		0 Coarse woody debris >15cm (6		3 High 4ha (9.88 acres) or		
		0 Standing dead >25cm (10in) dt				
		0 Amphibian breeding pools		Microtopography Cover	r Scale	
		-		0 Absent		
				1 Present very small amount	nts or if more common	
				of marginal quality	under beiderst of biol	
				2 Present in moderate amo	-	
) TOTAL (Max 100 pts)		quality or in small amount	ts of highest quality	
		Category		3 Present in moderate or g	reater amounts	
				and of highest quality		

and of highest quality

Wetland ID: Wetland MCI-15

		answ	cle /er or 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		
	Metric 2. Buffers and surrounding land use	ĺ	3	
	Metric 3. Hydrology	,	7	
	Metric 4. Habitat	,	7	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography		1	
	TOTAL SCORE	1	8	Category based on score breakpoints

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID: W

Wetland MCI-15

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	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 <i>not</i> 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	*NO 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.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	6/11/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-16a/b			
Vegetation Communit(ies):	PEM/PSS			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.165591, -80.837944
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/11/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-16a/b		
Wetland Size (delineated acres):	1.09	Wetland Size (Estimated total acres):	2.05
Sketch: Include north arrow, relation	ship with other surface waters, ve	egetation zones, etc.	
Comments, Narrative Discussion, Ju		the edge of an existing agricultural fie	ld that avtanda autaida af
the survey area to the east. I Additionally, the wetland are	Multiple broken and expose a was likely a headwater s	ed tile drains were exposed within the ystem to a stream valley that is no long as established based on aerial imager	wetland area. ger present within the area

Final score:	32	Category:	1 or 2 Gray Zone
	£		A

Wetland ID: Wetland MCI-16a/b

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	X	
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.	X	
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.	x	
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.		X

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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	 hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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? 	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

Wetland ID: Wetland MCI-16a/b

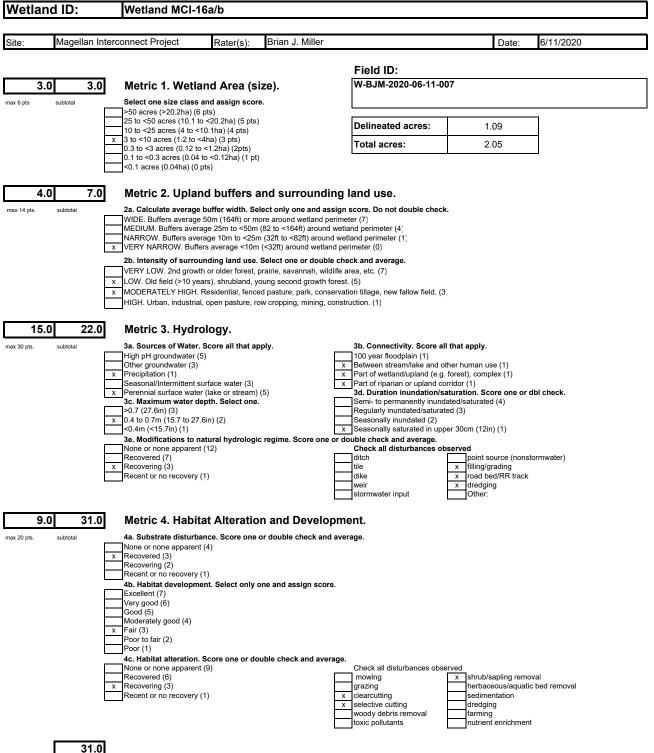
	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands . Is the wetland located at 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?	YES Go to Question 9b	*NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to 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?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	*NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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.	YES Go to Question 9d	*NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	*NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	*NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in 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	YES Wetland is a Category 3 wetland. Go to Question 11	*NO Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be 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. Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO

Wetland ID:

Wetland MCI-16a/b

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Wetlar		Wetland MCI-16a/b				
Site:	Magellar	Interconnect Project	Rater(s):	Brian J. Miller	Date:	6/11/202
				Field ID:		
	24.0	จ		W-BJM-2020-06-1	1 007	
	31.0	,		W-DJW-2020-06-1	1-007	
	subtotal this page					
0.	0 31.0	Metric 5. Special Wet	lands.			
ax 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 wetlan	d-unrestricted hydrology (1	0)		
		Lake Erie coastal/tributary wetlan		-,		
		Lake Plain Sand Prairies (Oak Op				
		Relict Wet Praires (10)				
		Known occurrence state/federal t	-	,		
		Significant migratory songbird/wa	- · ·	,		
		Category 1 Wetland. See Questic	in 5 Qualitative Rating (-10)		
1.	0 32.0	Metric 6. Plant comm	unities, interspe	rsion, microtopogra	phy.	
x 20pts.	subtotal	6a. Wetland Vegetation C			munity Cover Scale	
		Score all present using 0 to 3 sca	le.		0.1ha (0.2471 acres) contiguous area	
		Aquatic bed			prises small part of wetland's 1	
		1 Emergent 1 Shrub		-	oderate quality, or comprises a	
		Forest		significant part but is of 2 Present and either com	prises significant part of wetland's 2	
		Mudflats			oderate quality or comprises a small	
		Open water		part and is of high qual		
		Other		3 Present and comprises	significant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inters Select only one.	persion.	vegetation and is of hig	h quality	
		High (5)		Narrative Description	of Vegetation Quality	
		Moderately high(4)			or predominance of nonnative or low	
		Moderate (3)		disturbance tolerant na	tive species	
		x Moderately low (2)			nt component of the vegetation, mod	
		Low (1)			l/or disturbance tolerant native spp	
		None (0)	Defer		nd species diversity moderate to	
		6c. Coverage of invasive plants Table 1 ORAM long form for list.		threatened or endange	enerallyw/o presence of rare red spp to	
		or deduct points for coverage			ive species, with nonnative spp high	
		x Extensive >75% cover (-5)			rant native spp absent or virtually	
		Moderate 25-75% cover (-3)		absent, and high spp d	iversity and often, but not always,	
		Sparse 5-25% cover (-1)		the presence of rare, the	reatened, or endangered spp	
		Nearly absent <5% cover (0)				
		Absent (1)		Mudflat and Open Wa		
		6d. Microtopography. Score all present using 0 to 3 sca	le	0 Absent <0.1ha (0.247 a 1 Low 0.1 to <1ha (0.247		
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4ha (2.		
		0 Coarse woody debris >15cm (6in))	3 High 4ha (9.88 acres) of	,	
		0 Standing dead >25cm (10in) dbh				
		2 Amphibian breeding pools		Microtopography Cov	ver Scale	
				0 Absent		
					ounts or if more common	
				of marginal quality 2 Present in moderate ar	nounts but not of highest	
	20.0) TOTAL (Max 100 pts)				
				quality or in small amou	· · ·	
1 or 2	Gray Zone	Category		3 Present in moderate or	greater amounts	
				1		

and of highest quality

Wetland ID: Wetland MCI-16a/b

		answ	cle /er or 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	í	3	
	Metric 2. Buffers and surrounding land use	4	4	
	Metric 3. Hydrology	1	5	
	Metric 4. Habitat	9	9	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography		1	
	TOTAL SCORE	3	2	Category based on score breakpoints

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID: Wetland MCI-16a/b

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	*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 <i>not</i> 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	*NO 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	ne Category 1	*Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Metho for Wetland Categorization	od for Wetlands 10 Page Form
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	6/12 & 9/28/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-17 and MCI-18 and MCI-31			
Vegetation Communit(ies):	PEM/PSS			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.175108, -80.836979
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/12 & 9/28/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-17 and M	CI-18 and MCI-31	
Wetland Size (delineated acres):	0.55	Wetland Size (Estimated total acres):	4.66
Sketch: Include north arrow, relatio	nship with other surface waters, ve	egetation zones, etc.	
			Meters Meters
	Notand McL+12 Weland		Wetland MCI-31a Wetland MCI-31a Wetland MCI-31a Wetland MCI-31a
			Proposed/Existing Structures Substations Areas Proposed/Existing Transmission Line was_use_designations Delineated Streams ORAM Scoring Boundary Delineated Wetlands AECOM Survey Boundary GM Motors, LLC (GM) Lordstown Battery Cell Plant Project Survey Area
Comments, Narrative Discussion, J		-18) and south side (Wetland MCI-17) o	
grade that drains toward the PEM/PSS wetland portion lo	e east and into a stream loc ocated along the edge of the	ated outside of the survey area. The V an active agricultural field that conne ted to the southern portion via existing	Vetland MCI-31a/b is a ects directly to Wetland

Final score:	29	Category:	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	x	
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.	x	
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.	x	

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

Narrative Rating

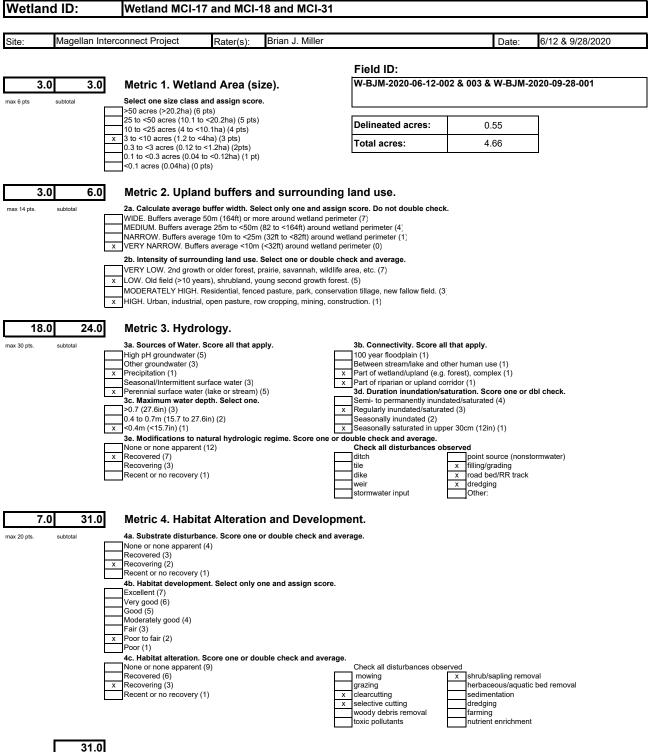
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves Natural Heritage 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.

Critical Habitat. Is the wetland in a township, section, or subsection of a	YES	*NO
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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
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
Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and	YES	*NO
 hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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? 	Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or	YES	*NO
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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	YES	*NO
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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b
	 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 has had critical habitat proposed (65 FR 41812 July 6, 2000). 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? Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland? Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas? 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, 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? 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%? '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	designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? possible Category 3 status Go to Question 2 Note: as of January 1, 2001, of the federal ply listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat proposed (65 FR 41812 July 6, 2000). YES 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? YES Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland? YES Vestand is a Category 3 wetland. Go to Question 3 YES Wetland is a Category 3 wetland. YES Vestand is a Category 3 wetland. YES Wetland is a Category 1 wetland. Yes Wetland is a Category 3 wetland. Yes Wetland is a Category 3 wetland. Yes Wetl

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	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	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake	YES	*NO
	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 10
9d	Does the wetland have a predominance of native species within its vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible Category 3 status	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

: Magella	an Interconnect Project	Rater(s):	Brian J. M	filler	Date:	6/12 & 9/28/202
		1 (01(0)).	Dhan 0. IV		Date.	5/12 G 0/20/2020
			Fiel	d ID:		
31	.0		W-B、	IM-2020-06-12-002	2 & 003 & W-BJM-2	2020-09-28-001
subtotal this pa	age					
0.0 31	.0 Metric 5. Special Wetl	ands.				
pts. subtotal	Check all that apply and s	core as indicated.				
	Bog (10)					
	Fen (10)					
	Old growth forest (10) Mature forested wetland (5)					
	Lake Erie coastal/tributary wetland	-unrestricted hydrology (10)			
	Lake Erie coastal/tributary wetland					
	Lake Plain Sand Prairies (Oak Ope	nings) (10)				
	Relict Wet Praires (10) Known occurrence state/federal th	reatened or endangered sp	ecies (10)			
	Significant migratory songbird/wate	• ·	. ,			
	Category 1 Wetland. See Question	5 Qualitative Rating (-10)				
	_					
-2.0 29	0.0 Metric 6. Plant commu	unities, interspers	sion, mic	rotopography.		
ots. subtotal	6a. Wetland Vegetation Co			tation Communit		
	Score all present using 0 to 3 scale				0.2471 acres) contiguou	
	Aquatic bed 1 Emergent				small part of wetland's quality, or comprises a	I
	1 Shrub		-	cant part but is of low qu		
	Forest				significant part of wetla	
	Mudflats		-		e quality or comprises a	small
	Open water Other			nd is of high quality	icant part, or more, of we	atland's 3
	6b. horizontal (plan view) Intersp	persion.		ition and is of high quali		
	Select only one.					
	High (5)			tive Description of Veg		ar low
	Moderately high(4) Moderate (3)			ance tolerant native sp	lominance of nonnative o	DI IOW
	Moderately low (2)				ponent of the vegetation	i, mod
	Low (1)				turbance tolerant native	
	x None (0)	Defer			cies diversity moderate t	0
	6c. Coverage of invasive plants. Table 1 ORAM long form for list. A			ately high, but generally ened or endangered spr		
	or deduct points for coverage				ecies, with nonnative sp	high
	x Extensive >75% cover (-5)				ative spp absent or virtua	•
	Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)				/ and often, but not alwa ned, or endangered spp	ys,
	Nearly absent <5% cover (0)		ale pre	Series of fully, infoliation	ied, of endangered opp	
	Absent (1)			at and Open Water Cla	ass Quality	
	6d. Microtopography.			t <0.1ha (0.247 acres)	7	_
	Score all present using 0 to 3 scale 0 Vegetated hummucks/tussucks).		1 to <1ha (0.247 to 2.4) ate 1 to <4ha (2.47 to 9		_
	1 Coarse woody debris >15cm (6in)			ha (9.88 acres) or more		_
	0 Standing dead >25cm (10in) dbh					
	0 Amphibian breeding pools			topography Cover Sca	ale	
			0 Absen 1 Preser	t nt very small amounts o	or if more common	
			of mar	ginal quality		
	_		2 Preser	nt in moderate amounts	, but not of highest	
29	0.0 TOTAL (Max 100 pts)		quality	or in small amounts of	highest quality	
	1 Category		3 Preser	nt in moderate or greate		

		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		3	
	Metric 3. Hydrology	1	8	
	Metric 4. Habitat	,	7	
	Metric 5. Special Wetland Communities		0	
	Metric 6. Plant communities, interspersion, microtopography	-	2	
	TOTAL SCORE	2	9	Category based on score breakpoints

ORAM Summary Worksheet

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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 <i>"gray zone"</i> 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	*NO 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	

	Ohio Rapid Assessment Metho for Wetland Categorization	od for Wetlands 10 Page Form
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information			
Name:	Brian J. Miller		
Date:	6/12/2020		
Affiliation:	AECOM		
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220		
Phone Number:	412-667-9172		
e-mail address:	brian.miller1@aecom.com		
Name of Wetland:	Wetland MCI-19 and MCI-20		
Vegetation Communit(ies):	PEM (PSS-PUB potentially outside review areas)		
HGM Class(es):	Depressed		
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.		

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.177023, -80.829837
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/12/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-19 and MCI-20		
Wetland Size (delineated acres):	1.40	Wetland Size (Estimated total acres):	4.88
Sketch: Include north arrow, relationship	with other surface waters, vegetation	n zones, etc.	
Sketch: Include north alrow, relationship	b with other surrace waters, vegetation		
Comments, Narrative Discussion, Justifi	cation of Category Changes:		
Two PEM wetlands, Wetland MC subsurface as well as buried cu agricultural fields and continues Avenue as PSS and PUB wetlan the tree line to the north and like agrilcutural field).	lverts. The wetland complexe s towards the north and outsi d habitats. The wetland bour	es are situated within a conca de of the sutdy area located o adary was estimated on aerial ast (based on contours and w	ve area within active n the west side of Highalnd imagery as extended within
Final score:	38	Category:	Modified 2
		1	

Wetland ID: Wetland MCI-19 and MCI-20

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	X	
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.	x	
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.	x	

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

Wetland ID: Wetland MCI-19 and MCI-20

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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES Wetland is a Category 3 wetland Go to Question 4	*NO
	Database as a high quality wetland?		Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES	*NO
		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	YES Wetland is a Category 1 wetland Go to Question 6	*NO
than Phra	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?		Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	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	YES Wetland is a Category 3 wetland. Go to Question 8b	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?		Go to Question 8b

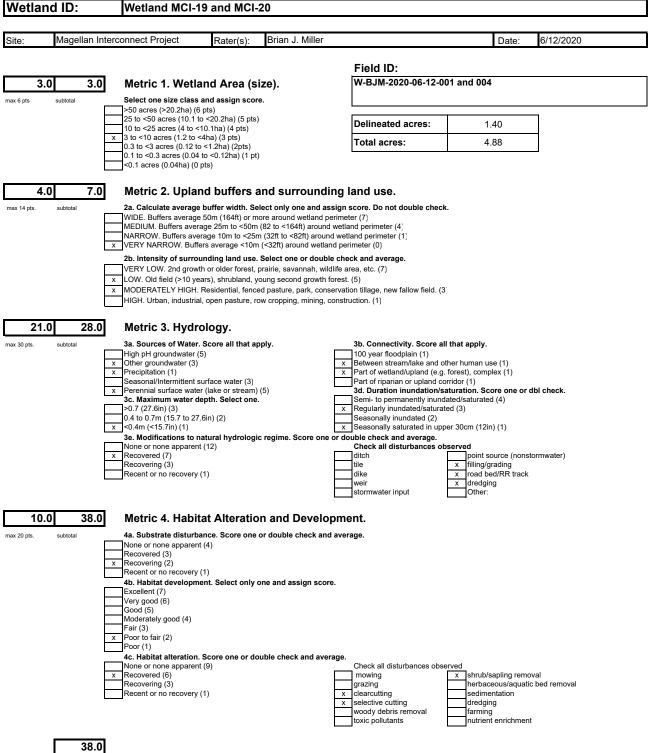
Wetland ID: Wetland MCI-19 and MCI-20

8b	Mature forested wetlands . Is the wetland a forested wetland with 50% or more of the	YES	*NO
	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	*NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,		1110
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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.	YES Go to Question 9d	*NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES Wetland is a Category 3 wetland. Go to Question 11	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.		Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

Wetland ID: Wetland MCI-19 and MCI-20

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Wetlar	nd ID:	Wetland MCI-19 and	MCI-20			
Site:	Magellar	Interconnect Project	Rater(s):	Brian J. Miller	Date:	6/12/202
		7		Field ID:		
	38.0)		W-BJM-2020-06-1	2-001 and 004	
	subtotal this page					
0.	0 38.0	Metric 5. Special Wet	lands.			
x 10 pts.	subtotal	Check all that apply and				
		Bog (10)				
		Fen (10)				
		Old growth forest (10) Mature forested wetland (5)				
		Lake Erie coastal/tributary wetland	d-unrestricted hvdroloav (1	0)		
		Lake Erie coastal/tributary wetlan				
		Lake Plain Sand Prairies (Oak Op	enings) (10)			
		Relict Wet Praires (10)	reationed or ondengered			
		Known occurrence state/federal the Significant migratory songbird/wat				
		Category 1 Wetland. See Questio	÷ ,	·		
0.	0 38.0	Metric 6. Plant comm	unities, interspe	rsion, microtopogra	ohv.	
x 20pts.	subtotal	6a. Wetland Vegetation C			nunity Cover Scale	
		Score all present using 0 to 3 sca	le.		0.1ha (0.2471 acres) contiguous area	
		Aquatic bed			prises small part of wetland's 1	
		1 Emergent 1 Shrub		significant part but is of	derate quality, or comprises a	
		Forest			prises significant part of wetland's 2	
		Mudflats			derate quality or comprises a small	
		1 Open water		part and is of high qual	ity	
		Other			significant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inters Select only one.	persion.	vegetation and is of hig	h quality	
		High (5)		Narrative Description	of Vegetation Quality	
		Moderately high(4)			or predominance of nonnative or low	
		Moderate (3)		disturbance tolerant na	•	
		x Moderately low (2) Low (1)			nt component of the vegetation, mod I/or disturbance tolerant native spp	
		None (0)			d species diversity moderate to	
		6c. Coverage of invasive plants	. Refer		enerallyw/o presence of rare	
		Table 1 ORAM long form for list.	Add	threatened or endange		
		or deduct points for coverage			ve species, with nonnative spp high	
		x Extensive >75% cover (-5) Moderate 25-75% cover (-3)			rant native spp absent or virtually	
		Sparse 5-25% cover (-3)			iversity and often, but not always, reatened, or endangered spp	
		Nearly absent <5% cover (0)		and procence of faile, an	reaction, of official gorou opp	
		Absent (1)		Mudflat and Open Wa	ter Class Quality	
		6d. Microtopography.		0 Absent <0.1ha (0.247 a		
		Score all present using 0 to 3 sca	le.	1 Low 0.1 to <1ha (0.247		
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4ha (2.		
		0 Coarse woody debris >15cm (6in) 0 Standing dead >25cm (10in) dbh	1	3 High 4ha (9.88 acres) o		
		0 Amphibian breeding pools		Microtopography Cov	er Scale	
				0 Absent 1 Present very small amo	ounts or if more common	
				of marginal quality		
	20 0	TOTAL (Max 100 pts)		2 Present in moderate an	-	
	Modified 2			quality or in small amou 3 Present in moderate or		
	mounieu 2	outegory			greater amounts	

and of highest quality

Wetland ID: Wetland MCI-19 and MCI-20

		answ	cle /er or 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		4	
	Metric 3. Hydrology	2	1	
	Metric 4. Habitat	1	0	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography	(0	
	TOTAL SCORE	3	8	Category based on score breakpoints

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID: Wetland MCI-19 and MCI-20

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	*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	*NO 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 Cate	egory 1	*Category 2	Category 3	

	Ohio Rapid Assessment Metho for Wetland Categorization	od for Wetlands 10 Page Form
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information			
Name:	Brian J. Miller		
Date:	6/11/2020		
Affiliation:	AECOM		
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220		
Phone Number:	412-667-9172		
e-mail address:	brian.miller1@aecom.com		
Name of Wetland:	Wetland MCI-21		
Vegetation Communit(ies):	РЕМ		
HGM Class(es):	Depressed		
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.		

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.176303446, -80.828263864
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/11/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:			
	Wetland MCI-21		
Wetland Size (delineated acres):	0.05	Wetland Size (Estimated total acres):	0.05
Sketch: Include north arrow, relationship	o with other surface waters, vegetatio	n zones, etc.	
Projekti kiting Stackanke Propekti g Stackanke			
Comments, Narrative Discussion, Justifi			
Two PEM wetlands, Wetland MC subsurface as well as buried cu agricultural fields and continues Avenue as PSS and PUB wetlan the tree line to the north and like agrilcutural field).	21-19 and MCI-20, located alon lverts. The wetland complexe is towards the north and outsid d habitats. The wetland boun ely drians towards the northea	es are situated within a conca de of the sutdy area located o idary was estimated on aerial ast (based on contours and w	ve area within active n the west side of HighaInd imagery as extended within et signatures within the
Final score:	25	Category:	1

Wetland ID: Wetland MCI-21

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	x	
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.	x	
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.		x

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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	 hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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? 	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

Wetland ID: Wetland MCI-21

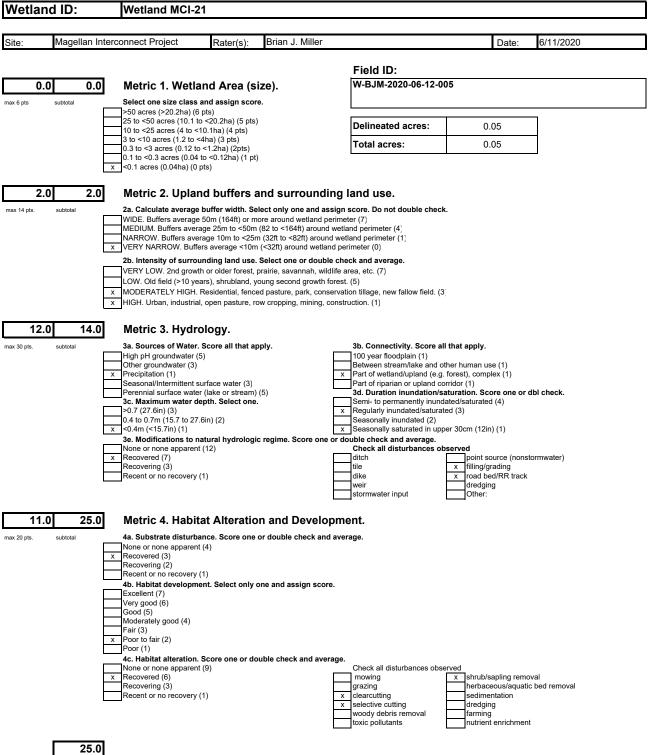
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e		YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide excitation of the gramine in configuration of the gramine table to the several provide device the gramine table to the several provide excitation of the gramine table to the several provide excitation of the gramine table table tables and the several provide excitation of the several provide excitation of the gramine tables are as the several provide excitation of	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
	assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO

Wetland ID:

Wetland MCI-21

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Netlan	nd ID:	Wetland MCI-21				
Site:	Magellar	Interconnect Project	Rater(s):	Brian J. Miller	Date:	6/11/202
				Field ID:		
	25.0	1		W-BJM-2020-06-12	-005	
	L	2		W-DJW-2020-00-12	-005	
	subtotal this page					
0.0	0 25.0	Metric 5. Special We	etlands.			
x 10 pts.	subtotal	Check all that apply and	d score as indicated.			
		Bog (10)				
		Fen (10) Old growth forest (10)				
		Mature forested wetland (5)				
		Lake Erie coastal/tributary wetla	and-unrestricted hydrology (1	0)		
		Lake Erie coastal/tributary wetla	and-restricted hydrology (5)			
		Lake Plain Sand Prairies (Oak	Openings) (10)			
		Relict Wet Praires (10)		. (10)		
		Known occurrence state/federa Significant migratory songbird/w		,		
		Category 1 Wetland. See Ques				
			and quantante rating (10			
0.	0 25.0) Metric 6. Plant com	munities, interspe	sion, microtopograp	hy.	
20pts.	subtotal	6a. Wetland Vegetation		Vegetation Comm	/	
		Score all present using 0 to 3 so	cale.		1ha (0.2471 acres) contiguous area	
		Aquatic bed			rises small part of wetland's 1	
		1 Emergent Shrub		significant part but is of lo	erate quality, or comprises a	
		Forest			rises significant part of wetland's 2	
		Mudflats			erate quality or comprises a small	
		Open water		part and is of high quality		
		Other		3 Present and comprises s	ignificant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inte Select only one.	rspersion.	vegetation and is of high	quality	
		High (5)		Narrative Description o		
		Moderately high(4)			predominance of nonnative or low	
		Moderate (3) Moderately low (2)		disturbance tolerant nativ	component of the vegetation, mod	
		Low (1)			or disturbance tolerant native spp	
		x None (0)		-	species diversity moderate to	
		6c. Coverage of invasive plan	its. Refer		erallyw/o presence of rare	
		Table 1 ORAM long form for list	t. Add	threatened or endangere		
		or deduct points for coverage			e species, with nonnative spp high	
		Extensive >75% cover (-5)			nt native spp absent or virtually	
		Moderate 25-75% cover (-3) x Sparse 5-25% cover (-1)			ersity and often, but not always, eatened, or endangered spp	
		Nearly absent <5% cover (0)		the presence of fale, the	aterieu, or endangereu spp	
		Absent (1)		Mudflat and Open Wate	r Class Quality	
		6d. Microtopography.		0 Absent <0.1ha (0.247 ac		
		Score all present using 0 to 3 se	cale.	1 Low 0.1 to <1ha (0.247 to	o 2.47 acres)	
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4ha (2.47		
		0 Coarse woody debris >15cm (6		3 High 4ha (9.88 acres) or	more	
		0 Standing dead >25cm (10in) db	'n	Mierotonograph: 0	Saala	
		0 Amphibian breeding pools		Microtopography Cover 0 Absent	ocale	
				1 Present very small amou	nts or if more common	
				of marginal quality		
				2 Present in moderate amo	ounts, but not of highest	
	25.0) TOTAL (Max 100 pts)		quality or in small amoun	-	
	1			3 Present in moderate or g		
				and of highest quality		

and of highest quality

Wetland ID: Wetland MCI-21

		answ	cle /er or 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	
	Metric 2. Buffers and surrounding land use	,	2	
	Metric 3. Hydrology	1	2	
	Metric 4. Habitat	1	1	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography		0	
	TOTAL SCORE	25		Category based on score breakpoint

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID:

Wetland MCI-21

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	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 <i>not</i> 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	*NO 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	

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	6/12/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-22			
Vegetation Communit(ies):	PEM			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.177035907, -80.826366935
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/12/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:			
	Wetland MCI-22		
Wetland Size (delineated acres):	0.89	Wetland Size (Estimated total acres):	1.68
Sketch: Include north arrow, relationshi	p with other surface waters, ve	egetation zones, etc.	
Propried Exetting Statutes Propried Exetting Statutes Propried Exetting Statutes Statutes Propried Exetting Statutes Propried Exetting Statutes Defensional Statutes <	ication of Category Changes:	ravel access road into the Highland Sul	
		g the concave area between the road a	nd the agricultural field
and the boundary continues to a		r the survey along a drainage swale and likely term	ninates within the
agricultural field due to drainag	e tiles. The boundary of	f the PEM wetland was identified by the	e dominance of
Eleocharis obtusa and Typha la			

Final score:	27	Category:	1

Wetland ID: Wetland MCI-22

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	x	
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.	x	
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.		x

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	YES Wetland should be evaluated for possible Category 3 status	*NO Go to Question 2
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

Wetland ID: Wetland MCI-22

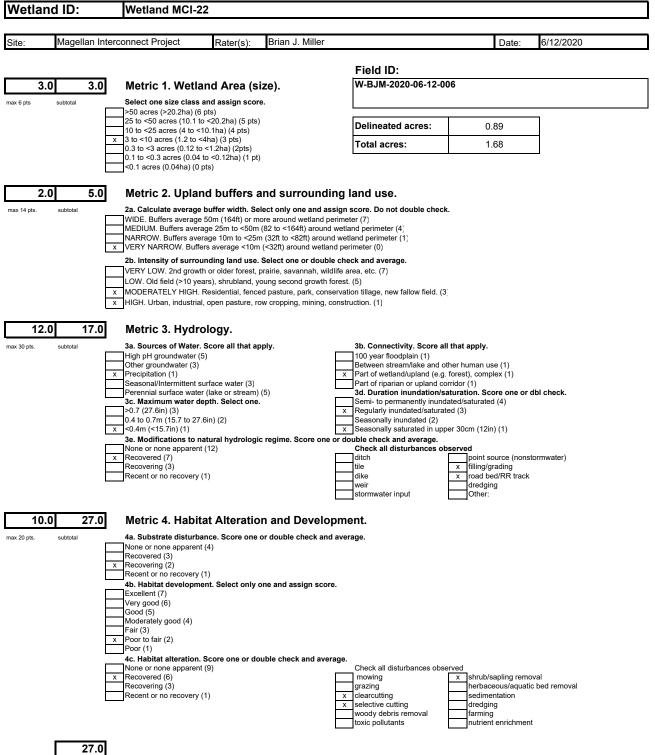
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake	YES	*NO
	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	410
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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	*NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
			*NO
11	Relict Wet Prairies . Is the wetland a relict wet prairie community dominated by some or	YES	* N()

Wetland ID:

Wetland MCI-22

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Wetla	nd ID:	Wetland MCI-22				
Site:	Magellar	n Interconnect Project	Rater(s):	Brian J. Miller	Date:	6/12/202
				Field ID:		
	07.0	5		W-BJM-2020-06-12	006	
	27.0	J		W-BJW-2020-06-12	-006	
	subtotal this page					
0	.0 27.0	Metric 5. Special W	etlands.			
x 10 pts.	subtotal	Check all that apply an	d score as indicated.			
		Bog (10)				
		Fen (10)				
		Old growth forest (10)				
		Mature forested wetland (5)				
		Lake Erie coastal/tributary weth Lake Erie coastal/tributary weth		0)		
		Lake Plain Sand Prairies (Oak				
		Relict Wet Praires (10)	openings) (10)			
		Known occurrence state/federa	I threatened or endangered s	pecies (10)		
		Significant migratory songbird/	vater fowl habitat or usage (1	0)		
		Category 1 Wetland. See Ques	tion 5 Qualitative Rating (-10)		
0	.0 27.0	Metric 6. Plant com	munities, interspe	rsion, microtopograpl	hy.	
x 20pts.	subtotal	6a. Wetland Vegetation		Vegetation Comm	1	
		Score all present using 0 to 3 s	cale.		1ha (0.2471 acres) contiguous area	
		Aquatic bed			rises small part of wetland's 1	
		1 Emergent		-	erate quality, or comprises a	
		Shrub Forest		significant part but is of lo	rises significant part of wetland's 2	
		Mudflats			erate quality or comprises a small	
		Open water		part and is of high quality		
		Other			ignificant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inte Select only one.	erspersion.	vegetation and is of high		
		High (5)		Narrative Description o		
		Moderately high(4)			predominance of nonnative or low	
		Moderate (3)		disturbance tolerant nativ		
		Moderately low (2)			component of the vegetation, mod	
		Low (1) x None (0)		-	or disturbance tolerant native spp species diversity moderate to	
		6c. Coverage of invasive plar	nts. Refer		erallyw/o presence of rare	
		Table 1 ORAM long form for lis		threatened or endangere		
		or deduct points for coverage			e species, with nonnative spp high	
		Extensive >75% cover (-5)		and/or disturbance tolera	nt native spp absent or virtually	
		Moderate 25-75% cover (-3)		absent, and high spp dive	ersity and often, but not always,	
		x Sparse 5-25% cover (-1)		the presence of rare, three	eatened, or endangered spp	
		Nearly absent <5% cover (0)		Mudflet and Onen Wete	- Class Quelity	
		Absent (1)		Mudflat and Open Wate 0 Absent <0.1ha (0.247 ac		
		6d. Microtopography. Score all present using 0 to 3 s	cale.	1 Low 0.1 to <1ha (0.247 act		
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4ha (2.47		
		0 Coarse woody debris >15cm (6		3 High 4ha (9.88 acres) or		
		0 Standing dead >25cm (10in) dt				
		0 Amphibian breeding pools		Microtopography Cover	r Scale	
		-		0 Absent		
				1 Present very small amou	nts or if more common	
				of marginal quality	under beiden ed of big!	
				2 Present in moderate amo	ounts, but not of highest	
) TOTAL (Max 100 pts)		quality or in small amoun	ts of highest quality	
		Category		3 Present in moderate or g	reater amounts	
				and of highest quality		

and of highest quality

Wetland ID: Wetland MCI-22

		answ	rcle ver or 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	ý	2	
	Metric 3. Hydrology	1	2	
	Metric 4. Habitat	1	.0	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography		0	
	TOTAL SCORE	2	7	Category based on score breakpoint

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID:

Wetland MCI-22

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	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).
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Final Category				
Choose	one Category	1 *Category 2	Category 3	

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization			
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001		

Instructions

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It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	6/12/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-23a/b			
Vegetation Communit(ies):	PEM/PSS			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.178406433, -80.824182357
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/12/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-23a/b					
Wetland Size (delineated acres):	0.25	Wetland Size (Estimated total acres):	0.60			
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.						



Comments, Narrative Discussion, Justification of Category Changes:

A PEM/PSS wetland complex, Wetland MCI-23a/b, located along the edge of an existing Highland Substation within a concave drainage swale with upland mounds on both sides. The wetland boundary continues outside of the survey area to the east and boundary was confined

by the concave swale dominated by Typha angustifolia and Scirpus atrovirens.

Final score:	28	Category:	1

Wetland ID: Wetland MCI-23a/b

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	X	
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.	x	
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.		x

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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	 hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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? 	solated and either 1) comprised of vegetation that is dominated (greater ent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria,</i> or alis, or	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

Wetland ID: Wetland MCI-23a/b

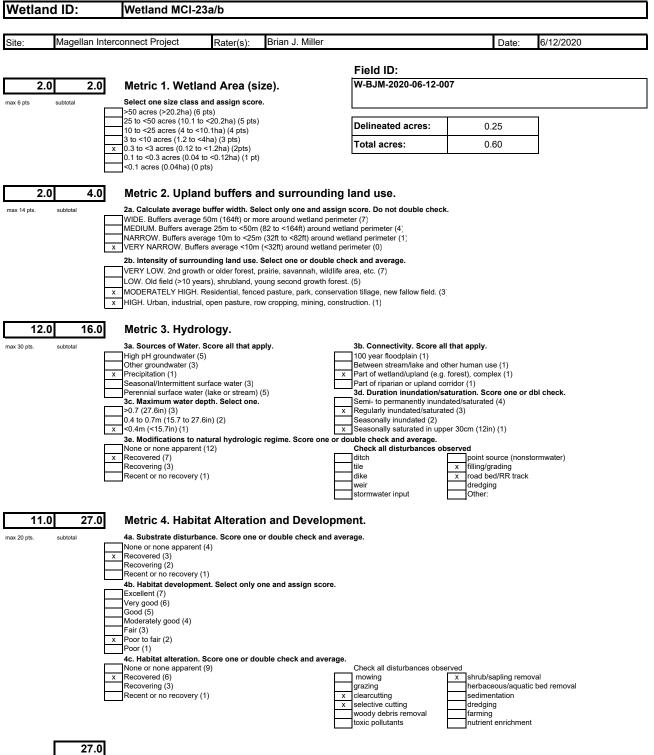
8b	Mature forested wetlands . Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for	*NO Go to Question 9a
		possible Category 3 status. Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less		4010
34	than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake	YES	*NO
	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 prevent erosion and the	VEC	4010
35	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?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	*NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	Henry, or Wood Counties and can the wetland be characterized by the following	Wetland is a Category 3 wetland.	Go to Question 11
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Go to Question 11	
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains	Wetland should be evaluated for	Complete Quantitative Rating
	(Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	possible Category 3 status Complete Quantitative Rating	

Wetland ID:

Wetland MCI-23a/b

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Wetlar	nd ID:	Wetland MCI-23a/b					
Site:	Magellar	Interconnect Project	Rater(s):	Bria	n J. Miller	Date:	6/12/202
					Circle UD.		
		-			Field ID:		
	27.0)			W-BJM-2020-06-12-	007	
	subtotal this page	-					
0.	0 27.0	Metric 5. Special We	tlands.				
x 10 pts.	subtotal	Check all that apply and	score as indicated.				
		Bog (10)					
		Fen (10)					
		Old growth forest (10)					
		Mature forested wetland (5)		0)			
		Lake Erie coastal/tributary wetlar Lake Erie coastal/tributary wetlar		0)			
		Lake Plain Sand Prairies (Oak O					
		Relict Wet Praires (10)	pormigo) (10)				
		Known occurrence state/federal	threatened or endangered s	species (10)		
		Significant migratory songbird/wa					
		Category 1 Wetland. See Questi	on 5 Qualitative Rating (-10)			
1.	0 28.0	Metric 6. Plant comn	nunities, interspe	rsion,	, microtopograph	ıy.	
20pts.	subtotal	6a. Wetland Vegetation C	communities.		Vegetation Commu		
		Score all present using 0 to 3 sc	ale.			ha (0.2471 acres) contiguous area	
		Aquatic bed		1		ses small part of wetland's 1	
		1 Emergent 1 Shrub			vegetation and is of mode significant part but is of low	rate quality, or comprises a	
		Forest		2		ses significant part of wetland's 2	
		Mudflats		-		rate quality or comprises a small	
		Open water			part and is of high quality		
		Other		3	Present and comprises sig	gnificant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inter Select only one.	spersion.		vegetation and is of high o	quality	
		High (5)			Narrative Description of	Vegetation Quality	
		Moderately high(4)			Low spp diversity and/or p	predominance of nonnative or low	
		Moderate (3)			disturbance tolerant native		
		x Moderately low (2)				component of the vegetation, mod	
		Low (1) None (0)				r disturbance tolerant native spp species diversity moderate to	
		6c. Coverage of invasive plant	s. Refer		moderately high, but gene		
		Table 1 ORAM long form for list.			threatened or endangered		
		or deduct points for coverage			A predominance of native	species, with nonnative spp high	
		Extensive >75% cover (-5)				t native spp absent or virtually	
		x Moderate 25-75% cover (-3)				rsity and often, but not always,	
		Sparse 5-25% cover (-1) Nearly absent <5% cover (0)			the presence of rare, threa	atened, or endangered spp	
		Absent (1)			Mudflat and Open Water	Class Quality	
		6d. Microtopography.		0	Absent <0.1ha (0.247 acre		
		Score all present using 0 to 3 sc	ale.		Low 0.1 to <1ha (0.247 to		
		0 Vegetated hummucks/tussucks			Moderate 1 to <4ha (2.47		
		0 Coarse woody debris >15cm (6ir		3	High 4ha (9.88 acres) or n	nore	
		0 Standing dead >25cm (10in) dbh	l.		Minuteset	Cash	
		0 Amphibian breeding pools		0	Microtopography Cover Absent	Scale	
					Absent Present very small amoun	ts or if more common	
					of marginal quality		
				2	Present in moderate amou	unts, but not of highest	
	28.0	TOTAL (Max 100 pts)			quality or in small amount	-	
	1	Category		3	Present in moderate or gro	eater amounts	

and of highest quality

		answ	cle /er or 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	ź	2	
	Metric 2. Buffers and surrounding land use	ź	2	
	Metric 3. Hydrology	1	2	
	Metric 4. Habitat	1	1	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography	1		
	TOTAL SCORE	28		Category based on score breakpoints

ORAM Summary Worksheet

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	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 <i>not</i> 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	*NO 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	ne Category 1	*Category 2	Category 3	

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

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Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	6/12/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-24			
Vegetation Communit(ies):	PEM/PSS			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.177389430, -80.822336726
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	6/12/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-24			
Vetland Size (delineated acres):	1.28	Wetland Size (Estimated total acres):	1.28	
ketch: Include north arrow, relationshi	p with other surface waters, v	egetation zones, etc.		

A PEM wetland located along the hillside of the existing Highland Substation that drains towards the northeast and outside of the survey area. The boundary of the wetland was identified by the dominance of Typha angustifolia and Glyceria striata. As the wetland continues outside of the survey area, it is bordered by agricultural fields and likely continues through the agricultural field as drainage tiles and eventually into a tributary to Paramount Creek.

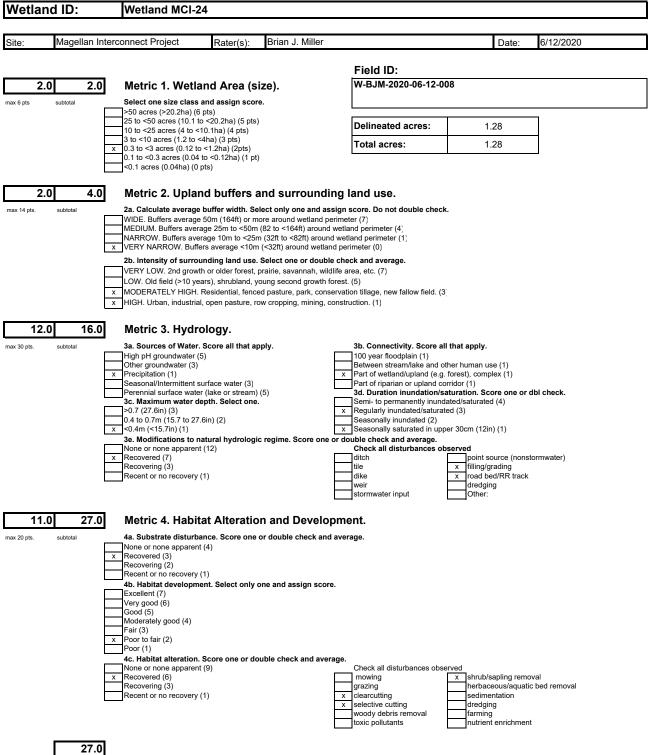
Final score:	25	Category:	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	X	
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.	x	
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.		x

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





ORAM v. 5.0 Field Form Quantitative Rating

Wetlar	nd ID:	Wetland MCI-24				
Site:	Magellar	n Interconnect Project	Rater(s):	Brian J. Miller	Date:	6/12/202
				Field ID:		
	27 (5		W-BJM-2020-06-12-	-008	
	27.0 subtotal this page			W-BJW-2020-00-12-	-000	
	subtotal tris page					
0.	.0 27.0					
x 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	nd-unrestricted hydrology (1	0)		
		Lake Erie coastal/tributary wetla	nd-restricted hydrology (5)			
		Lake Plain Sand Prairies (Oak C	penings) (10)			
		Relict Wet Praires (10)		. (10)		
		Known occurrence state/federal Significant migratory songbird/wa	-	,		
		Category 1 Wetland. See Questi				
		Calogely - Molana Doo Qabba	ion o quantano riang (ro			
-2.	.0 25.0	Metric 6. Plant comm	nunities, interspe	sion, microtopograph	hy.	
max 20pts.	subtotal	6a. Wetland Vegetation 0		Vegetation Comm	1	
		Score all present using 0 to 3 sc	ale.		Iha (0.2471 acres) contiguous area	
		Aquatic bed			rises small part of wetland's 1	
		1 Emergent Shrub		significant part but is of lo	erate quality, or comprises a	
		Forest			rises significant part of wetland's 2	
		Mudflats			erate quality or comprises a small	
		Open water		part and is of high quality		
		Other		3 Present and comprises si	ignificant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inter Select only one.	spersion.	vegetation and is of high	quality	
		High (5)		Narrative Description of		
		Moderately high(4)			predominance of nonnative or low	
		Moderate (3) x Moderately low (2)		disturbance tolerant nativ	component of the vegetation, mod	
		Low (1)			or disturbance tolerant native spp	
		None (0)		-	species diversity moderate to	
		6c. Coverage of invasive plant	s. Refer	moderately high, but gene	erallyw/o presence of rare	
		Table 1 ORAM long form for list.	Add	threatened or endangered		
		or deduct points for coverage			species, with nonnative spp high	
		x Extensive >75% cover (-5) Moderate 25-75% cover (-3)			nt native spp absent or virtually	
		Sparse 5-25% cover (-1)			ersity and often, but not always, eatened, or endangered spp	
		Nearly absent <5% cover (0)			alonoa, or ondangoroa opp	
		Absent (1)		Mudflat and Open Wate	r Class Quality	
		6d. Microtopography.		0 Absent <0.1ha (0.247 acr	res)	
		Score all present using 0 to 3 sc	ale.	1 Low 0.1 to <1ha (0.247 to		
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4ha (2.47		
		0 Coarse woody debris >15cm (6ir 0 Standing dead >25cm (10in) dbr		3 High 4ha (9.88 acres) or I	more	
		0 Standing dead >25cm (10in) dbr	I	Microtopography Cover	Scale	
				0 Absent		
				1 Present very small amour	nts or if more common	
				of marginal quality		
				2 Present in moderate amo	ounts, but not of highest	
	25.0) TOTAL (Max 100 pts)		quality or in small amount	ts of highest quality	
		Category		3 Present in moderate or gr		
				and of highest quality		

and of highest quality

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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	 hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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? 	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	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	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake	YES	*NO
	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains	Wetland should be evaluated for	Complete Quantitative Rating

Wetland ID:

Wetland MCI-24

invasive/exotic spp	fen species	bog species	oak 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.

		answ	cle /er or 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	
	Metric 2. Buffers and surrounding land use	2		
	Metric 3. Hydrology	1	2	
	Metric 4. Habitat	1	1	
	Metric 5. Special Wetland Communities		0	
	Metric 6. Plant communities, interspersion, microtopography	-	2	
	TOTAL SCORE	2	5	Category based on score breakpoints

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID: W

Wetland MCI-24

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	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 <i>not</i> 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	*NO 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	ne Category 1	*Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization			
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001		

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information		
Name:	Brian J. Miller	
Date:	9/28/2020	
Affiliation:	AECOM	
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220	
Phone Number:	412-667-9172	
e-mail address:	brian.miller1@aecom.com	
Name of Wetland:	Wetland MCI-32	
Vegetation Communit(ies):	РЕМ	
HGM Class(es):	Depressed	
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.	

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.158537335, -80.835076716
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	9/28/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-32		
Wetland Size (delineated acres):	0.06	Wetland Size (Estimated total acres):	0.10
Sketch: Include north arrow, relations	ship with other surface waters, ve	egetation zones, etc.	
		A	Lordstown Battery Cell Plant Project Survey Area
	and the set of the		
Comments, Narrative Discussion, Jus	stification of Category Changes:		
A PEM wetland located along	the edge of agricultural field	elds drains towards the north and ou	
PEM wetland was identified b		noff hydrology from the abutting field is arundinacea.	as. The boundary of the

Final score:	21	Category:	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	x	
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.	x	
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.		x

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

Narrative Rating

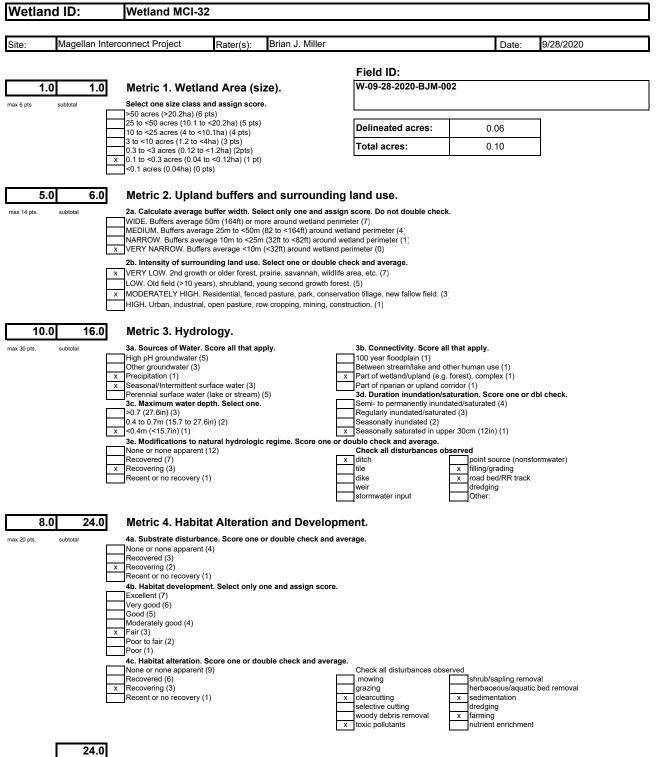
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural 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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	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	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

Wetlar	nd ID:	Wetland MCI-32				
Site:	Magellar	Interconnect Project	Rater(s):	Brian J. Miller	Date:	9/28/202
				Field ID:		
	24.0	1		W-09-28-2020-BJM-	.002	
	24.0	2		W-03-20-2020-D3W-	002	
	subtotal this page	_				
0.	.0 24.0					
x 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	nd-unrestricted hydrology (1))		
		Lake Erie coastal/tributary wetla	nd-restricted hydrology (5)			
		Lake Plain Sand Prairies (Oak C	Openings) (10)			
		Relict Wet Praires (10)		. (10)		
		Known occurrence state/federal	-			
		Significant migratory songbird/w Category 1 Wetland. See Quest				
		Category i Welland. Dee Queet	ion o Quantativo ruang (10			
-3.	.0 21.0) Metric 6. Plant comr	nunities, interspe	sion, microtopograph	ny.	
20pts.	subtotal	6a. Wetland Vegetation		Vegetation Comm	1	
		Score all present using 0 to 3 sc	ale.		ha (0.2471 acres) contiguous area	
		Aquatic bed 1 Emergent		-	ises small part of wetland's 1 erate quality, or comprises a	
		Shrub		significant part but is of lo		
		Forest			ises significant part of wetland's 2	
		Mudflats		-	erate quality or comprises a small	
		Open water		part and is of high quality		
		Other		3 Present and comprises si	gnificant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inter Select only one.	rspersion.	vegetation and is of high	quality	
		High (5)		Narrative Description of		
		Moderately high(4) Moderate (3)		disturbance tolerant nativ	predominance of nonnative or low	
		Moderately low (2)			component of the vegetation, mod	
		x Low (1)			r disturbance tolerant native spp	
		None (0)		can also be present, and	species diversity moderate to	
		6c. Coverage of invasive plant	ts. Refer	moderately high, but gene	erallyw/o presence of rare	
		Table 1 ORAM long form for list.	. Add	threatened or endangered		
		or deduct points for coverage			species, with nonnative spp high	
		x Extensive >75% cover (-5) Moderate 25-75% cover (-3)			nt native spp absent or virtually ersity and often, but not always,	
		Sparse 5-25% cover (-1)			atened, or endangered spp	
		Nearly absent <5% cover (0)			, , , , , , , , , , , , , , , , , , , ,	
		Absent (1)		Mudflat and Open Wate	r Class Quality	
		6d. Microtopography.		0 Absent <0.1ha (0.247 acr		
		Score all present using 0 to 3 sc	ale.	1 Low 0.1 to <1ha (0.247 to		
		0 Vegetated hummucks/tussucks	n)	2 Moderate 1 to <4ha (2.47		
		0 Coarse woody debris >15cm (6i 0 Standing dead >25cm (10in) dbl		3 High 4ha (9.88 acres) or i	more	
		0 Amphibian breeding pools		Microtopography Cover	Scale	
				0 Absent		
				1 Present very small amour	nts or if more common	
				of marginal quality		
		-		2 Present in moderate amo	unts, but not of highest	
	21.0) TOTAL (Max 100 pts)		quality or in small amount	ts of highest quality	
	1	Category		3 Present in moderate or gr		
				and of highest quality		

and of highest quality

		answ	cle /er or 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	
	Metric 2. Buffers and surrounding land use		5	
	Metric 3. Hydrology	1	0	
	Metric 4. Habitat		8	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography		3	
	TOTAL SCORE	21		Category based on score breakpoint

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID: W

Wetland MCI-32

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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 <i>"gray zone"</i> 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 <i>not</i> 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	*NO 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.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	929/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-33a/b/c and MCI-34			
Vegetation Communit(ies):	РЕМ			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.169193855, -80.840312337
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	929/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-33a/b/c ar	nd MCI-34	
Wetland Size (delineated acres):	0.27	Wetland Size (Estimated total acres):	2.64
Sketch: Include north arrow, relation	ship with other surface waters, ve	egetation zones, etc.	
	CONTRACTOR DESCRIPTION		
soybean field. The PEM port PSS. The PFO portion of the the north. The two portions of towards the north. Wetland I	nplex (Wetland MCI-33a/b/c ion of the wetland is on the wetland is located on the of the wetland complex are MCI-35 is located along a d	c) located along the edge of an existin e eastern side of the gravel road and o western side of the road and continue connected via and existing culvert a rainage ditch along the eastern edge nects via upland draiange to MCI-33.	continues to the east as es towards the west and nd drains from the east

Final score:	35.5	Category:	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetlandbeing 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.	x	
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.	x	
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.	x	
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.	x	

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

Narrative Rating

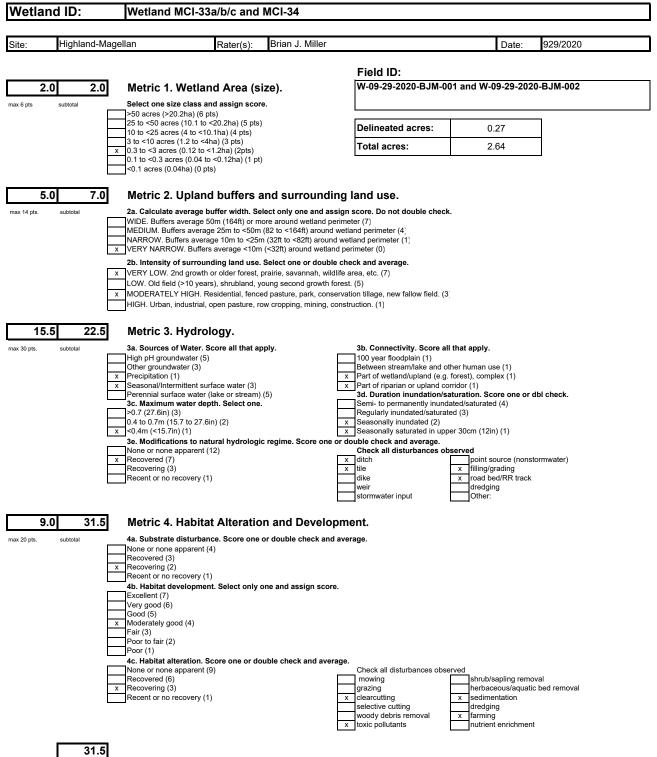
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural 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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	. 20	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b		YES	*NO
	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	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	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 prevent erosion and the	YES	*NO
	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 10	Go to Question 9c
Эc	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 10
d	Does the wetland have a predominance of native species within its vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
)e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
0	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
	Della Mar Della	YES	*NO
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or		Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

ella	nd ID:	Wetland MCI-33a/b/c a	nd MCI-34			
ite:	Highland-M	lagellan	Rater(s):	Brian J. Miller	Date	929/2020
				Field ID:		
				Field ID:	D IM 004 and W/ 00 00 0	
	31.5			W-09-29-2020-	BJM-001 and W-09-29-20	J20-BJM-002
	subtotal this page					
0).0 31.5	Matric E. Spacial Wate	ando			
		Metric 5. Special Wetla				
ax 10 pts.	subtotal	Check all that apply and so Bog (10)	core as indicated.			
		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 Praires (10)				
		Known occurrence state/federal three	-			
	_	Significant migratory songbird/water				
	L	Category 1 Wetland. See Question	5 Qualitative Rating (-10			
4	1.0 35.5	Metric 6. Plant commu	inities, interspe	sion microtopoc	araphy.	
• ax 20pts.	subtotal	6a. Wetland Vegetation Co	•	· · ·	ommunity Cover Scale	
		Score all present using 0 to 3 scale.			es <0.1ha (0.2471 acres) contigu	ious area
		Aquatic bed			comprises small part of wetland	
		1 Emergent			of moderate quality, or comprises	a
		2 Shrub 1 Forest		significant part but		
		1 Forest Mudflats			comprises significant part of we of moderate quality or comprises	
	F	Open water		part and is of high		a smail
		Other			rises significant part, or more, of	wetland's 3
		6b. horizontal (plan view) Intersp	ersion.	vegetation and is o	of high quality	
	F	Select only one. High (5)		Norrativa Decorin	tion of Vegetation Quality	
		Moderately high(4)			and/or predominance of nonnativ	e or low
		Moderate (3)		disturbance tolerar		
		Moderately low (2)			minant component of the vegetat	
	_	x Low (1)			e and/or disturbance tolerant nat	
	L	None (0) 6c. Coverage of invasive plants. I	Pofor		nt, and species diversity moderate out generallyw/o presence of rare	
		Table 1 ORAM long form for list. Ad		threatened or enda	0 , ,	
		or deduct points for coverage			f native species, with nonnative :	spp high
		Extensive >75% cover (-5)			e tolerant native spp absent or vir	
		x Moderate 25-75% cover (-3)			pp diversity and often, but not al	
		Sparse 5-25% cover (-1) Nearly absent <5% cover (0)		the presence of rai	re, threatened, or endangered sp	pp
	-	Absent (1)		Mudflat and Oper	n Water Class Quality	
		6d. Microtopography.		0 Absent <0.1ha (0.2	247 acres)	
	F	Score all present using 0 to 3 scale.		1 Low 0.1 to <1ha (0		
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4h		
		Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh		3 High 4ha (9.88 acr	es) or more	
		0 Amphibian breeding pools		Microtopography	Cover Scale	
	L			0 Absent		
					amounts or if more common	
				of marginal quality		
	0.5 El-	OTAL (May 400 -4-)			te amounts, but not of highest	
	35.5	OTAL (Max 100 pts)		quality or in small a	amounts of highest quality	

Modified 2 Category

and of highest quality

3 Present in moderate or greater amounts

		answ	cle /er or 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 5 15.5		
	Metric 2. Buffers and surrounding land use			
	Metric 3. Hydrology			
	Metric 4. Habitat	9		
	Metric 5. Special Wetland Communities	0 4		
	Metric 6. Plant communities, interspersion, microtopography			
	TOTAL SCORE	35	5.5	Category based on score breakpoints

ORAM Summary Worksheet

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	*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	*NO 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 on	e Category 1	*Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	929/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-35			
Vegetation Communit(ies):	PFO			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	929/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

	Wetland MCI-35		
Vetland Size (delineated acres):	0.11	Wetland Size (Estimated total acres):	0.74
ketch: Include north arrow, relation	I ship with other surface waters, ve	-	
Station Address		MC+20	AECOM Survey Boundary GM Maters, LLC (GM) Londstown Ballwry Cell Phant
and a sugar di	2 A Charles	120 12000	Project Sur vey Area
Comments, Narrative Discussion, Ju		A CONTRACTOR OF THE PARTY OF TH	
presence of drainage pattern	s and dominance of Cornu	isting gravel road. The boundary of is alba, Fraxinus Pennsylvania, and ge channel that continues outside o	Ulmus americana. The

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 wetlandbeing 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.	x	
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.	x	
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.	x	
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.		x

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

Narrative Rating

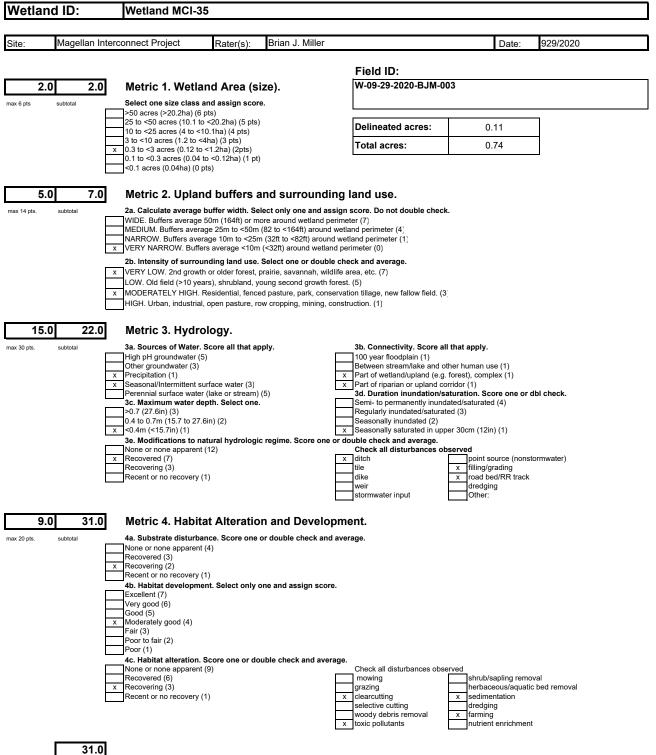
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural 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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	*NO Go to Question 2
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?	YES Wetland is a Category 3 wetland. Go to Question 3	*NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	*NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	*NO 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, 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	*NO 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
7	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 50% or more of the	YES	*NO	
	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	Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO	
	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 prevent erosion and the	YES	*NO	
	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 10	Go to Question 9c	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO	
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	YES	*NO	
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO	
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO	
	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 able often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be 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.		Go to Question 11	
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO	
	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating	

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

/etla	nd ID:	Wetland MCI-35			
Site:	Magellar	Interconnect Project	Rater(s):	Brian J. Miller	Date: 929/2020
				Field ID:	
	31.0	ה		W-09-29-2020-BJI	M-003
	subtotal this page	2		11 00 10 1010 00	
		_			
0	.0 31.0	Metric 5. Special We	tlands.		
ax 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	nd-unrestricted hydrology (1	0)	
		Lake Erie coastal/tributary wetla	nd-restricted hydrology (5)		
		Lake Plain Sand Prairies (Oak C)penings) (10)		
		Relict Wet Praires (10)	threatened or ondongered	necies (10)	
		Known occurrence state/federal Significant migratory songbird/wa			
		Category 1 Wetland. See Questi			
			5(1		
4	.0 35.0	Metric 6. Plant comn	nunities, interspe	rsion, microtopogra	phy.
ax 20pts.	subtotal	6a. Wetland Vegetation 0	Communities.	Vegetation Comr	munity Cover Scale
		Score all present using 0 to 3 sc	ale.		0.1ha (0.2471 acres) contiguous area
		Aquatic bed			nprises small part of wetland's 1
		1 Emergent		-	oderate quality, or comprises a
		Shrub 1 Forest		significant part but is of	f low quality nprises significant part of wetland's 2
		Mudflats			oderate quality or comprises a small
		Open water		part and is of high qual	
		Other			significant part, or more, of wetland's 3
		6b. horizontal (plan view) Inter Select only one.	rspersion.	vegetation and is of hig	yh quality
		High (5)		Narrative Description	of Vegetation Quality
		Moderately high(4)			or predominance of nonnative or low
		Moderate (3)		disturbance tolerant na	•
		Moderately low (2)			nt component of the vegetation, mod
		x Low (1)			d/or disturbance tolerant native spp
		None (0) 6c. Coverage of invasive plant	s Refer		nd species diversity moderate to enerallyw/o presence of rare
		Table 1 ORAM long form for list.		threatened or endange	
		or deduct points for coverage			ive species, with nonnative spp high
		Extensive >75% cover (-5)			rant native spp absent or virtually
		Moderate 25-75% cover (-3)		absent, and high spp d	iversity and often, but not always,
		x Sparse 5-25% cover (-1)		the presence of rare, the	nreatened, or endangered spp
		Nearly absent <5% cover (0)		Mudflet and Onen We	the Class Quelity
		Absent (1) 6d. Microtopography.		Mudflat and Open Wa 0 Absent <0.1ha (0.247 a	
		Score all present using 0 to 3 sc	ale.	1 Low 0.1 to <1ha (0.247	
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4ha (2.	
		2 Coarse woody debris >15cm (6ir	n)	3 High 4ha (9.88 acres) o	pr more
		0 Standing dead >25cm (10in) dbr	ı		
		0 Amphibian breeding pools		Microtopography Cov	ver Scale
				0 Absent	ounto ar if more common
				 Present very small among of marginal quality 	ounts or if more common
					nounts, but not of highest
	35 () TOTAL (Max 100 pts)			-
				quality or in small amou	
	Modified 2	Category		3 Present in moderate or	greater amounts

and of highest quality

		answ	cle /er or 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	
	Metric 2. Buffers and surrounding land use	:	5	
	Metric 3. Hydrology	15		
	Metric 4. Habitat	9	9	
	Metric 5. Special Wetland Communities	(0	
	Metric 6. Plant communities, interspersion, microtopography		4	
	TOTAL SCORE		5	Category based on score breakpoints

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID: V

Wetland MCI-35

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	*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 <i>not</i> 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	*NO 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 Catego	ry	
Choose	one Category	1 *Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland may be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information				
Name:	Brian J. Miller			
Date:	929/2020			
Affiliation:	AECOM			
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220			
Phone Number:	412-667-9172			
e-mail address:	brian.miller1@aecom.com			
Name of Wetland:	Wetland MCI-36			
Vegetation Communit(ies):	PEM/PSS			
HGM Class(es):	Depressed			
Location of Wetland: include map	, address, north arrow, landmarks, distances, roads, etc.			

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	41.154635267, -80.832247575
USGS Quad Name:	Warren
County:	Trumbull
Township:	Urban
Section and Subsection:	T3N R4W
Hydrologic Unit Code:	Mud Creek (Hydrologic Unit Code (HUC): 050301030602)
Site Visit:	929/2020
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland MCI-36		
Wetland Size (delineated acres):	0.11	Wetland Size (Estimated total acres):	0.74
Sketch: Include north arrow, relationship	with other surface waters, ve		
Sketch: Include north arrow, relationship		acres): getation zones, etc.	
Francisco Balary Cell Plant			
Comments, Narrative Discussion, Justifi			
A PEM/PSS wetland complex loo	cated between an agricu cated outside of the surv	Itural and residential field that reco vey area. The boundary of the PEN d Cornus alba.	
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 wetlandbeing 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.	x	
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.	x	
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.	x	
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.	x	

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

Narrative Rating

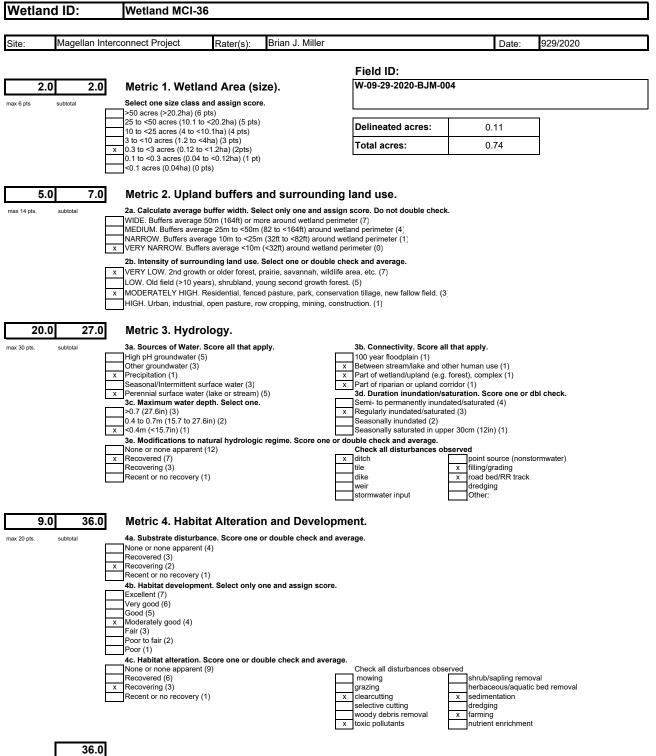
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural 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	YES	*NO
	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 has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	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	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	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	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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 allaged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	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	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	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 prevent erosion and the	YES	*NO
loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie W. due to lakeward or landward dikes or other hydrological controls?		Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland 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 vegetation	YES	*NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	*NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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 gramineous vegetation listed in Table 1 (woody species may also be 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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	oak 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.





ORAM v. 5.0 Field Form Quantitative Rating

retia	nd ID:	Wetland MCI-36			
Site:	Magellan	Interconnect Project	Rater(s):	Brian J. Miller	Date: 929/2020
				Field ID:	
	36.0	ה		W-09-29-2020-BJ	M-004
	50.0	2		11-03-20-2020-20	
	subtotal this page				
0	.0 36.0	Metric 5. Special Wet	lands.		
ax 10 pts.	subtotal	Check all that apply and s	score as indicated.		
		Bog (10)			
		Fen (10)			
		Old growth forest (10)			
		Mature forested wetland (5)		0)	
		Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland		0)	
		Lake Plain Sand Prairies (Oak Op			
		Relict Wet Praires (10)			
		Known occurrence state/federal th	reatened or endangered	pecies (10)	
		Significant migratory songbird/wat			
		Category 1 Wetland. See Question	n 5 Qualitative Rating (-10)	
4	.0 40.0	Metric 6. Plant comm	unities, interspe	rsion, microtopogra	phy.
iax 20pts.	subtotal	6a. Wetland Vegetation Co	ommunities.		munity Cover Scale
		Score all present using 0 to 3 scal	e.		0.1ha (0.2471 acres) contiguous area
		Aquatic bed			nprises small part of wetland's 1
		1 Emergent			oderate quality, or comprises a
		Shrub		significant part but is o	
		1 Forest Mudflats			nprises significant part of wetland's 2
		Open water		part and is of high qual	oderate quality or comprises a small
		Other			s significant part, or more, of wetland's 3
		6b. horizontal (plan view) Inters	persion.	vegetation and is of hig	
		Select only one.		Norrotivo Description	of Vegetation Quality
		High (5) Moderately high(4)			n of Vegetation Quality or predominance of nonnative or low
		Moderate (3)		disturbance tolerant na	
		Moderately low (2)			nt component of the vegetation, mod
		x Low (1)		although nonnative and	d/or disturbance tolerant native spp
		None (0)		can also be present, a	nd species diversity moderate to
		6c. Coverage of invasive plants.			enerallyw/o presence of rare
		Table 1 ORAM long form for list. A	dd	threatened or endange	
		or deduct points for coverage Extensive >75% cover (-5)			tive species, with nonnative spp high erant native spp absent or virtually
		Moderate 25-75% cover (-3)			liversity and often, but not always,
		x Sparse 5-25% cover (-1)			hreatened, or endangered spp
		Nearly absent <5% cover (0)		<u> </u>	÷
		Absent (1)		Mudflat and Open Wa	
		6d. Microtopography.		0 Absent <0.1ha (0.247 a	
		Score all present using 0 to 3 scal	е.	1 Low 0.1 to <1ha (0.247	,
		0 Vegetated hummucks/tussucks		2 Moderate 1 to <4ha (2.	
		2 Coarse woody debris >15cm (6in) 0 Standing dead >25cm (10in) dbh		3 High 4ha (9.88 acres)	
		0 Amphibian breeding pools		Microtopography Cov	ver Scale
				0 Absent	
					ounts or if more common
				of marginal quality	
	10.0				mounts, but not of highest
		TOTAL (Max 100 pts)		quality or in small amo	
	Modified 2	Category		3 Present in moderate or	r greater amounts

and of highest quality

		answ	cle /er or 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	
	Metric 2. Buffers and surrounding land use	:	5	
	Metric 3. Hydrology	2	20	
	Metric 4. Habitat	9	9	
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography		4	
	TOTAL SCORE	40		Category based on score breakpoints

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

Wetland ID: W

Wetland MCI-36

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> 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 over- categorized 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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	*NO	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?	*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 <i>not</i> 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	*NO 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	ne Category 1	*Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.



APPENDIX C

OEPA HHEI STREAM FORMS



Oh	EPA Primar	y Headw	ater Habitat HHEI	Evaluation For Score (sum of metri	rm ics 1, 2, 3) :	
SITE NAM	E/LOCATION					
	SITE NUMBE	R	RIVER BASIN	DRA	INAGE AREA (mi²)	
LENGTH C	OF STREAM REACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE	
DATE	SCORER	CO	MMENTS			
NOTE: 0	Complete All Items On This	Form - Refer to	"Field Evaluation M	anual for Ohio's PHWH	Streams" for Instru	uctions
-	I CHANNEL INONE CATIONS:	/ NATURAL CHAN			RECENT OR NO REC	OVERY
	UBSTRATE (Estimate percent on Max of 32). Add total number of si			·		HHEI
	BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts]	PERCENT	TYPE SILT [3 pt		PERCENT	Metric Points
	BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts]			RITUS [3 pts] HARDPAN [0 pt]		Substrate Max = 40

1.	SUBSTRATE (Estimate percent of even				
	(Max of 32). Add total number of significa	ant substrate types found	·		HHEI Metric
		RCENT TYPE		PERCENT	Points
			SILT [3 pt] LEAF PACK/WOODY [DEBRIS [3 pts]	
			FINE DETRITUS [3 pts		Substrate
			CLAY or HARDPAN [0		Max = 40
			MUCK [0 pts]	pt]	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ARTIFICIAL [3 pts]		
	- () L - I - J				
	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentage Check	(B)	A + B
SCOF	RE OF TWO MOST PREDOMINATE SUBS		TOTAL NUMBER	OF SUBSTRATE TYPES:	
2.	Maximum Pool Depth (Measure the ma				Pool Depth
	evaluation. Avoid plunge pools from road> 30 centimeters [20 pts]		> 5 cm - 10 cm [15 pts		Max = 30
	> 22.5 - 30 cm [30 pts]	Ō	< 5 cm [5 pts]	-1	
	> 10 - 22.5 cm [25 pts]		NO WATER OR MOIS	ST CHANNEL [0 pts]	
	COMMENTS		MAXIMUM POO	DL DEPTH (centimeters):	
3	BANK FULL WIDTH (Measured as the	average of 3-4 measure	ments) (Check	ONLY one box):	Bankfull
	> 4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3'		Width
	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		\leq 1.0 m (<=3' 3") [5 pts	6]	Max=30
	· /· · ·				
	COMMENTS		AVERAGE BAN	KFULL WIDTH (meters):	
	COMMENTS		AVERAGE BAN	IKFULL WIDTH (meters):	
	COMMENTS		AVERAGE BAN		
	RIPARIAN ZONE AND FLOODP	This informatic LAIN QUALITY 것N	n <u>must</u> also be complet OTE: River Left (L) and R		
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u>	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u>	ed ight (R) as looking downstream☆	
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u> L R (Per Bank)	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI LR (Most Predo	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank)	ed ight (R) as looking downstream☆	
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI L R (Most Predo D D Mature Fore	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u>	ed ight (R) as looking downstream☆ L R D D Conservation Tillage	
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u> L R (Per Bank)	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI L R (Most Predo □ □ Mature Fore	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) est, Wetland	ed ight (R) as looking downstream☆ L R D D Conservation Tillage Urban or Industrial	
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI ⊥ L R (Most Predo □ □ Mature Fore □ □ Immature Fore □ □ Field	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) est, Wetland	ed ight (R) as looking downstream☆ L R D D Conservation Tillage	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Colspan="2">Wide >10m Image: Colspan="2">Moderate 5-10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI ⊥ L R (Most Predo □ □ Mature Fore □ □ Immature Fore □ □ Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field	ed ight (R) as looking downstream☆ L R D D Conservation Tillage D D Urban or Industrial Occes Desture Day Oc	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m	This information LAIN QUALITY ☆N FLOODPLAIN QUALITY ↓ L R (Most Predoc □ □ Mature Fore □ □ Immature Fore □ □ Immature Fore □ □ Residential,	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	pp -
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m I None COMMENTS	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo I Mature Fore Immature Fore I Immature Field Immature Fore I Residential, Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field ture	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo I Mature Fore Immature Fore I Immature Field Immature Fore I Residential, Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field ture ne b <u>ox</u>):	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Ima	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) st, Wetland orest, Shrub or Old Park, New Field ture ne box): Moist Channel	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cro Mining or Construction	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2" Image:	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) st, Wetland orest, Shrub or Old Park, New Field ture ne box): Moist Channel	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Ima	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ☆N L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or so (Interstitial) □	m <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) ist, Wetland orest, Shrub or Old Park, New Field ture ne box): Dry channel, n	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent o water (Ephemeral)	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2">RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2" Image: Descent	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ☆N L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or so (Interstitial) □	m <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) ist, Wetland orest, Shrub or Old Park, New Field ture ne box): Dry channel, n	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent o water (Ephemeral)	-

STREAM GRADIENT ESTIMATE

Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - DYes DNo QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
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: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

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



Oh	EPA Primar	y Headw	ater Habitat HHEI	Evaluation For Score (sum of metri	rm ics 1, 2, 3) :	
SITE NAM	E/LOCATION					
	SITE NUMBE	R	RIVER BASIN	DRA	INAGE AREA (mi²)	
LENGTH C	OF STREAM REACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE	
DATE	SCORER	CO	MMENTS			
NOTE: 0	Complete All Items On This	Form - Refer to	"Field Evaluation M	anual for Ohio's PHWH	Streams" for Instru	uctions
-	I CHANNEL INONE CATIONS:	/ NATURAL CHAN			RECENT OR NO REC	OVERY
	UBSTRATE (Estimate percent on Max of 32). Add total number of si			·		HHEI
	BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts]	PERCENT	TYPE SILT [3 pt		PERCENT	Metric Points
	BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts]			RITUS [3 pts] HARDPAN [0 pt]		Substrate Max = 40

1.	SUBSTRATE (Estimate percent of even				
	(Max of 32). Add total number of significa	ant substrate types found	·		HHEI Metric
		RCENT TYPE		PERCENT	Points
			SILT [3 pt] LEAF PACK/WOODY [DEBRIS [3 pts]	
			FINE DETRITUS [3 pts		Substrate
			CLAY or HARDPAN [0		Max = 40
			MUCK [0 pts]	pt]	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ARTIFICIAL [3 pts]		
	- () L - I - J				
	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentage Check	(B)	A + B
SCOF	RE OF TWO MOST PREDOMINATE SUBS		TOTAL NUMBER	OF SUBSTRATE TYPES:	
2.	Maximum Pool Depth (Measure the ma				Pool Depth
	evaluation. Avoid plunge pools from road> 30 centimeters [20 pts]		> 5 cm - 10 cm [15 pts		Max = 30
	> 22.5 - 30 cm [30 pts]	Ō	< 5 cm [5 pts]	-1	
	> 10 - 22.5 cm [25 pts]		NO WATER OR MOIS	ST CHANNEL [0 pts]	
	COMMENTS		MAXIMUM POO	DL DEPTH (centimeters):	
3	BANK FULL WIDTH (Measured as the	average of 3-4 measure	ements) (Check	ONLY one box):	Bankfull
	> 4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3'		Width
	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		\leq 1.0 m (<=3' 3") [5 pts	6]	Max=30
	· /· · ·				
	COMMENTS		AVERAGE BAN	KFULL WIDTH (meters):	
	COMMENTS		AVERAGE BAN	IKFULL WIDTH (meters):	
	COMMENTS		AVERAGE BAN		
	RIPARIAN ZONE AND FLOODP	This informatic LAIN QUALITY 것N	n <u>must</u> also be complet OTE: River Left (L) and R		
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u>	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u>	ed ight (R) as looking downstream☆	
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u> L R (Per Bank)	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI L_R_ (Most Predo	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank)	ed ight (R) as looking downstream☆	
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI L R (Most Predo D D Mature Fore	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u>	ed ight (R) as looking downstream☆ L R D D Conservation Tillage	
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u> L R (Per Bank)	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI L R (Most Predo □ □ Mature Fore	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) est, Wetland	ed ight (R) as looking downstream☆ L R D D Conservation Tillage Urban or Industrial	
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI ⊥ L R (Most Predo □ □ Mature Fore □ □ Immature Fore □ □ Field	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) est, Wetland	ed ight (R) as looking downstream☆ L R D D Conservation Tillage	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Colspan="2">Wide >10m Image: Colspan="2">Moderate 5-10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI ⊥ L R (Most Predo □ □ Mature Fore □ □ Immature Fore □ □ Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field	ed ight (R) as looking downstream☆ L R D D Conservation Tillage D D Urban or Industrial Occes Desture Day Oc	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m	This information LAIN QUALITY ☆N FLOODPLAIN QUALITY ↓ L R (Most Predoc □ □ Mature Fore □ □ Immature Fore □ □ Immature Fore □ □ Residential,	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	pp -
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m I None COMMENTS	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo I Mature Fore Immature Fore I Immature Field Immature Fore I Residential, Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field ture	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo I Mature Fore Immature Fore I Immature Field Immature Fore I Residential, Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field ture ne b <u>ox</u>):	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Ima	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) st, Wetland orest, Shrub or Old Park, New Field ture ne box): Moist Channel	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cro Mining or Construction	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2" Image:	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) st, Wetland orest, Shrub or Old Park, New Field ture ne box): Moist Channel	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Ima	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ☆N L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or so (Interstitial) □	m <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) ist, Wetland orest, Shrub or Old Park, New Field ture ne box): Dry channel, n	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent o water (Ephemeral)	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2">RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2" Image: Descent	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ☆N L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or so (Interstitial) □	m <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) ist, Wetland orest, Shrub or Old Park, New Field ture ne box): Dry channel, n	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent o water (Ephemeral)	-

STREAM GRADIENT ESTIMATE

Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - D Yes D No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
UWWH Name: Distance from Evaluated Stream
CWH Name: 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: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the si ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

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

Wetland MCI-09



FLOW

Oh	EPA Primar	y Headw	ater Habitat HHEI	Evaluation For Score (sum of metri	rm ics 1, 2, 3) :	
SITE NAM	E/LOCATION					
	SITE NUMBE	R	RIVER BASIN	DRA	INAGE AREA (mi²)	
LENGTH C	OF STREAM REACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE	
DATE	SCORER	CO	MMENTS			
NOTE: 0	Complete All Items On This	Form - Refer to	"Field Evaluation M	anual for Ohio's PHWH	Streams" for Instru	uctions
-	I CHANNEL INONE CATIONS:	/ NATURAL CHAN			RECENT OR NO REC	OVERY
	UBSTRATE (Estimate percent on Max of 32). Add total number of si			·		HHEI
	BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts]	PERCENT	TYPE SILT [3 pt		PERCENT	Metric Points
	BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts]			RITUS [3 pts] HARDPAN [0 pt]		Substrate Max = 40

1.	SUBSTRATE (Estimate percent of even				
	(Max of 32). Add total number of significa	ant substrate types found	·		HHEI Metric
		RCENT TYPE		PERCENT	Points
			SILT [3 pt] LEAF PACK/WOODY [DEBRIS [3 pts]	
			FINE DETRITUS [3 pts		Substrate
			CLAY or HARDPAN [0		Max = 40
			MUCK [0 pts]	pt]	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ARTIFICIAL [3 pts]		
	- () L - I - J				
	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentage Check	(B)	A + B
SCOF	RE OF TWO MOST PREDOMINATE SUBS		TOTAL NUMBER	OF SUBSTRATE TYPES:	
2.	Maximum Pool Depth (Measure the ma				Pool Depth
	evaluation. Avoid plunge pools from road> 30 centimeters [20 pts]		> 5 cm - 10 cm [15 pts		Max = 30
	> 22.5 - 30 cm [30 pts]	Ō	< 5 cm [5 pts]	-1	
	> 10 - 22.5 cm [25 pts]		NO WATER OR MOIS	ST CHANNEL [0 pts]	
	COMMENTS		MAXIMUM POO	DL DEPTH (centimeters):	
3	BANK FULL WIDTH (Measured as the	average of 3-4 measure	ements) (Check	ONLY one box):	Bankfull
	> 4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3'		Width
	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		\leq 1.0 m (<=3' 3") [5 pts	6]	Max=30
	· /· · ·				
	COMMENTS		AVERAGE BAN	KFULL WIDTH (meters):	
	COMMENTS		AVERAGE BAN	IKFULL WIDTH (meters):	
	COMMENTS		AVERAGE BAN		
	RIPARIAN ZONE AND FLOODP	This informatic LAIN QUALITY 것N	n <u>must</u> also be complet OTE: River Left (L) and R		
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u>	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u>	ed ight (R) as looking downstream☆	
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u> L R (Per Bank)	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI LR (Most Predo	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank)	ed ight (R) as looking downstream☆	
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI L R (Most Predo D D Mature Fore	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u>	ed ight (R) as looking downstream☆ L R D D Conservation Tillage	
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u> L R (Per Bank)	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI L R (Most Predo □ □ Mature Fore	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) est, Wetland	ed ight (R) as looking downstream☆ L R D D Conservation Tillage Urban or Industrial	
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI ⊥ L R (Most Predo □ □ Mature Fore □ □ Immature Fore □ □ Field	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) est, Wetland	ed ight (R) as looking downstream☆ L R D D Conservation Tillage	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Colspan="2">Wide >10m Image: Colspan="2">Moderate 5-10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI ⊥ L R (Most Predo □ □ Mature Fore □ □ Immature Fore □ □ Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field	ed ight (R) as looking downstream☆ L R D D Conservation Tillage D D Urban or Industrial Occes Desture Day Oc	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m	This information LAIN QUALITY ☆N FLOODPLAIN QUALITY ↓ L R (Most Predoction) I Immature Fore Immature Fore I Immature Fore Field I Immature Fore Field I Immature Fore Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	pp -
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m I None COMMENTS	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo I Mature Fore Immature Fore I Immature Field Field I Residential, Fenced Pas	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field ture	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo I Mature Fore Immature Fore I Immature Field Immature Fore I Residential, Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field ture ne b <u>ox</u>):	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Description of the second secon	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) st, Wetland orest, Shrub or Old Park, New Field ture ne box): Moist Channel	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cro Mining or Construction	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2" Image:	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) st, Wetland orest, Shrub or Old Park, New Field ture ne box): Moist Channel	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Description of the second secon	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ☆N L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or so (Interstitial) □	m <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) ist, Wetland orest, Shrub or Old Park, New Field ture ne box): Dry channel, n	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent o water (Ephemeral)	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2">Image: Descent colspan="2">Image: Descent colspan="2">Image: Descent colspan="2">Image: Descent colspan="2">Image: Descent colspan="2">RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2" Image: Descent	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ☆N L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or so (Interstitial) □	m <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) ist, Wetland orest, Shrub or Old Park, New Field ture ne box): Dry channel, n	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent o water (Ephemeral)	-

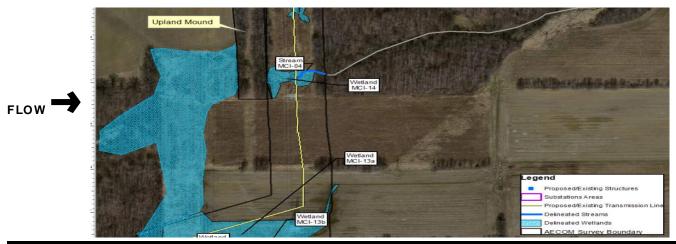
STREAM GRADIENT ESTIMATE

Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - D Yes D No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
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: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N)
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

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



Oh	EPA Primar	y Headw	ater Habitat HHEI	Evaluation For Score (sum of metri	rm ics 1, 2, 3) :	
SITE NAM	E/LOCATION					
	SITE NUMBE	R	RIVER BASIN	DRA	INAGE AREA (mi²)	
LENGTH C	OF STREAM REACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE	
DATE	SCORER	CO	MMENTS			
NOTE: 0	Complete All Items On This	Form - Refer to	"Field Evaluation M	anual for Ohio's PHWH	Streams" for Instru	uctions
-	I CHANNEL INONE CATIONS:	/ NATURAL CHAN			RECENT OR NO REC	OVERY
	UBSTRATE (Estimate percent on Max of 32). Add total number of si			·		HHEI
	BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts]	PERCENT	TYPE SILT [3 pt		PERCENT	Metric Points
	BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts]			RITUS [3 pts] HARDPAN [0 pt]		Substrate Max = 40

1.	SUBSTRATE (Estimate percent of even				
	(Max of 32). Add total number of significa	ant substrate types found	·		HHEI Metric
		RCENT TYPE		PERCENT	Points
			SILT [3 pt] LEAF PACK/WOODY [DEBRIS [3 pts]	
			FINE DETRITUS [3 pts		Substrate
			CLAY or HARDPAN [0		Max = 40
			MUCK [0 pts]	pt]	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ARTIFICIAL [3 pts]		
	- () L - I - J				
	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentage Check	(B)	A + B
SCOF	RE OF TWO MOST PREDOMINATE SUBS		TOTAL NUMBER	OF SUBSTRATE TYPES:	
2.	Maximum Pool Depth (Measure the ma				Pool Depth
	evaluation. Avoid plunge pools from road> 30 centimeters [20 pts]		> 5 cm - 10 cm [15 pts		Max = 30
	> 22.5 - 30 cm [30 pts]	Ō	< 5 cm [5 pts]	-1	
	> 10 - 22.5 cm [25 pts]		NO WATER OR MOIS	ST CHANNEL [0 pts]	
	COMMENTS		MAXIMUM POO	DL DEPTH (centimeters):	
3	BANK FULL WIDTH (Measured as the	average of 3-4 measure	ements) (Check	ONLY one box):	Bankfull
	> 4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3'		Width
	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		\leq 1.0 m (<=3' 3") [5 pts	6]	Max=30
	· /· · ·				
	COMMENTS		AVERAGE BAN	KFULL WIDTH (meters):	
	COMMENTS		AVERAGE BAN	IKFULL WIDTH (meters):	
	COMMENTS		AVERAGE BAN		
	RIPARIAN ZONE AND FLOODP	This informatic LAIN QUALITY 것N	n <u>must</u> also be complet OTE: River Left (L) and R		
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u>	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u>	ed ight (R) as looking downstream☆	
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u> L R (Per Bank)	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI LR (Most Predo	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank)	ed ight (R) as looking downstream☆	
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI L R (Most Predo D D Mature Fore	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u>	ed ight (R) as looking downstream☆ L R D D Conservation Tillage	
	RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u> L R (Per Bank)	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI L R (Most Predo □ □ Mature Fore	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) est, Wetland	ed ight (R) as looking downstream☆ L R D D Conservation Tillage Urban or Industrial	
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI ⊥ L R (Most Predo □ □ Mature Fore □ □ Immature Fore □ □ Field	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) est, Wetland	ed ight (R) as looking downstream☆ L R D D Conservation Tillage	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Colspan="2">Wide >10m Image: Colspan="2">Moderate 5-10m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALI ⊥ L R (Most Predo □ □ Mature Fore □ □ Immature Fore □ □ Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field	ed ight (R) as looking downstream☆ L R D D Conservation Tillage D D Urban or Industrial Occes Desture Day Oc	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m	This information LAIN QUALITY ☆N FLOODPLAIN QUALITY ↓ L R (Most Predoc □ □ Mature Fore □ □ Immature Fore □ □ Immature Fore □ □ Residential,	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	pp -
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m I None COMMENTS	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo I Mature Fore Immature Fore I Immature Field Immature Fore I Residential, Field	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) est, Wetland orest, Shrub or Old Park, New Field ture	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	pp
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m I Narrow <5m	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo I Mature Fore Immature Fore I Immature Field Immature Fore I Residential, Field	on <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> ominant per Bank) est, Wetland orest, Shrub or Old Park, New Field ture ne b <u>ox</u>):	ed ight (R) as looking downstream☆ L R O Conservation Tillage Urban or Industrial Open Pasture, Row Cre	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Description of the second secon	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) st, Wetland orest, Shrub or Old Park, New Field ture ne box): Moist Channel	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cro Mining or Construction	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2" Image:	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ↓ L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or	n <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) st, Wetland orest, Shrub or Old Park, New Field ture ne box): Moist Channel	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Description of the second secon	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ☆N L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or so (Interstitial) □	m <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) ist, Wetland orest, Shrub or Old Park, New Field ture ne box): Dry channel, n	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent o water (Ephemeral)	-
	RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2">RIPARIAN WIDTH L R (Per Bank) Image: Descent colspan="2">Image: Descent colspan="2" Image: Descent	This informatic LAIN QUALITY ☆N FLOODPLAIN QUALIT ☆N L R (Most Predo □ Mature Fore □ □ Immature Fore □ □ Residential, □ □ Residential, □ □ Fenced Pase □ uation) (Check ONLY or so (Interstitial) □	m <u>must</u> also be complet OTE: River Left (L) and R <u>TY</u> minant per Bank) ist, Wetland orest, Shrub or Old Park, New Field ture ne box): Dry channel, n	ed ight (R) as looking downstream☆ L R Conservation Tillage Urban or Industrial Open Pasture, Row Cre Mining or Construction , isolated pools, no flow (Intermittent o water (Ephemeral)	-

STREAM GRADIENT ESTIMATE

Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - D Yes D No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
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: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N)
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

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

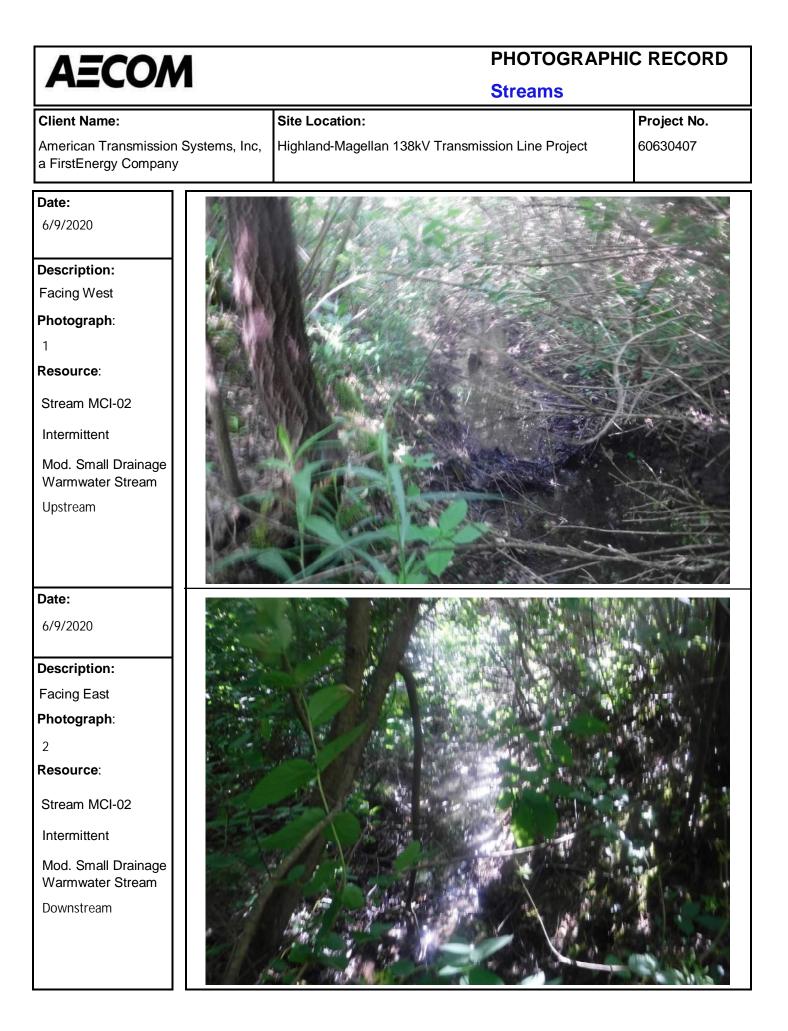


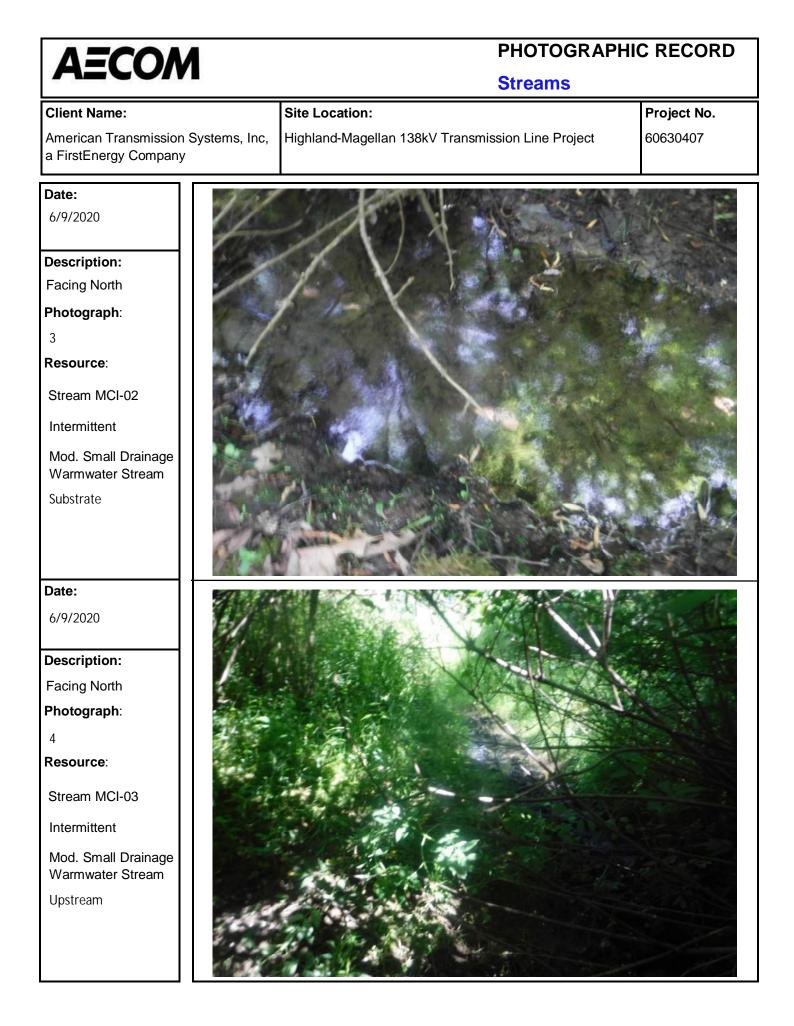


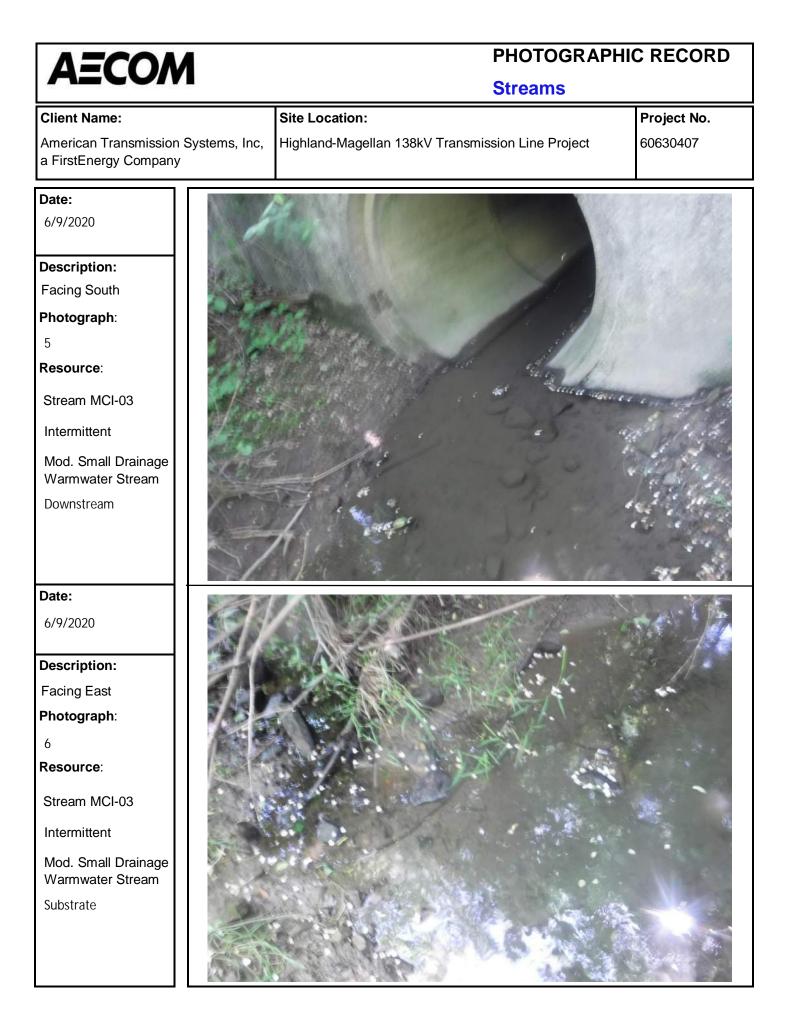
APPENDIX D

REPRESENTATIVE STREAMS AND WETLANDS PHOTOGRAPHS

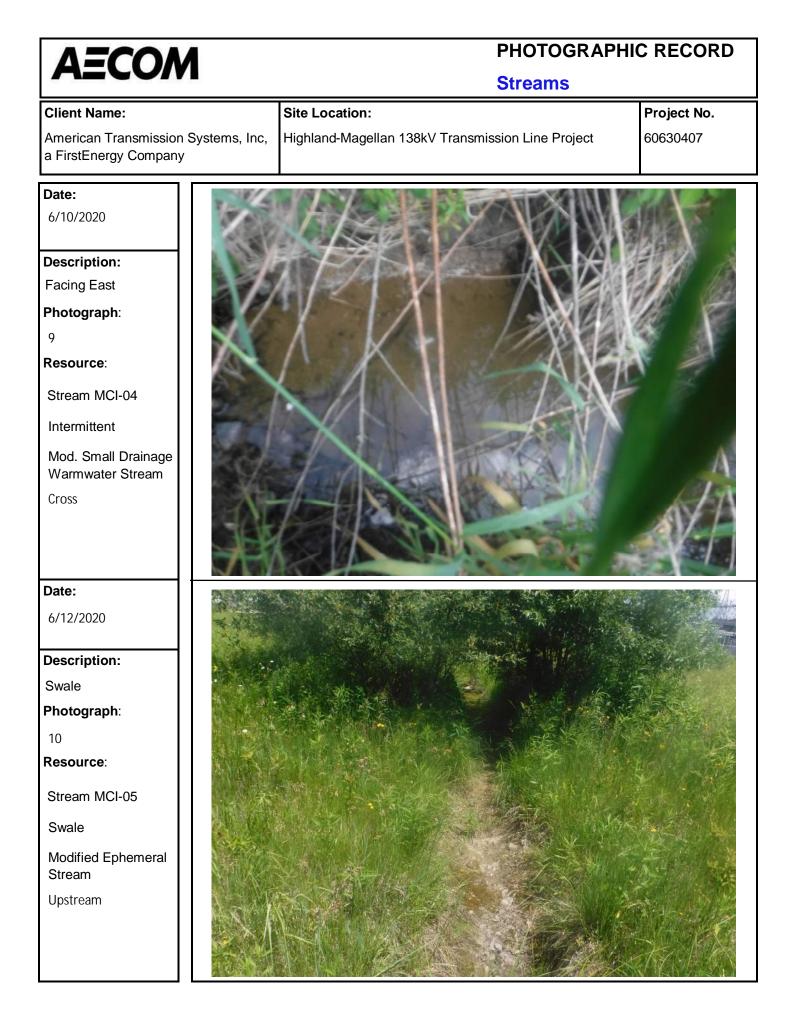




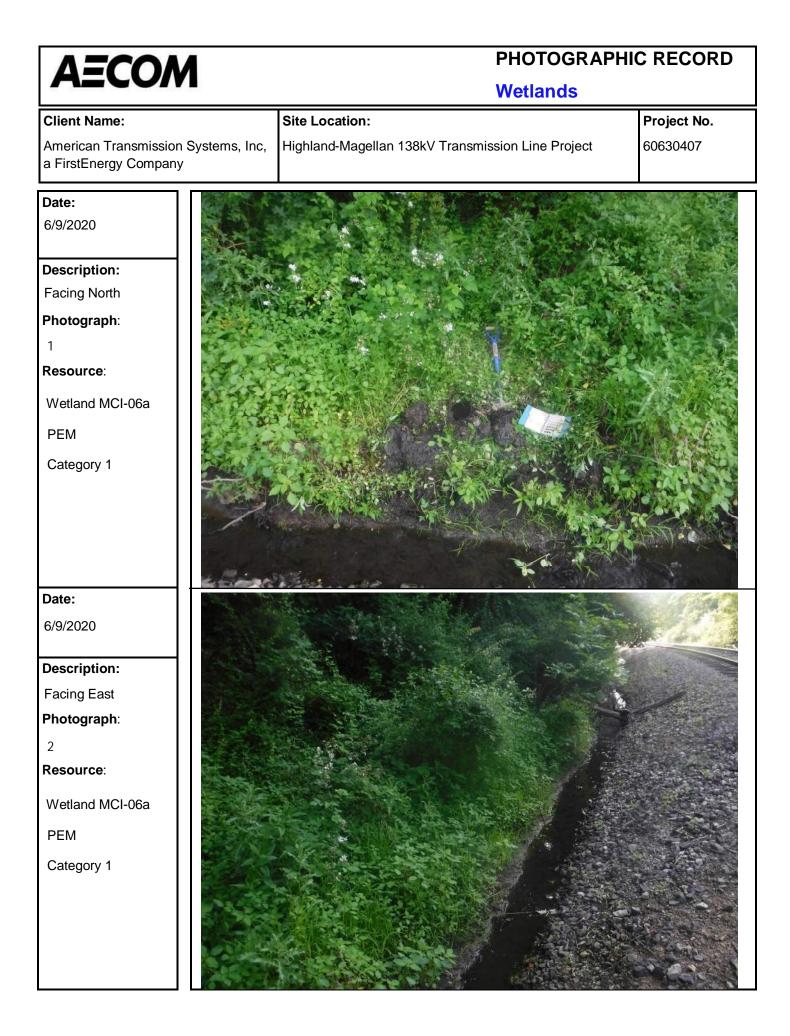


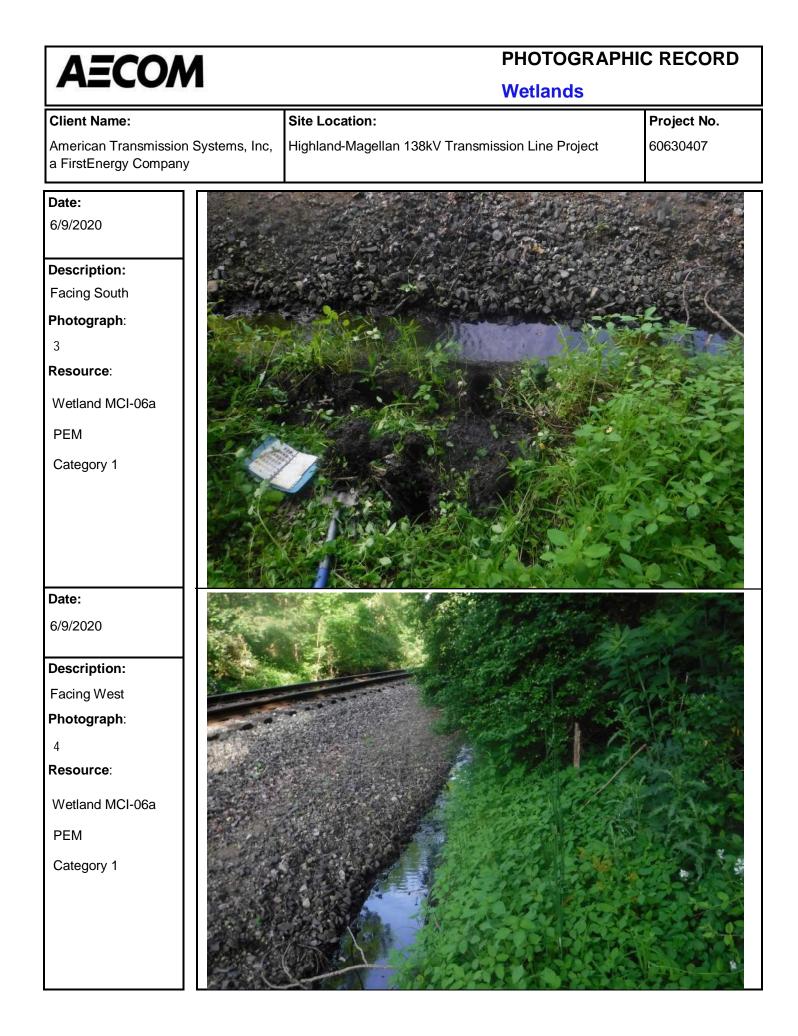




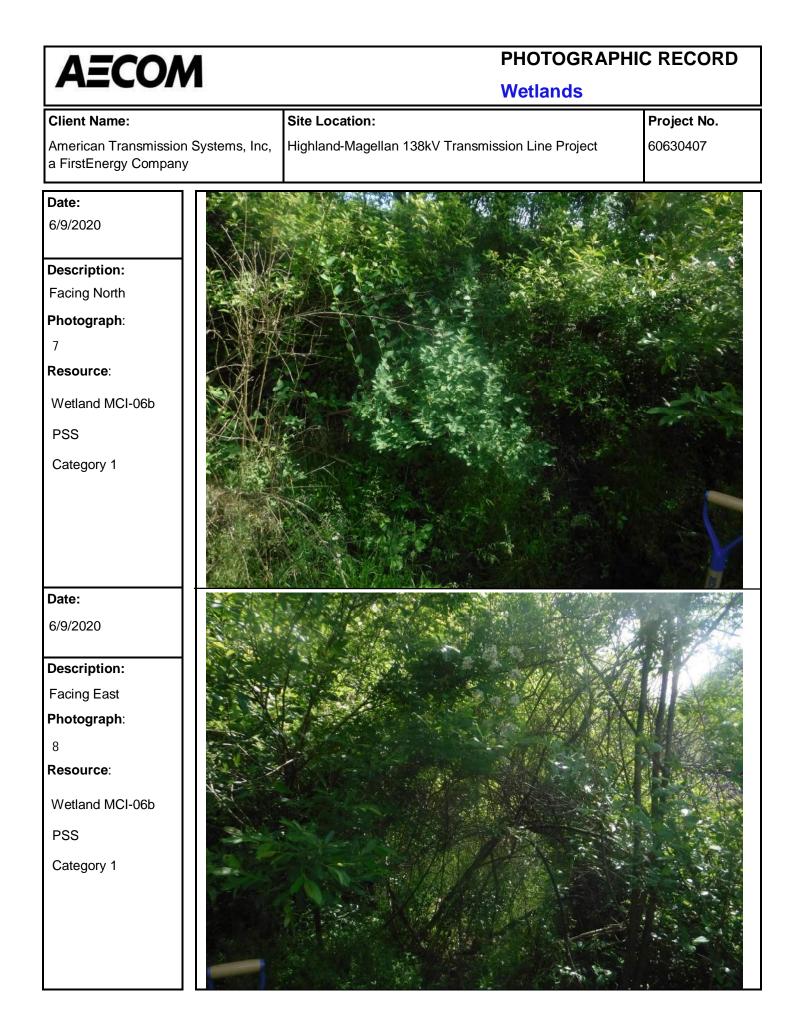


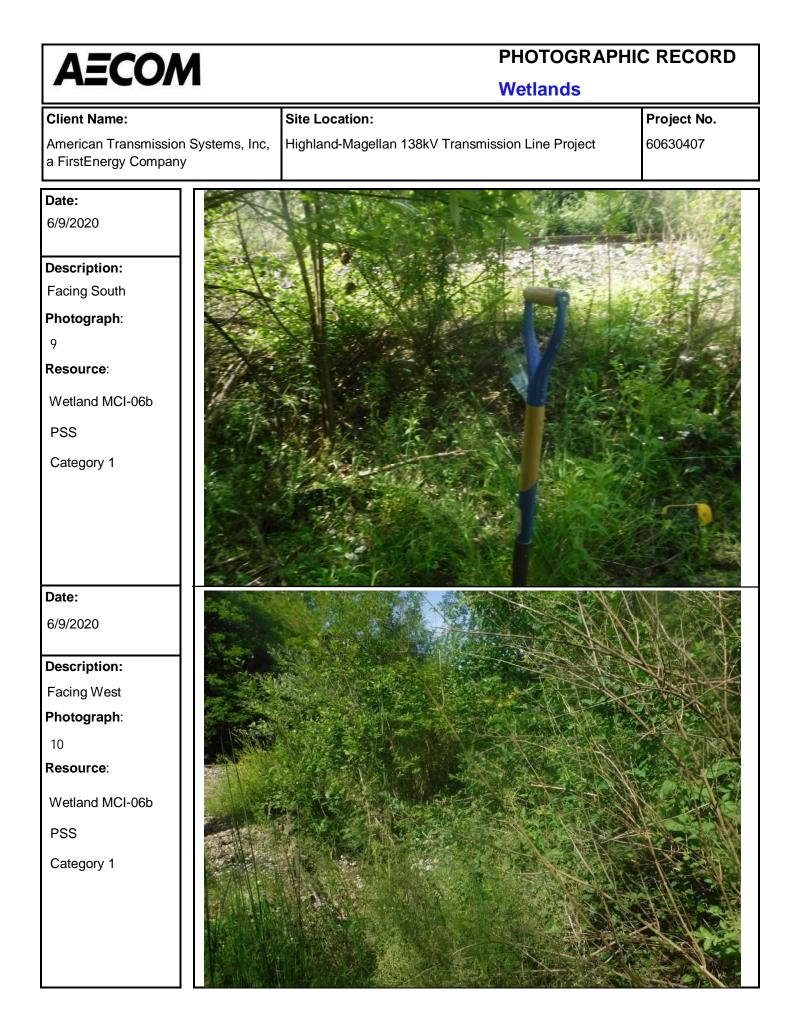


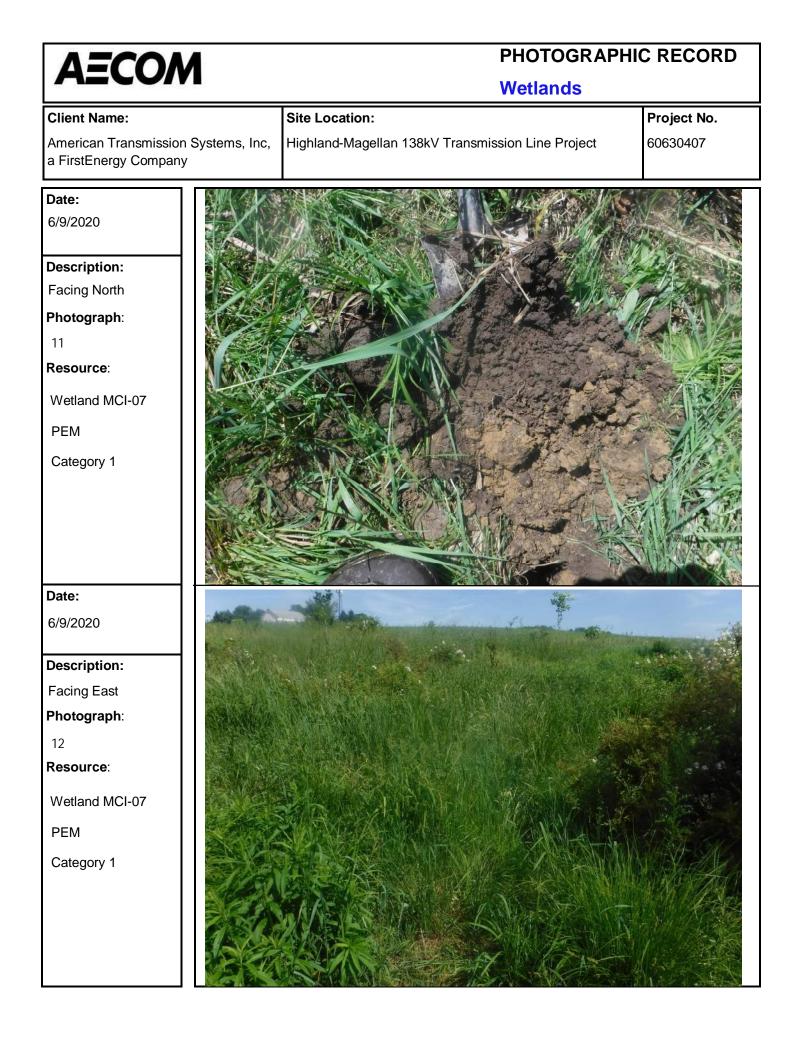


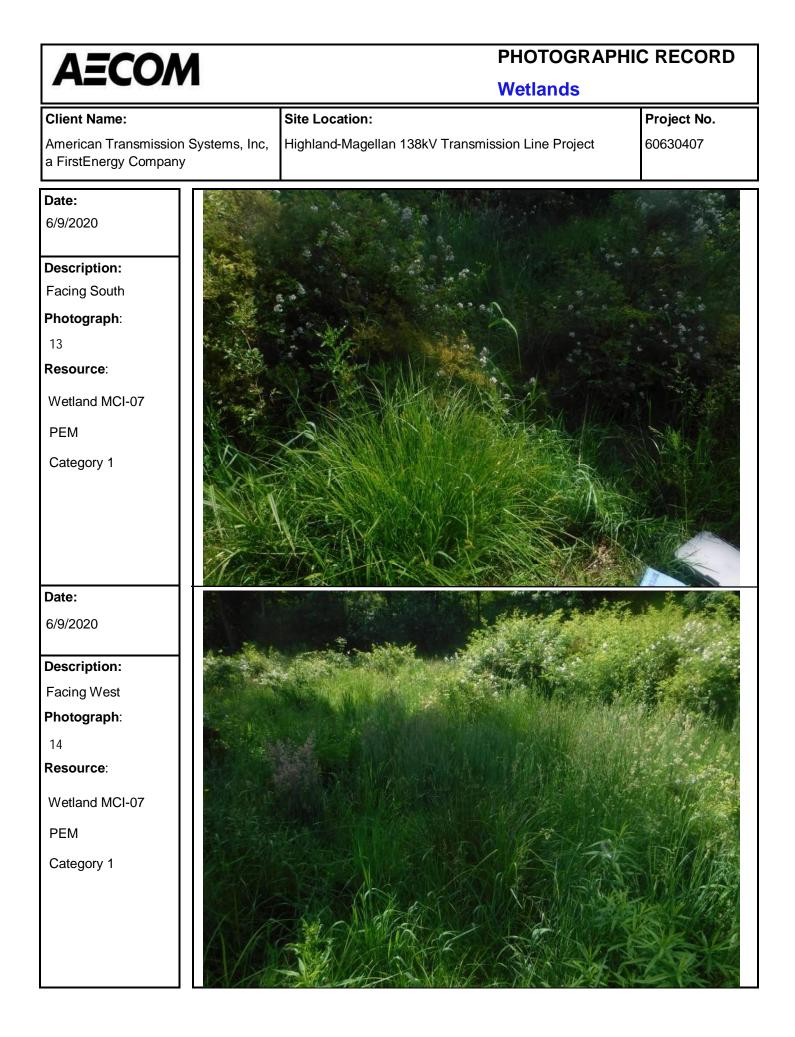




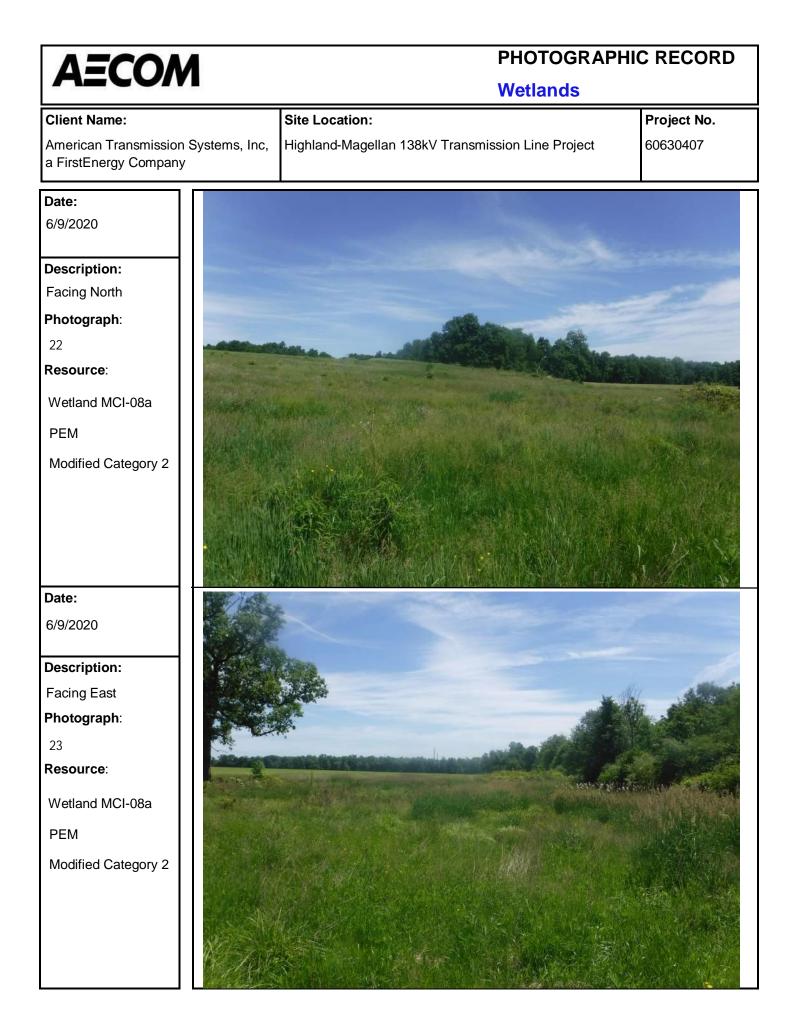










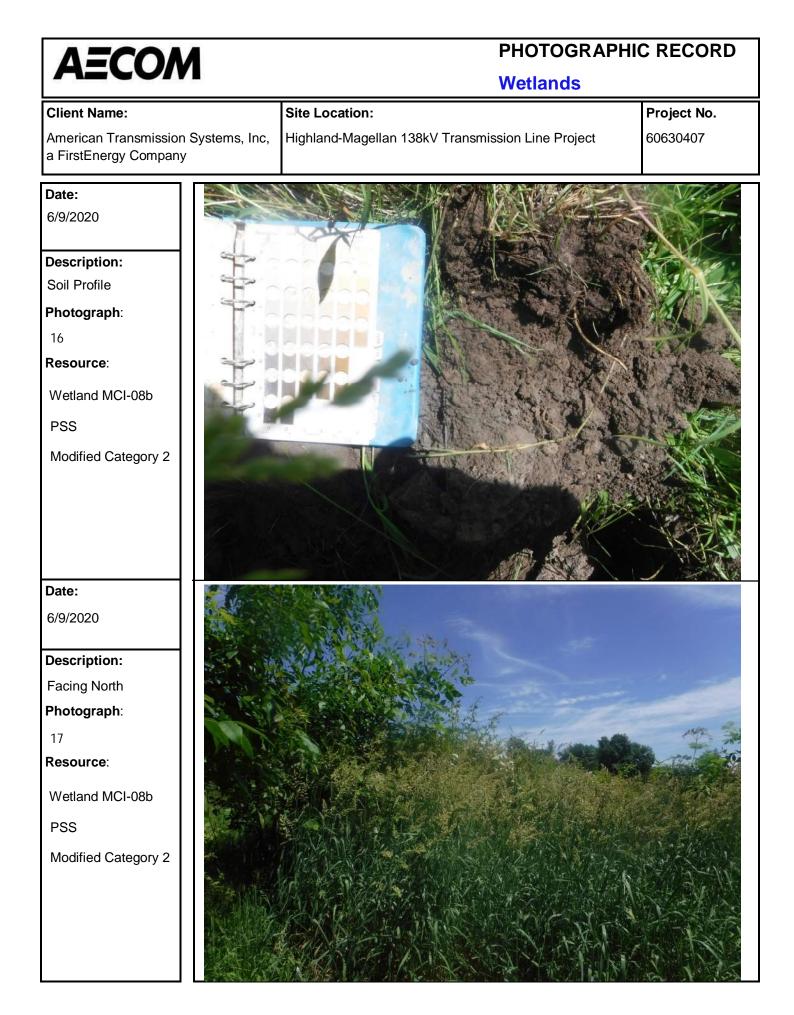


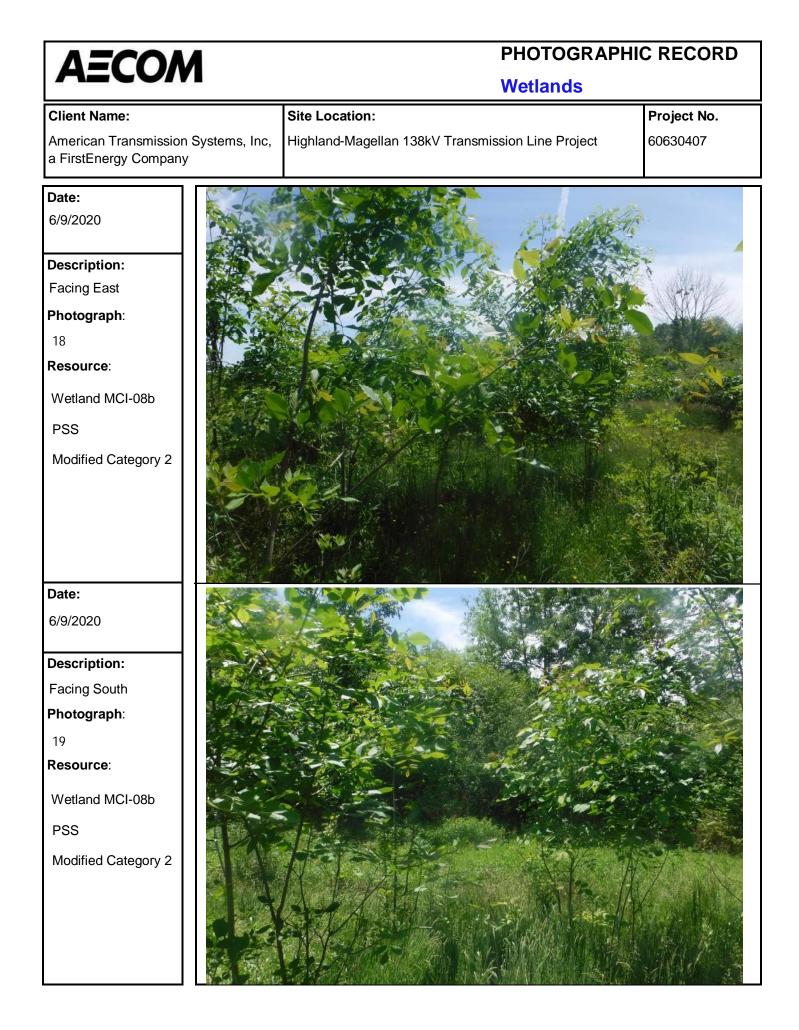
AECOM

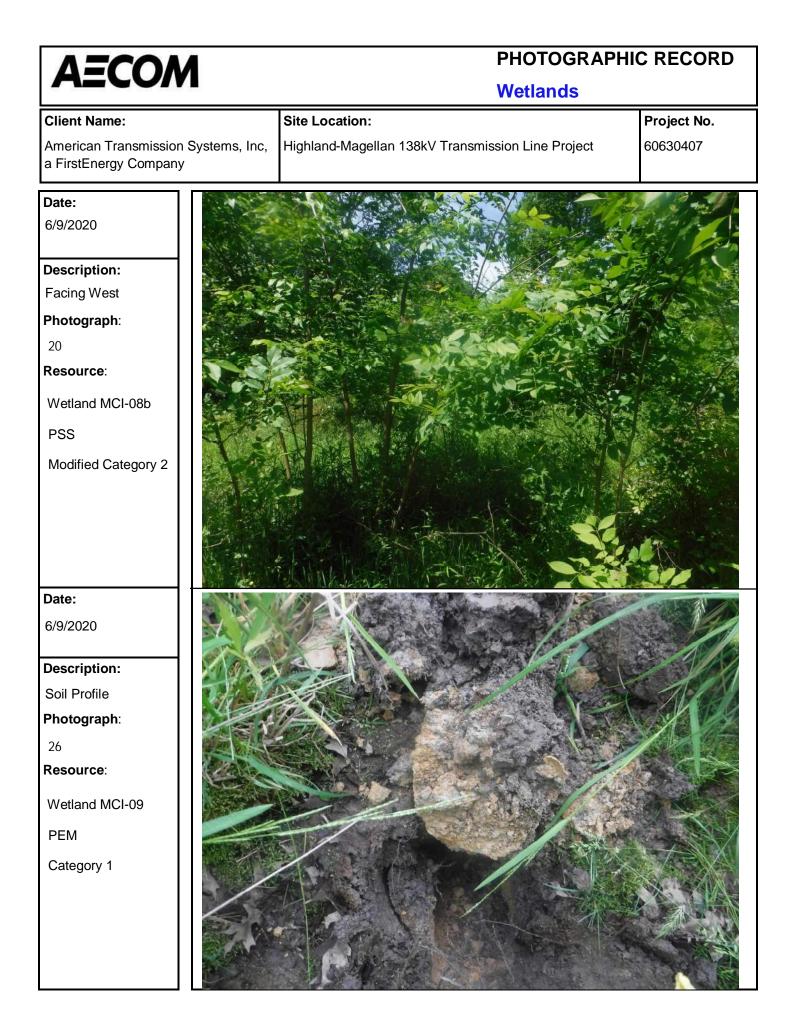
PHOTOGRAPHIC RECORD

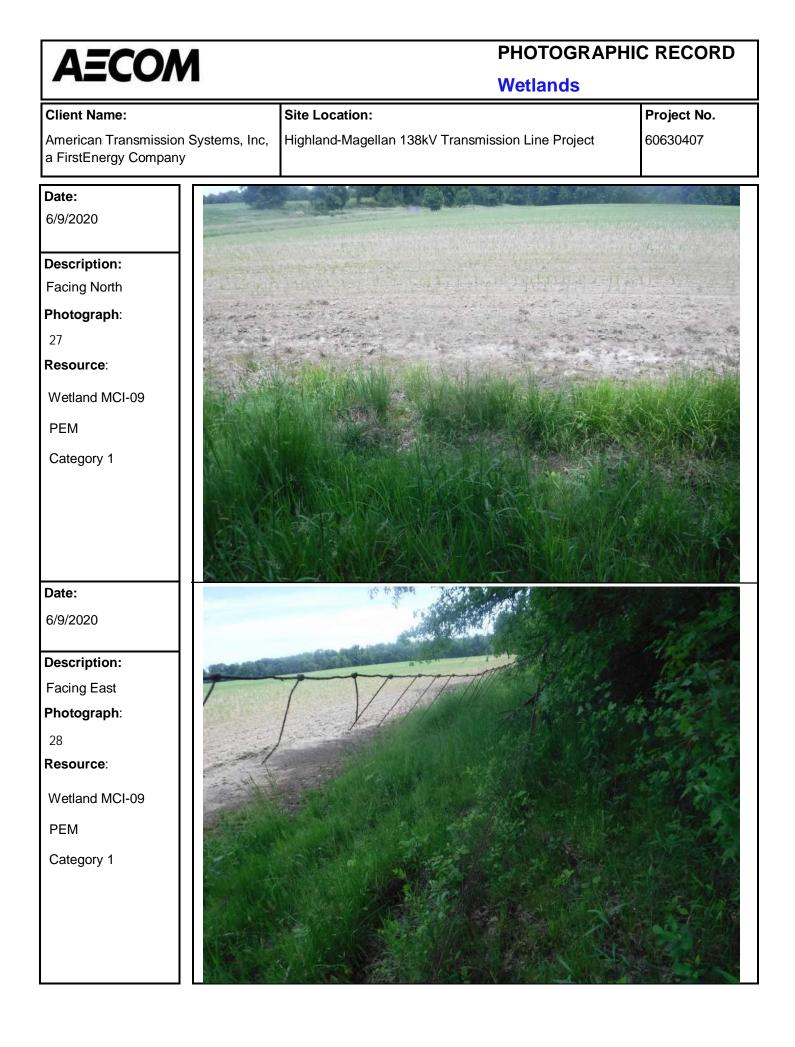
Wetlands

Project No. **Client Name:** Site Location: American Transmission Systems, Inc, Highland-Magellan 138kV Transmission Line Project 60630407 a FirstEnergy Company Date: 6/9/2020 **Description:** Facing South Photograph: 24 Resource: Wetland MCI-08a PEM Modified Category 2 Date: 6/9/2020 Description: **Facing West** Photograph: 25 Resource: Wetland MCI-08a PEM Modified Category 2

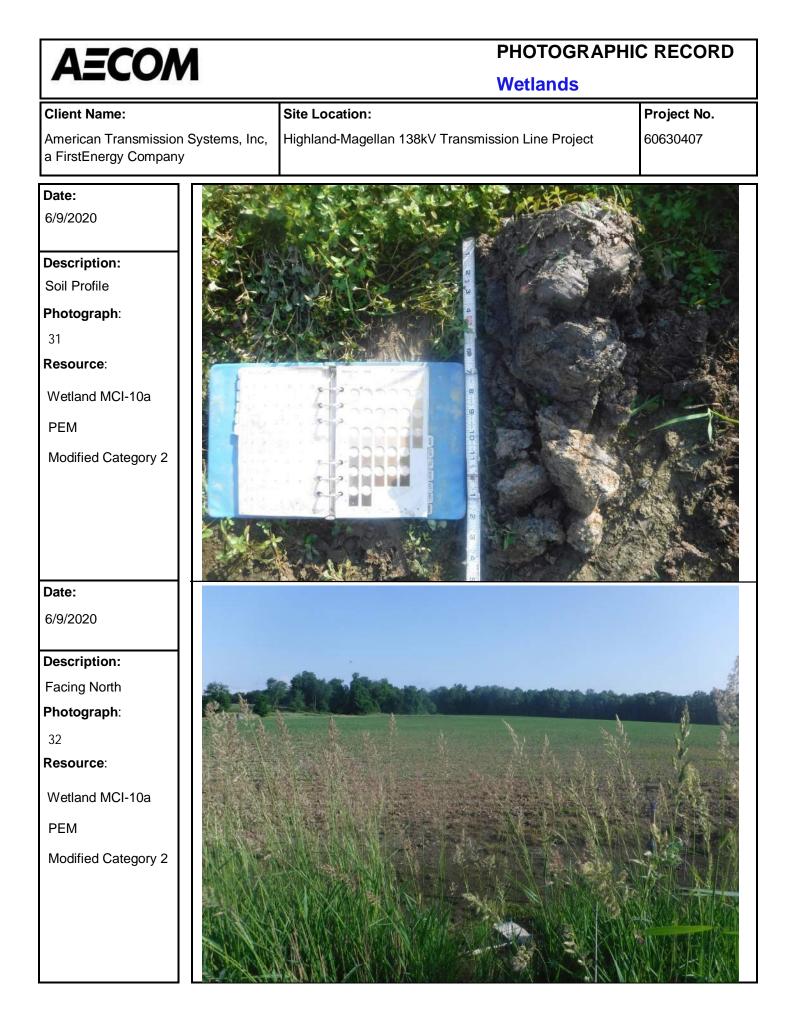


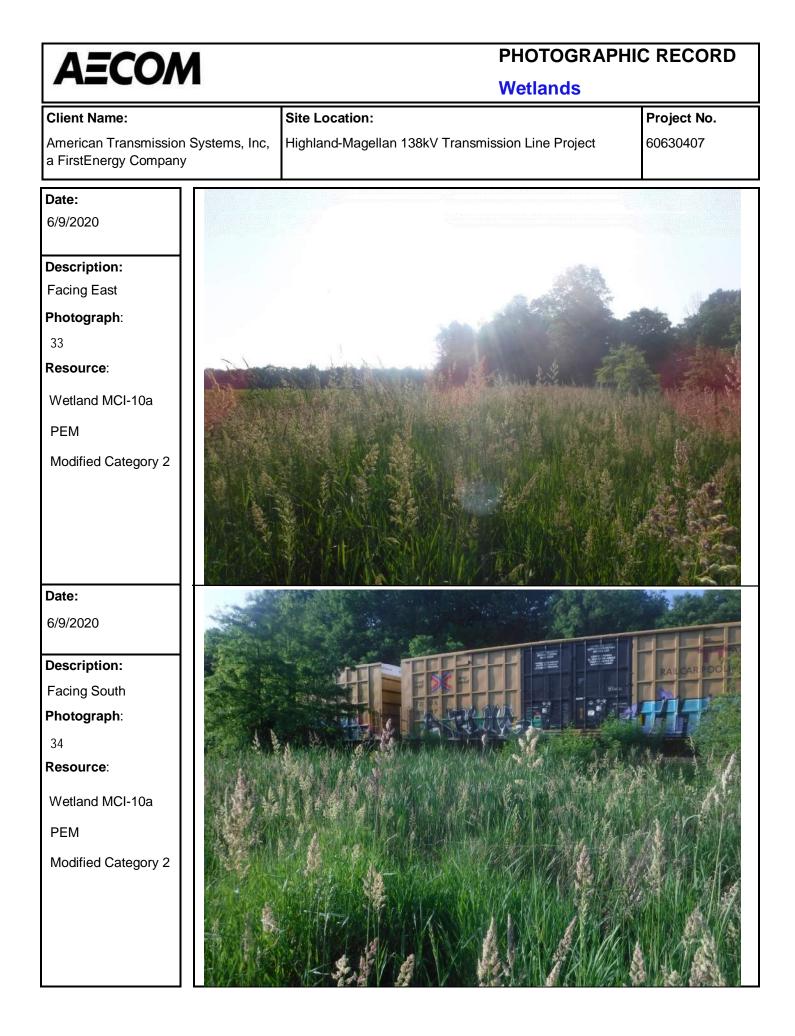


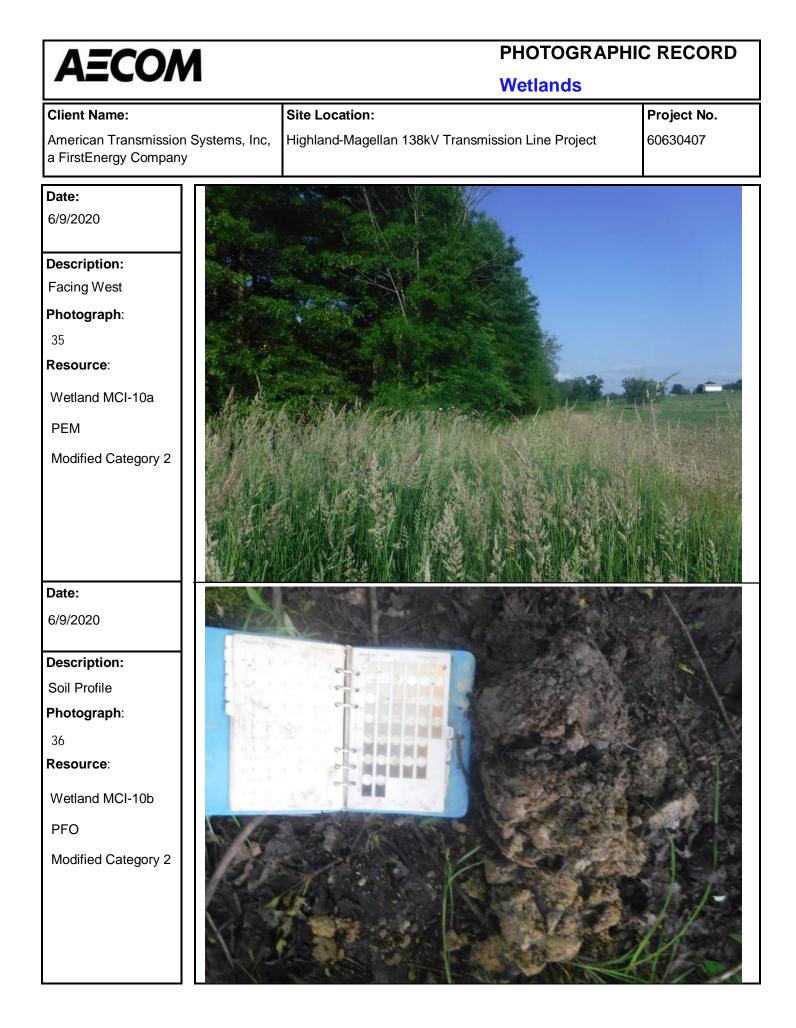


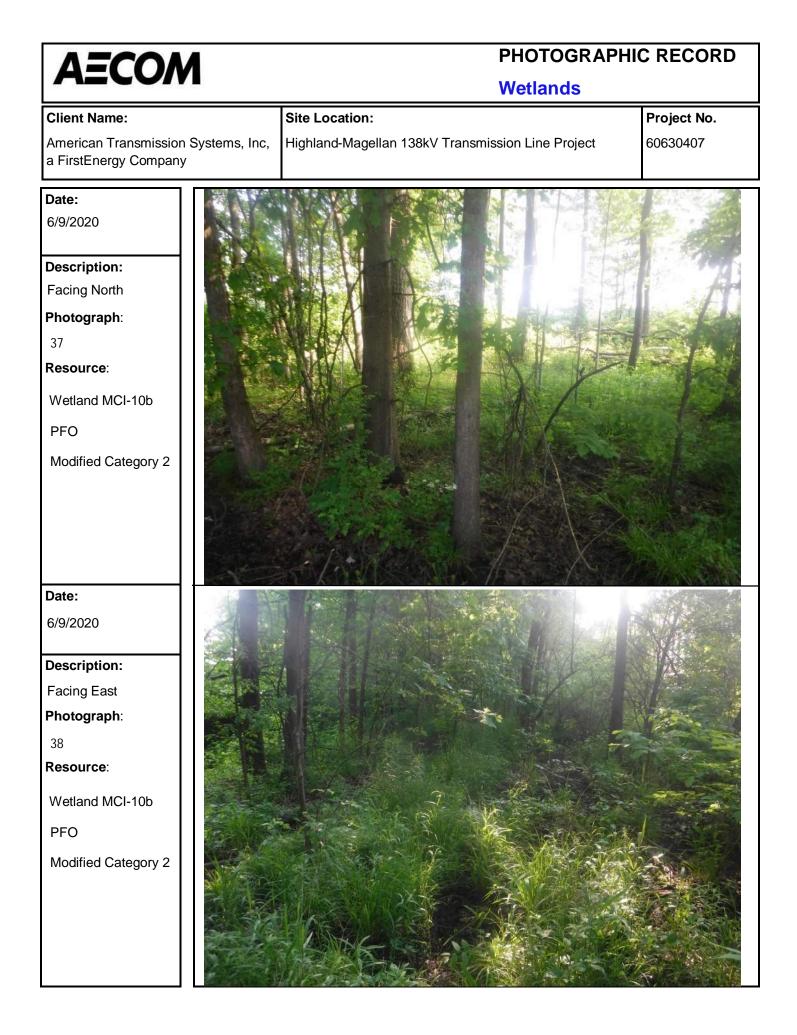












AECOM

PHOTOGRAPHIC RECORD

Wetlands

Client Name:

Description: Facing South

Photograph:

Resource:

Wetland MCI-10b

39

PFO

Date: 6/9/2020

American Transmission Systems, Inc, a FirstEnergy Company

Site Location: Highland-Magellan 138kV Transmission Line Project Project No.

60630407



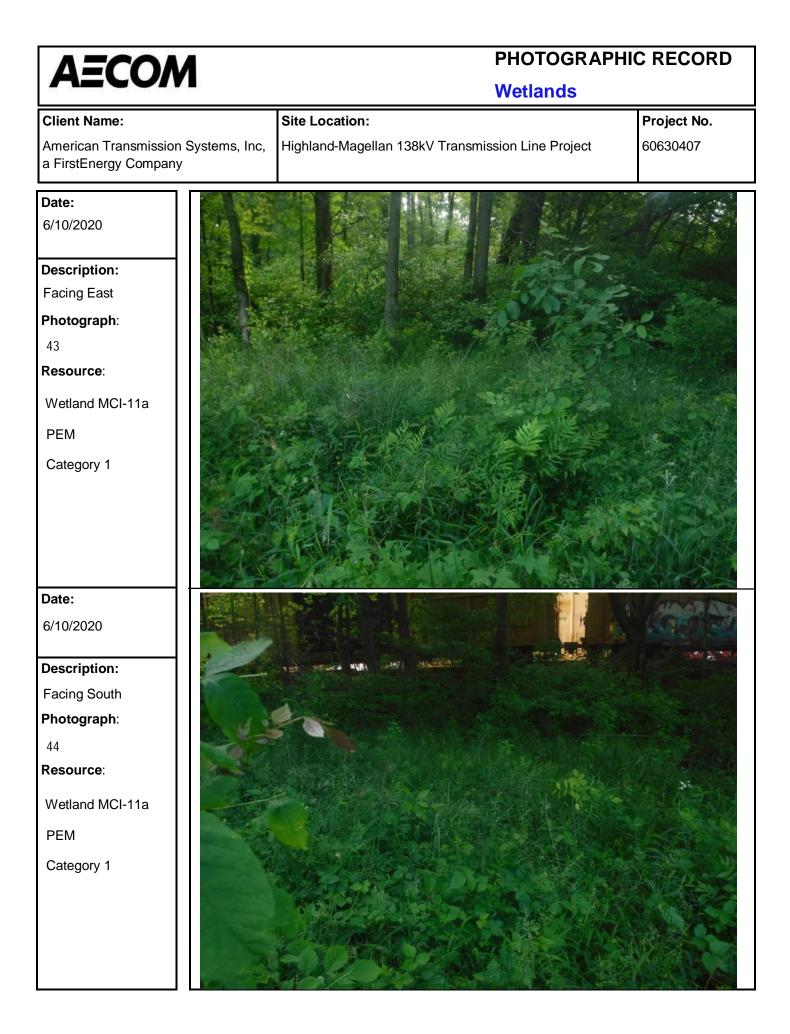
Modified Category 2 Date: 6/9/2020 Description: Facing West Photograph: 40 Resource:

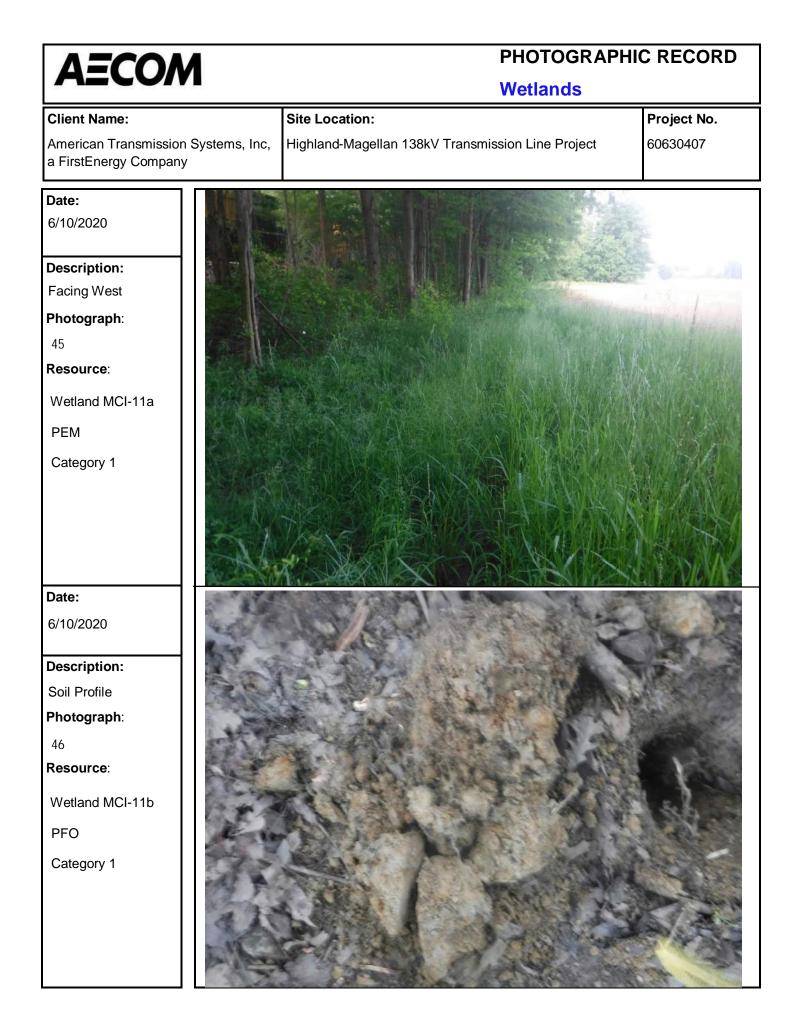
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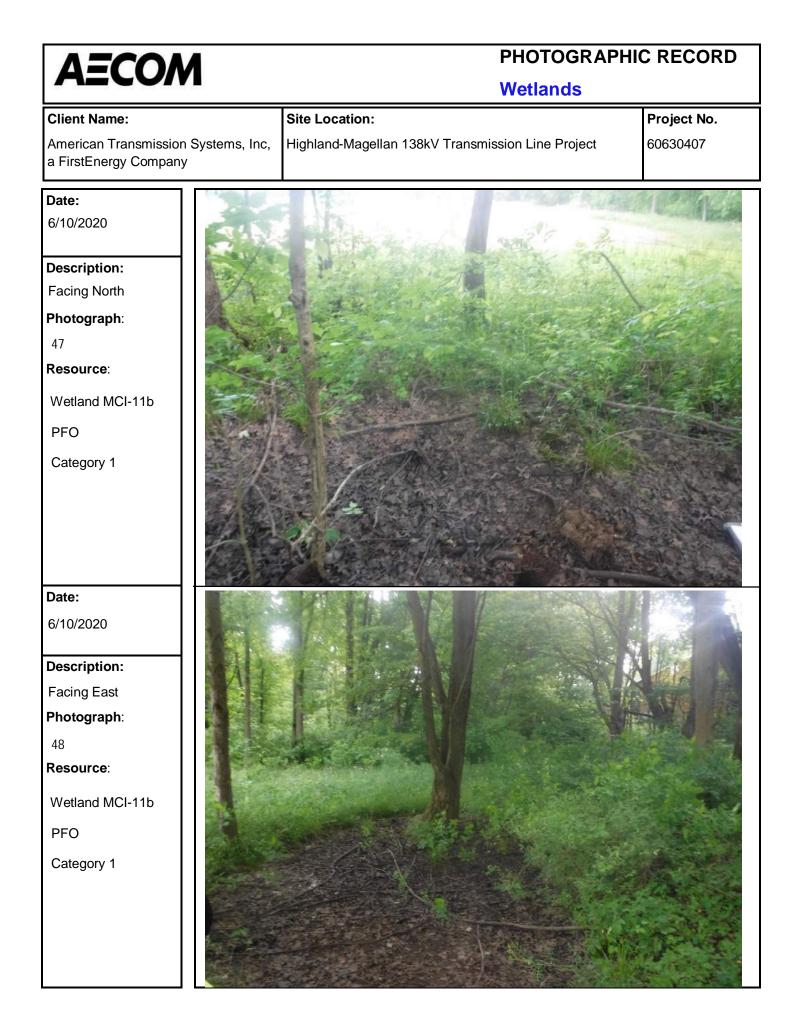
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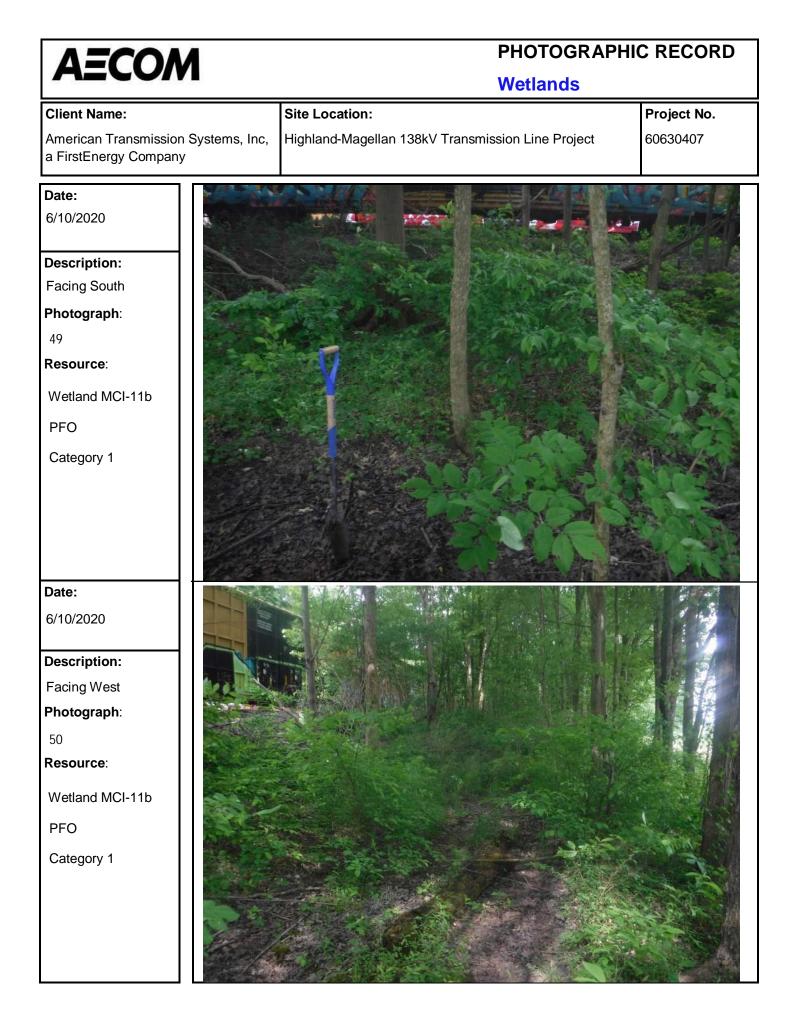
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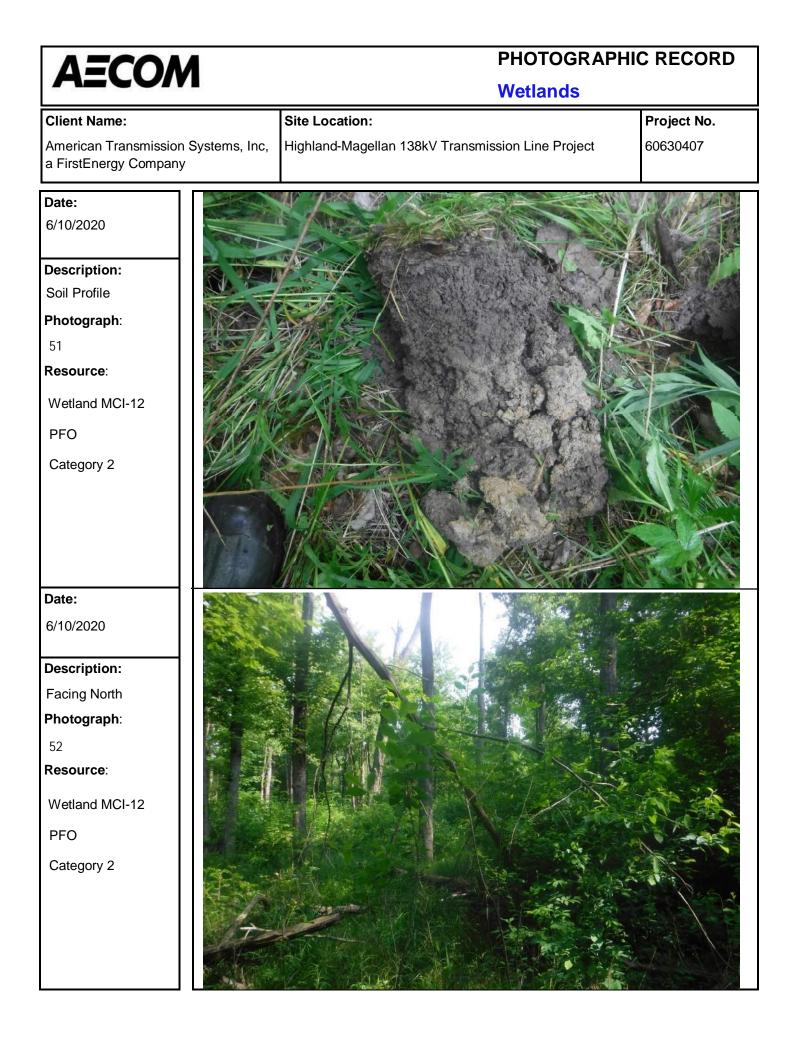


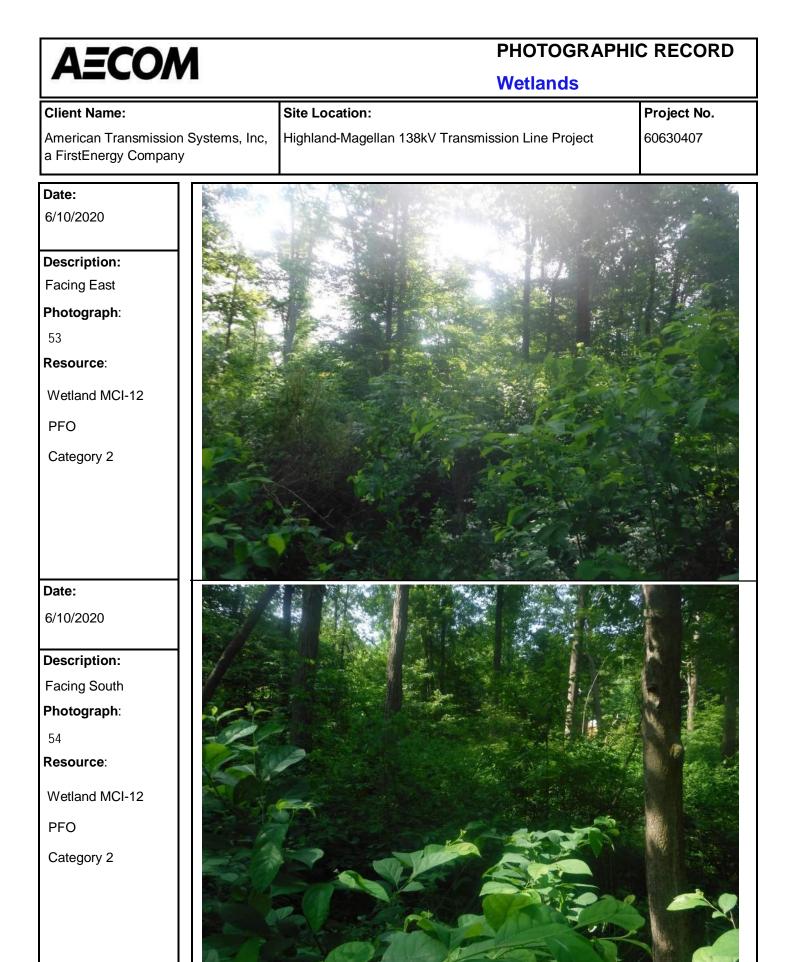


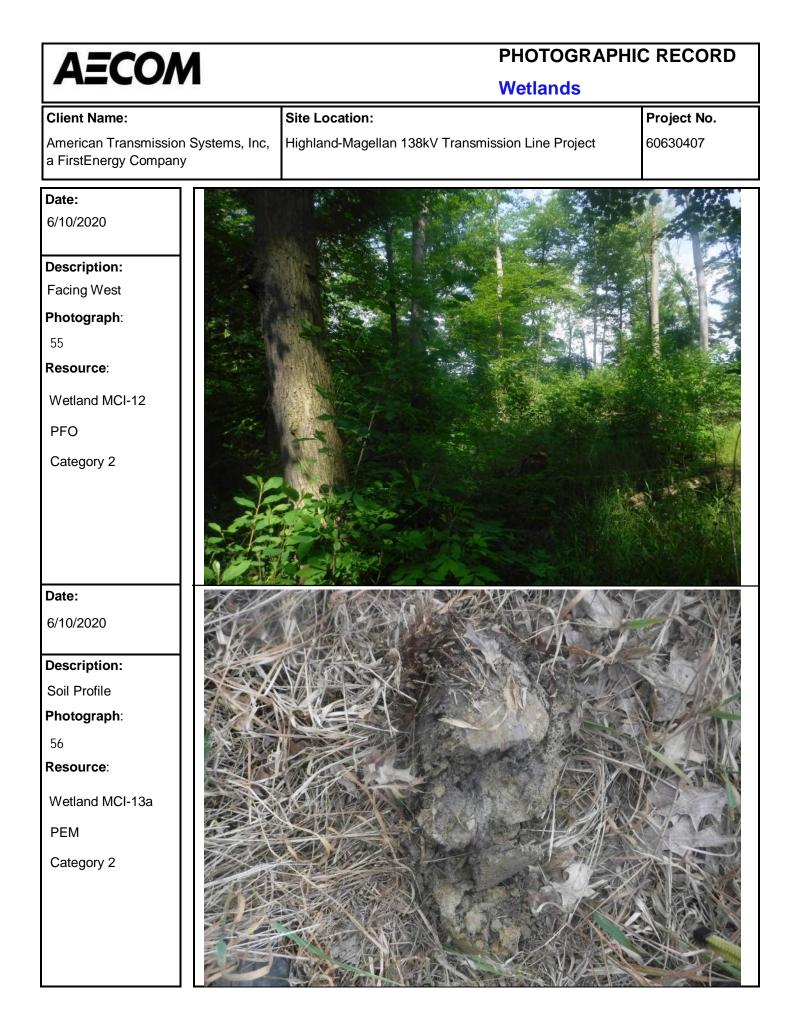


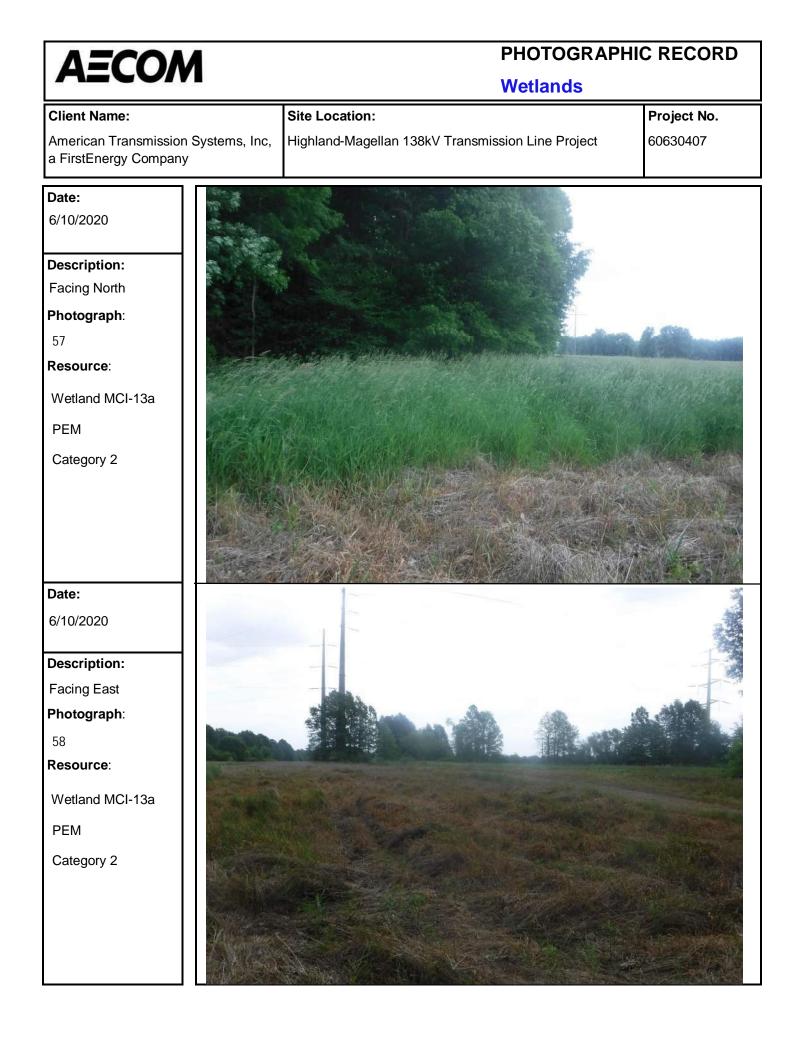




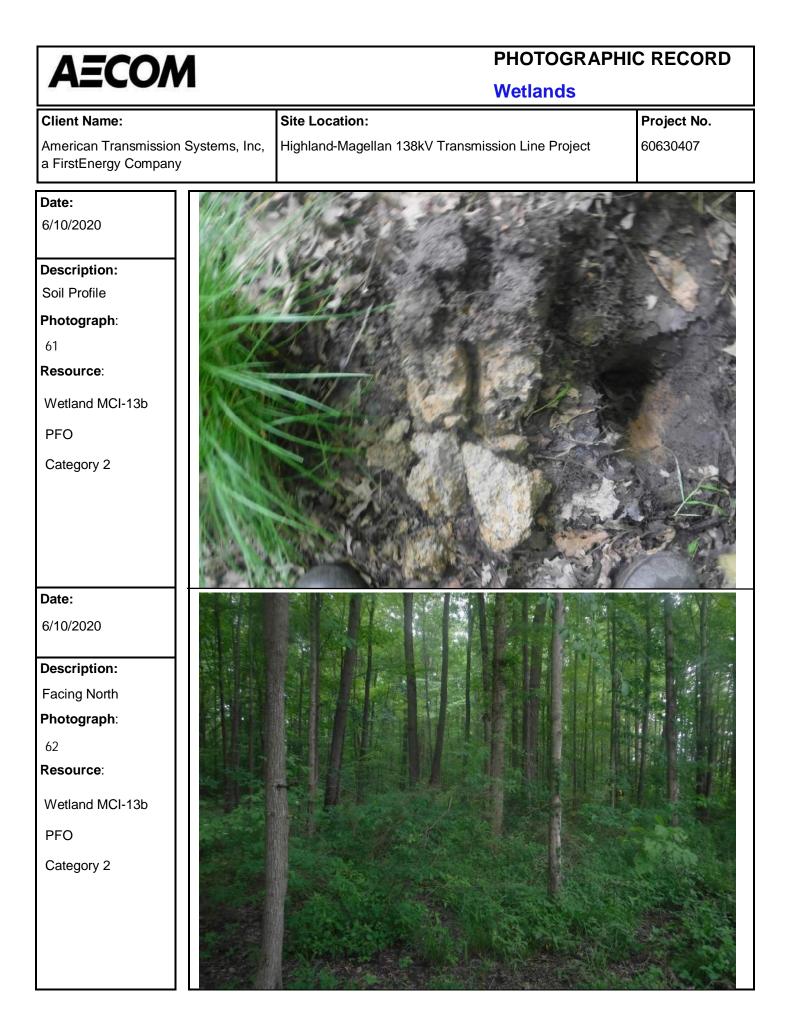


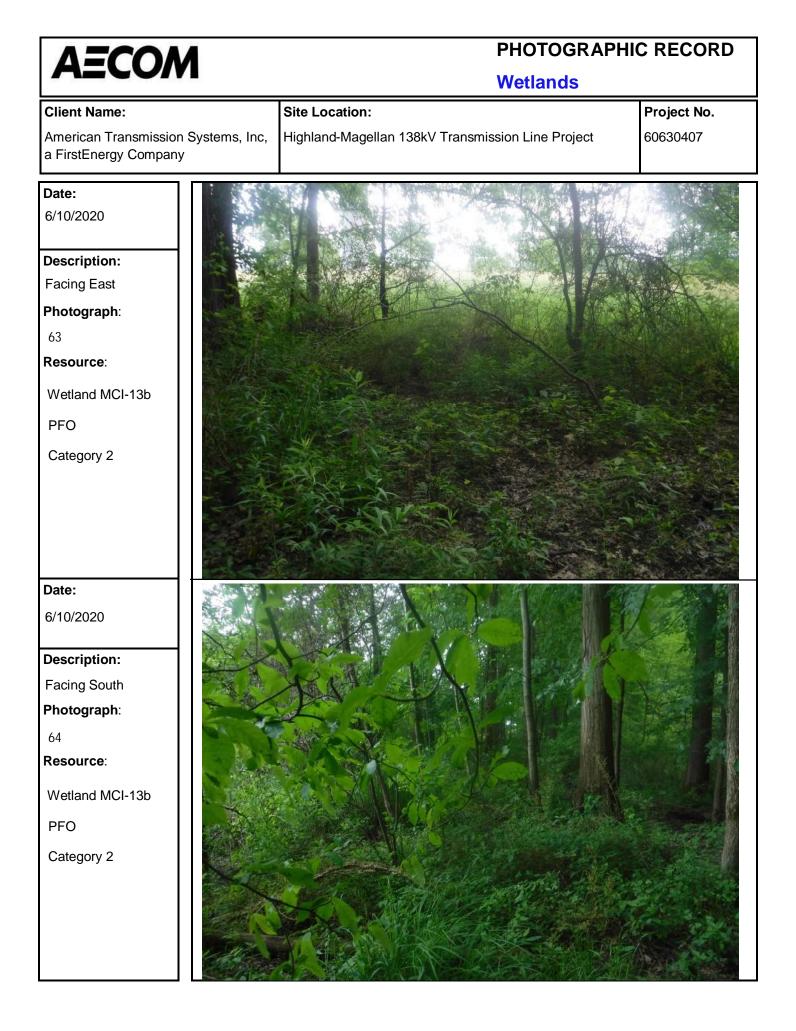


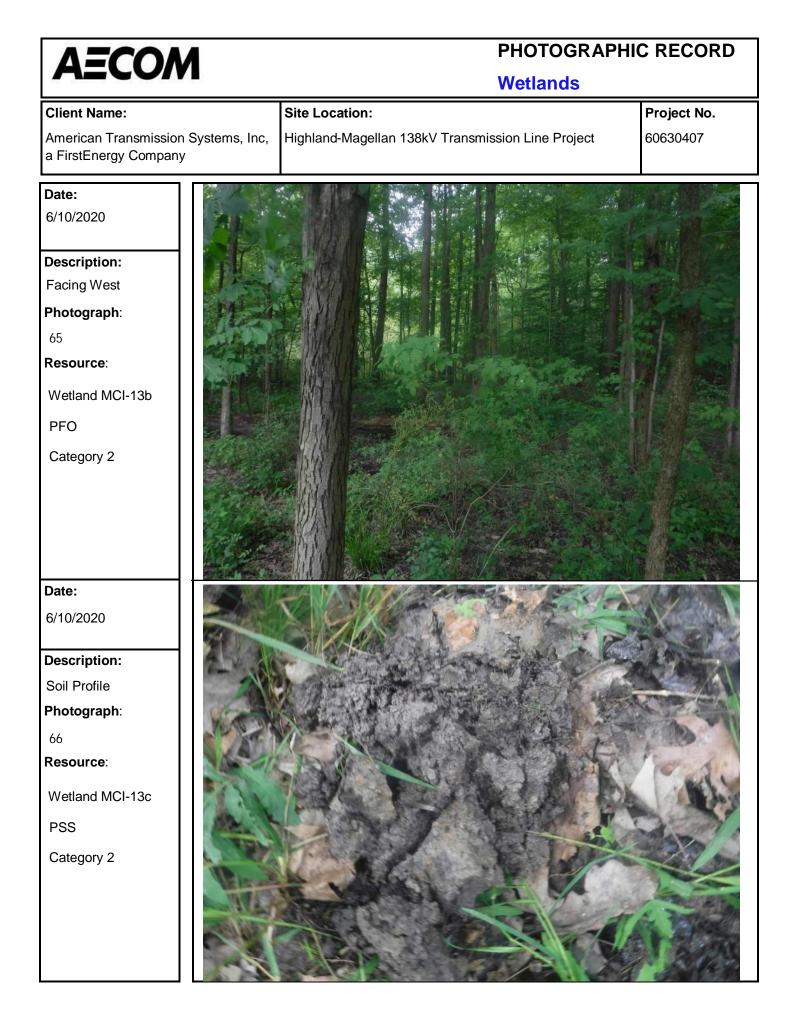


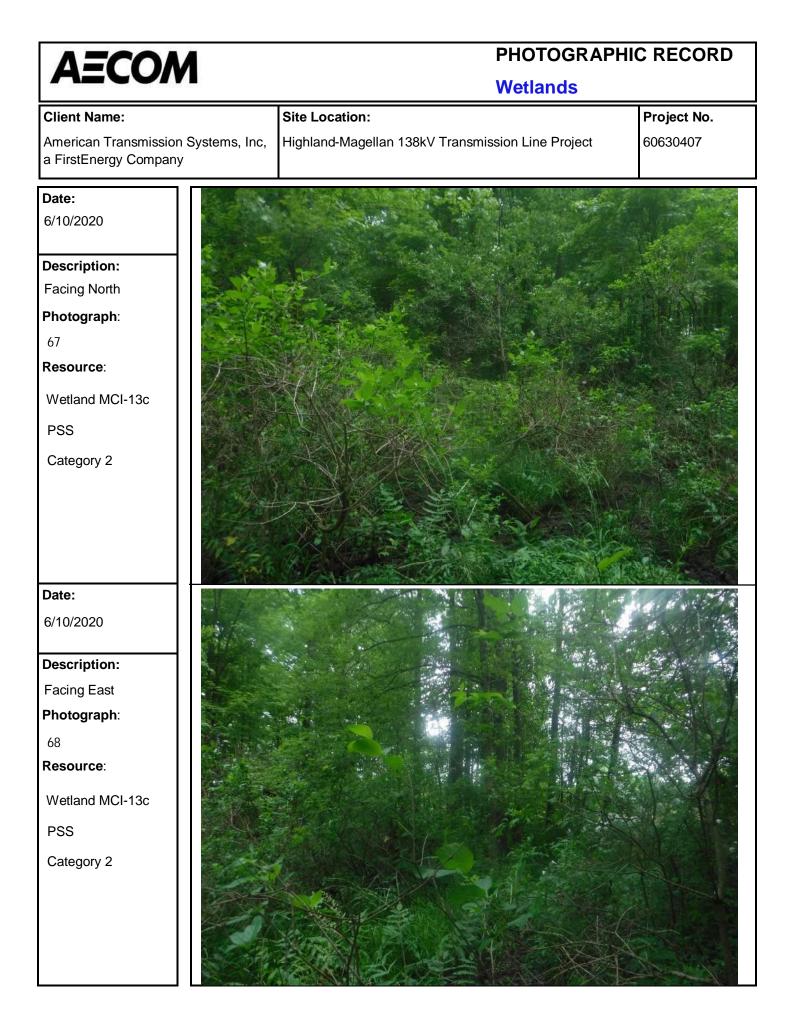


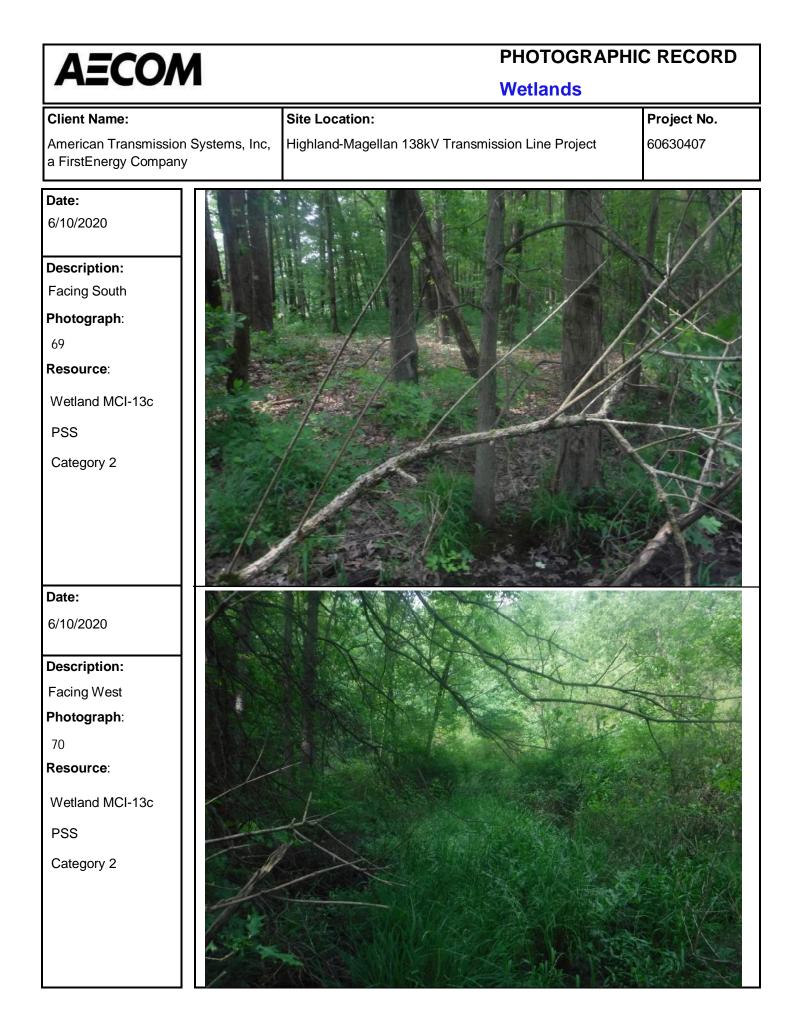


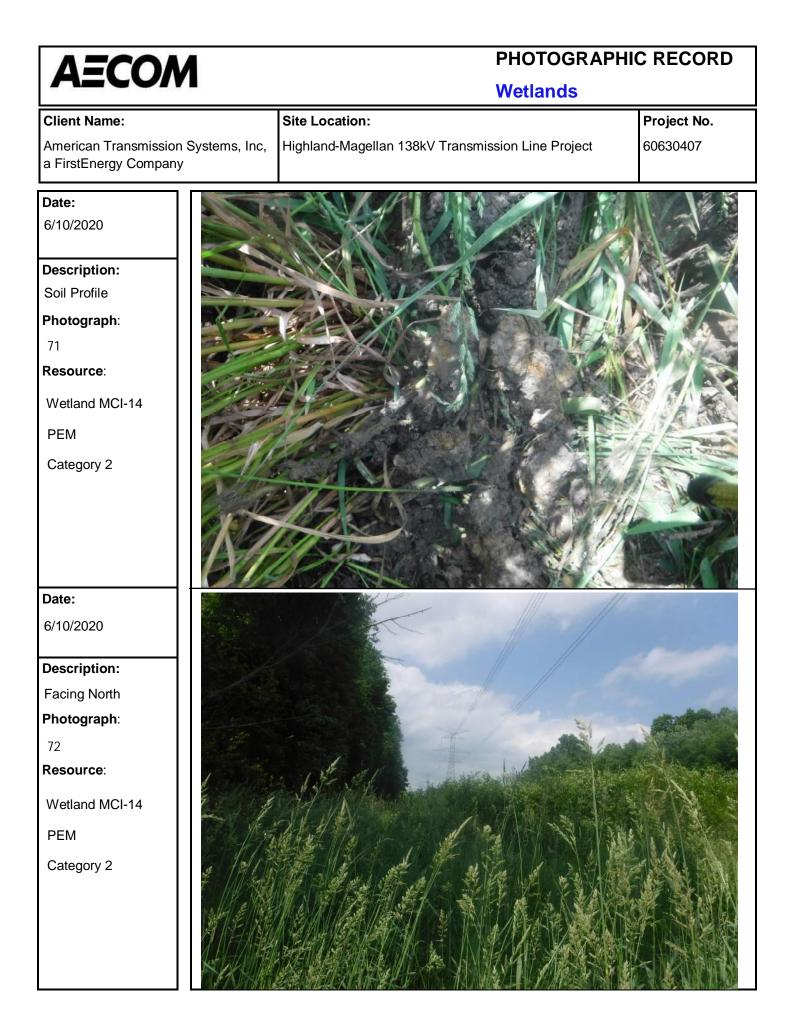


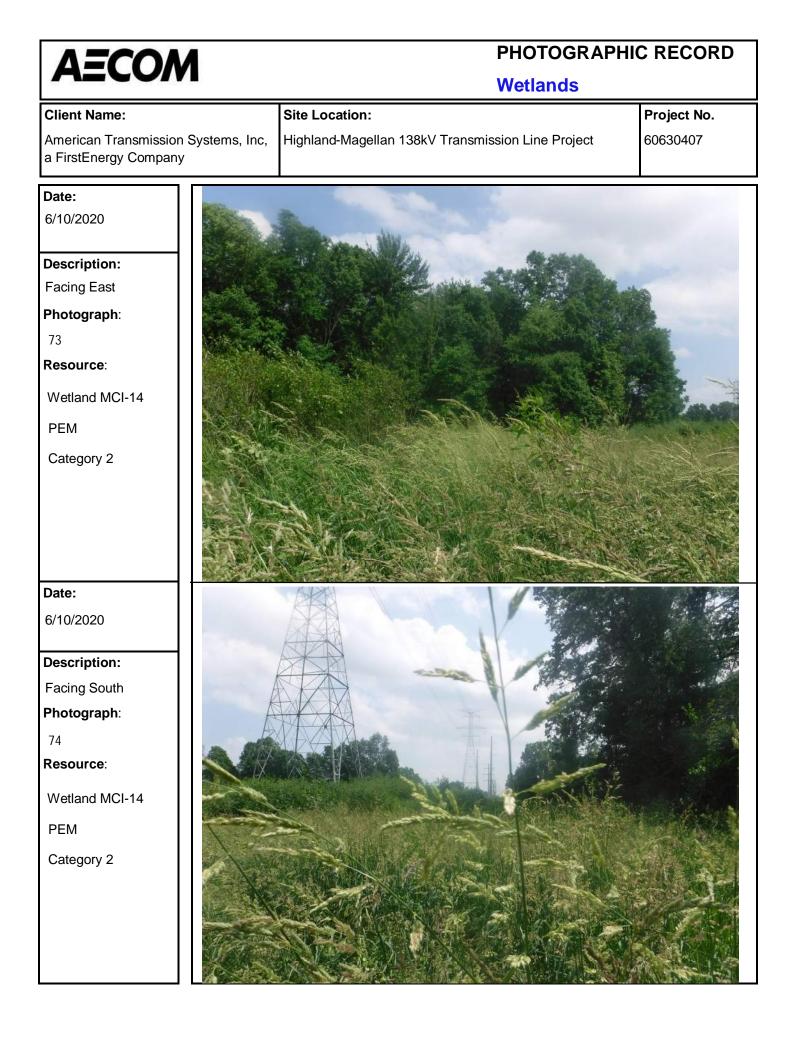






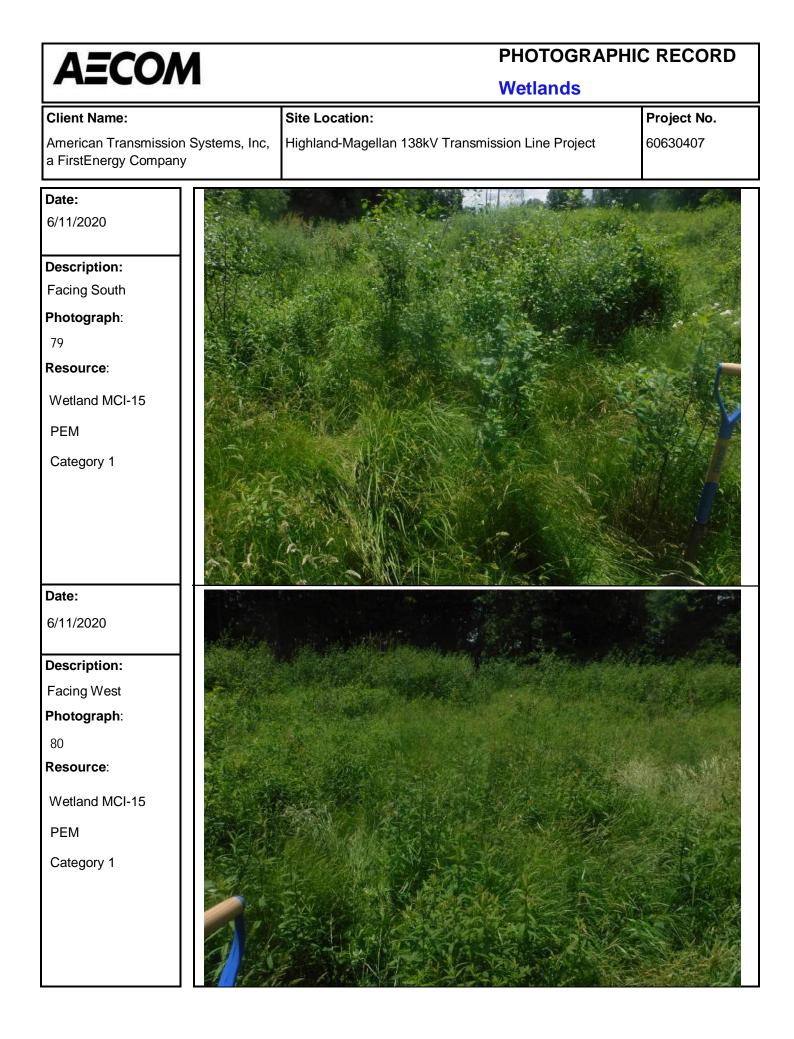


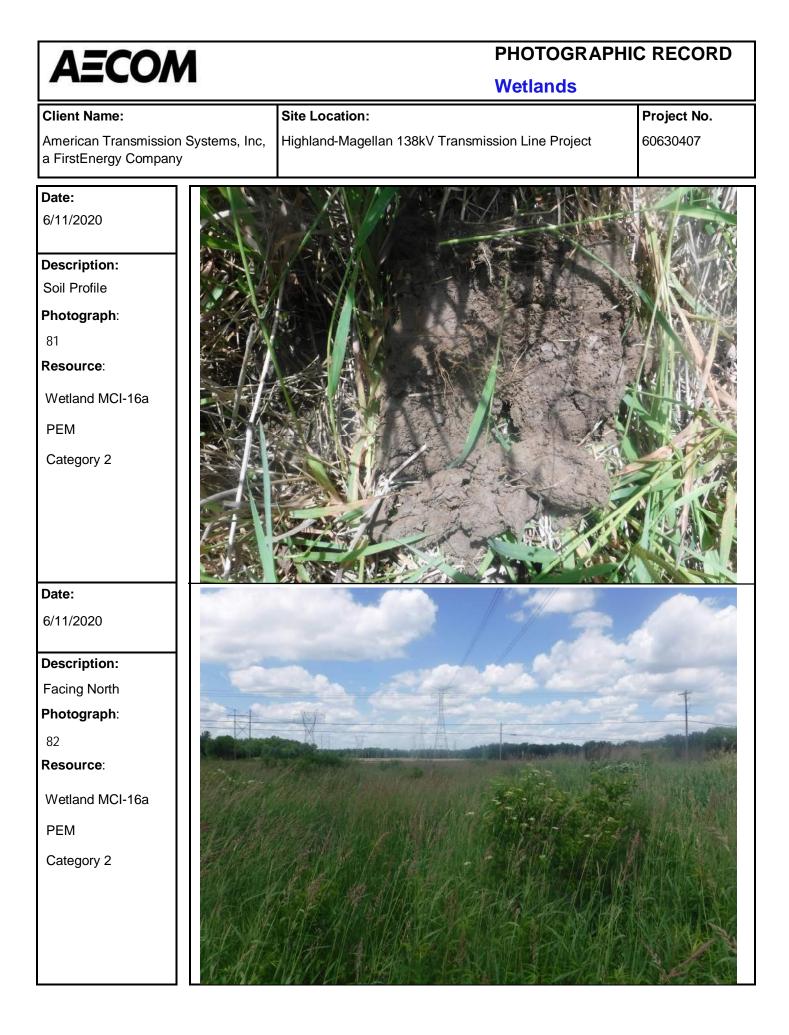


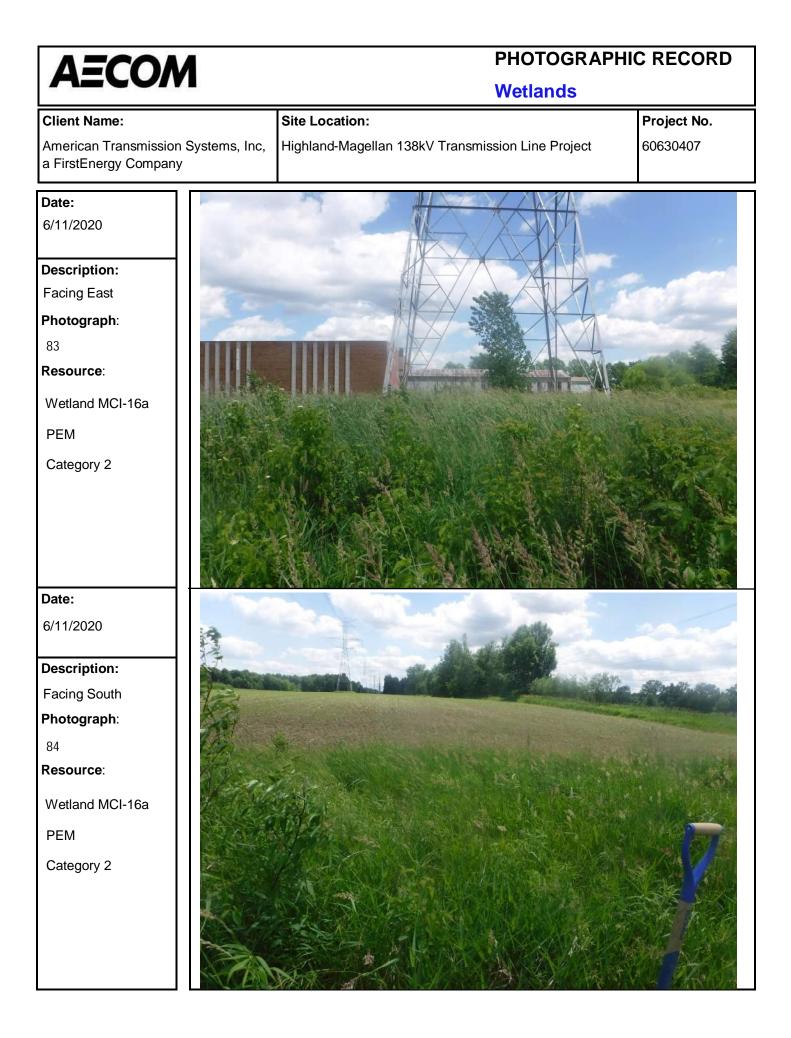


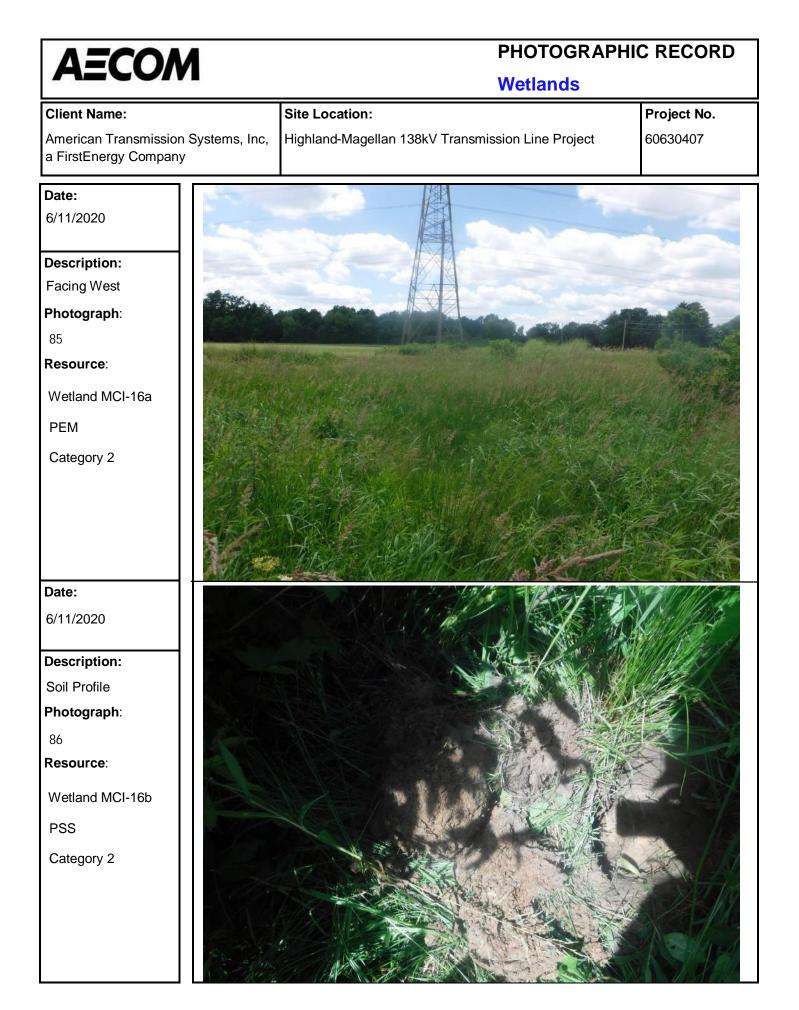


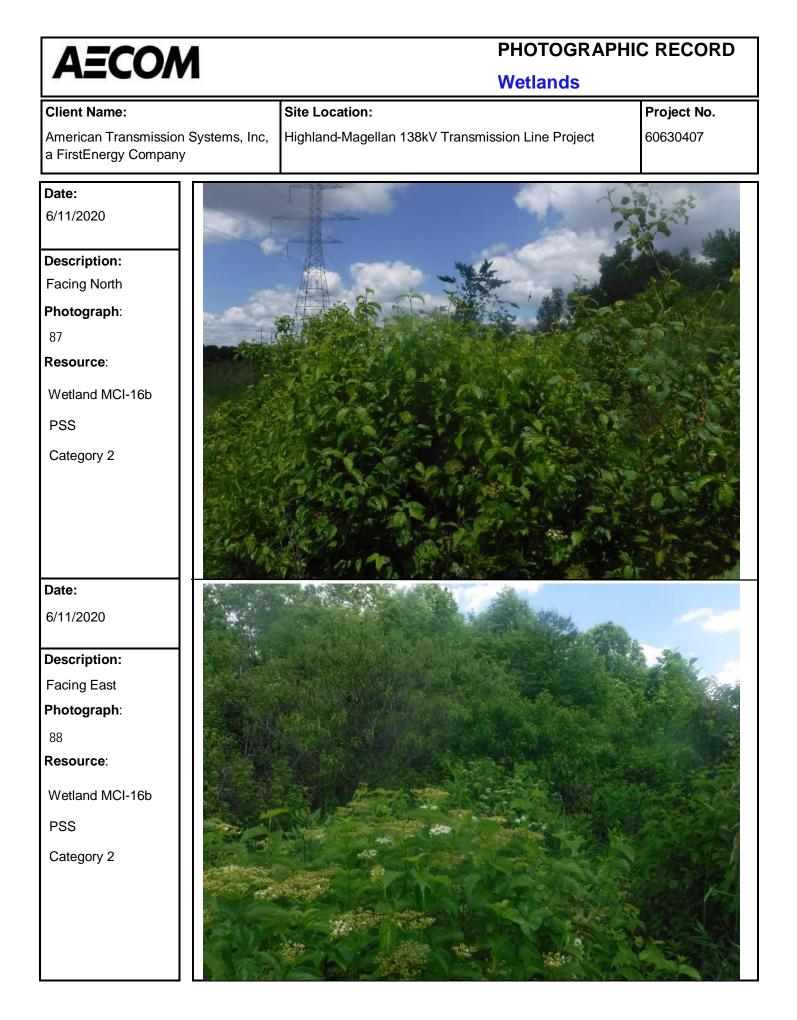


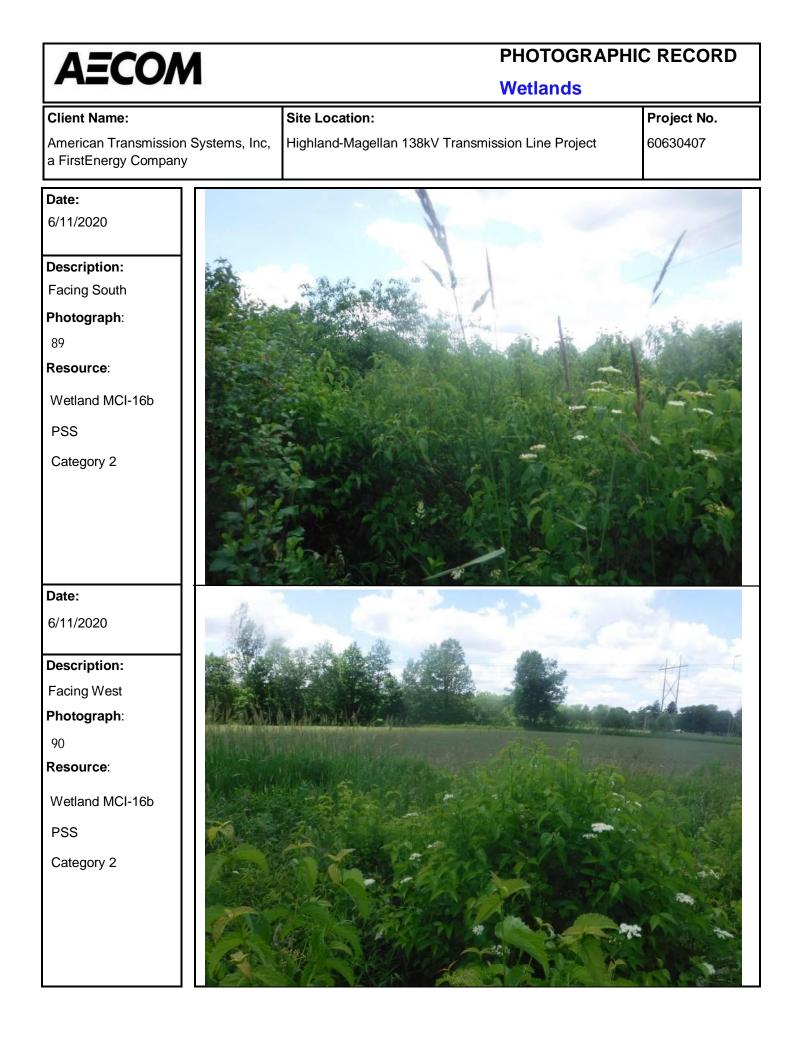


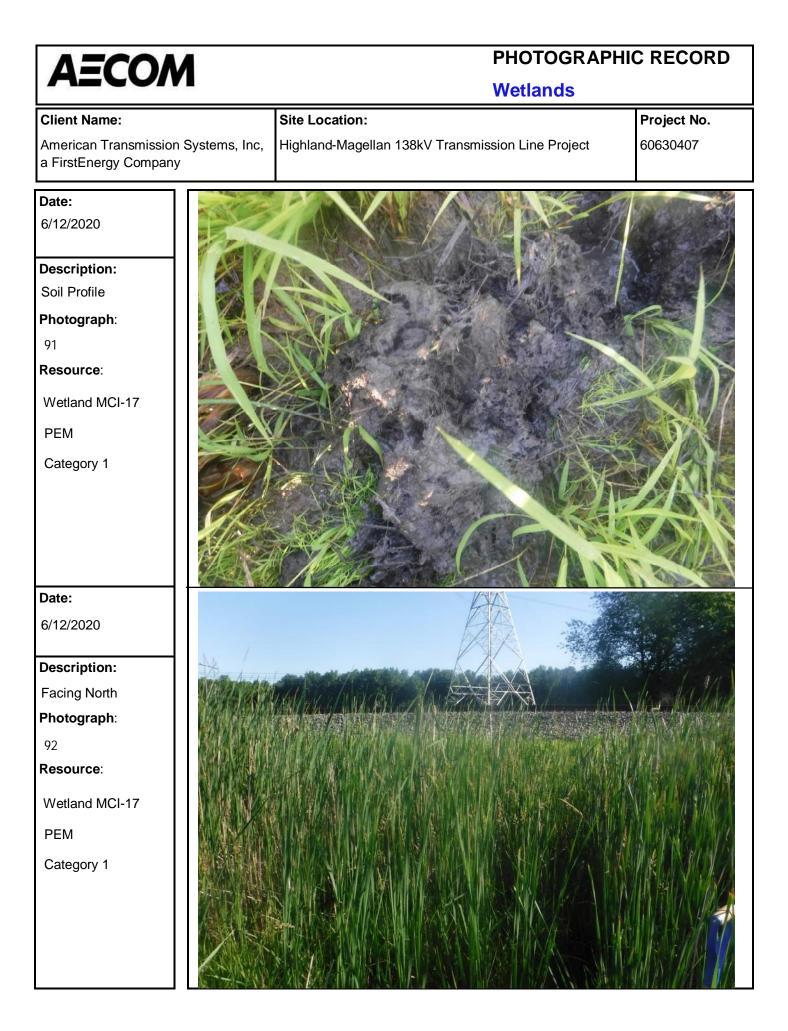


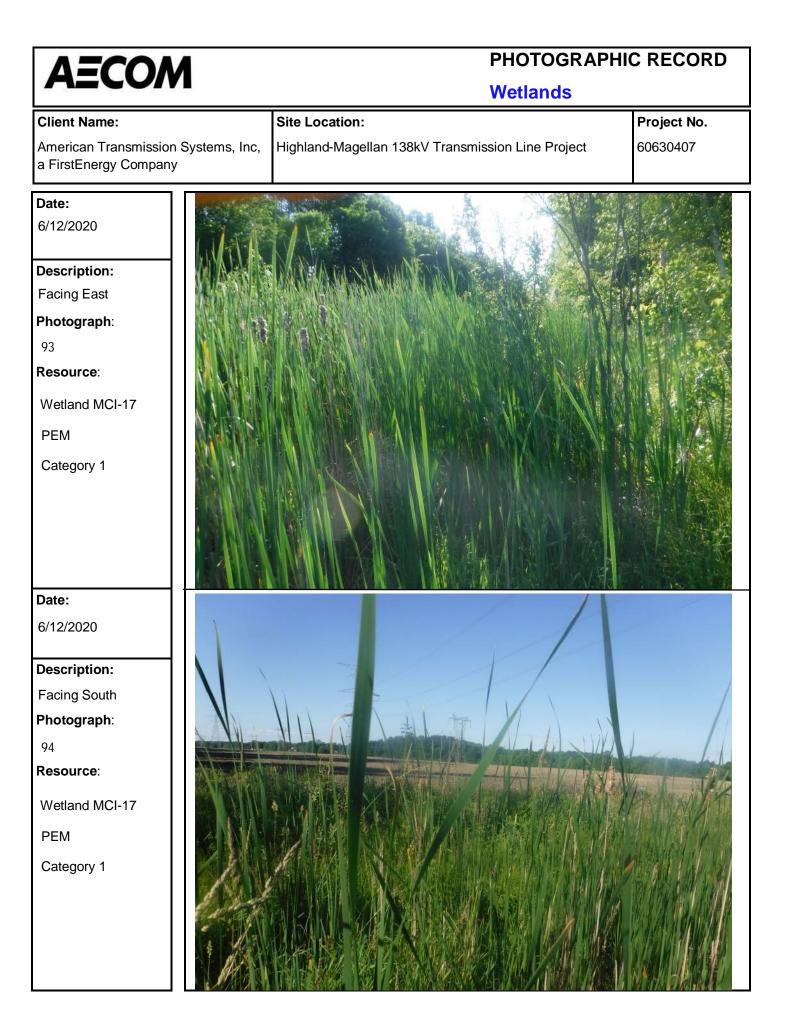


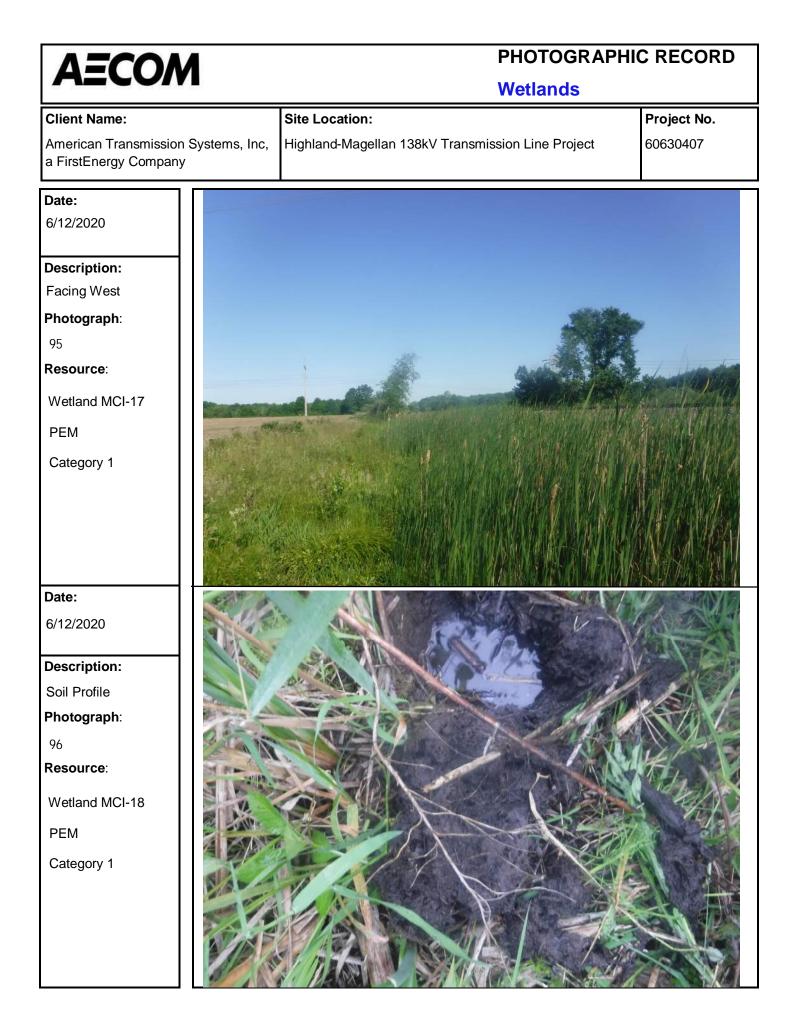












AECOM		PHOTOGRAPHIC RECORD	
	Wetlands		
Client Name:	Site Location:		Project No.
American Transmission Systems, Inc, a FirstEnergy Company	Highland-Magellan 138kV Transmissio	n Line Project	60630407
Date: 6/12/2020			
Description:			and the
Facing North			A DOL
Photograph:		the start south	
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Resource:		KO J. ANS	
Wetland MCI-18	A TO ARE ARE	MARSHAR	
PEM		INTAS D	
Category 1			
Date:		1.4.9.6.1.8	
6/12/2020			
Description:			
Facing East			
Photograph:			
98			
Resource:	VERY AND AND A MARKEN A		
Wetland MCI-18			SU13 Str
PEM			
Category 1			



