

Appendix B

USACE Routine Wetland Delineation Forms

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	Sampling Date: 9/4/14
Applicant/Owner: NRG Gas Pipeline Company LLC	State:	OH Sampling Point: WET 25.1
Investigator(s): Lauren Zielke, Steven Blitzstein, Jeff Williams	Section, Township, Range: Not Available	
Landform (hillside, terrace, etc.): depressions Lo	ocal relief (concave, convex, none):	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.3690949901	Long: -82.0681124789	Datum: WGS 84
Soil Map Unit Name: Luray silty clay loam	NWI clas	ssification: none
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes X No (If no, expla	ain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly	y disturbed? Are "Normal Circumstances"	present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally placed	oblematic? (If needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transect	ts, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X Yes X Yes X	No No No	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID:	Yes X WET 25.1	No
Remarks: (Explain alternative procedu PFO. No associated upland data form		• • • •			

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) X 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)
X Water Marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizospheres on Livin	g 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)
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	ections), if available:
Remarks:	

Sampling Point: WET 25.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	<u>60</u>	Yes	FAC	
2. Fraxinus pennsylvanica	30	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
3. Ulmus americana	5	No	FACW	
	5	No	FACW	Total Number of Dominant Species Across All Strata: 5 (B)
4. <u>Acer saccharinum</u> 5.	<u> </u>		FAGVY	Species Across All Strata: <u>5</u> (B)
6				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 0 x 1 = 0
1. Fraxinus pennsylvanica	60	Yes	FACW	FACW species 110 x 2 = 220
2. Acer rubrum	30	Yes	FAC	FAC species 100 x 3 = 300
3. Ulmus americana	10	No	FACW	FACU species $0 \times 4 = 0$
4.				UPL species $0 \times 5 = 0$
				Column Totals: 210 (A) 520 (B)
5 6.				Prevalence Index = $B/A = 2.48$
7.				Hydrophytic Vegetation Indicators:
	100	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation
<u>Herb Stratum</u> (Plot size: 5' radius)	100	- 10(a) 0000		$\frac{1}{X}$ 2 - Dominance Test is >50%
1. Toxicodendron radicans	10	Yes	FAC	X 3 - Prevalence Index is $\leq 3.0^{1}$
2.	10	165	FAU	4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6 7				be present, unless disturbed or problematic. Definitions of Vegetation Strata:
7. <u>.</u> 8.				
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10.				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	10	=Total Cover		of size, and woody plants less than 3.28 ft tall.
<u>Woody Vine Stratum</u> (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				Hydrophytic
3				Vegetation
4				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa				
herbaceous stratum extremely limited and virtually n	on-existant			

SOIL

Depth	scription: (Describe t Matrix	o the de		ment the x Feature		or or coi	nfirm the absence of	of Indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0 - 18	10YR 4/1	90	10YR 3/6	10	С	М	Mucky Loam/Clay	Prominen	t redox conce	entrations
·										
·										
·										
					. <u></u>					
·		·								
	Concentration, D=Depl	etion, RN	I=Reduced Matrix, C	S=Cover	ed or Coa	ated San		ation: PL=Po		
•	il Indicators:				(0.0) (1. –		Indicators fo		•	
Histos		-	Polyvalue Below	/ Surface	(S8) (LR	RR,		ck (A10) (LRR		,
	Epipedon (A2) Histic (A3)		MLRA 149B) Thin Dark Surfa	ne (SQ) (I				airie Redox (A cky Peat or Pe		
	gen Sulfide (A4)	-	High Chroma Sa					e Below Surfa		
	ed Layers (A5)	-	Loamy Mucky M					Surface (S9)		, _/
	ed Below Dark Surface	e (A11)	Loamy Gleyed N			. ,		ganese Masse		R K, L, R)
Thick [Dark Surface (A12)		Depleted Matrix	(F3)			Piedmon	t Floodplain S	oils (F19) (M	LRA 149B)
Sandy	Mucky Mineral (S1)	_	X Redox Dark Sur	face (F6)	1			odic (TA6) (M		45, 149B)
	Gleyed Matrix (S4)	-	Depleted Dark S		7)			ent Material (F		
	Redox (S5)	-	Redox Depressi					llow Dark Sur		
	ed Matrix (S6)	-	Marl (F10) (LRR	K, L)			Other (E)	plain in Rema	arks)	
Dark S	Surface (S7)									
³ Indicators	of hydrophytic vegetat	on and w	etland hydrology mu	st be pre	sent unle	ess distu	rbed or problematic			
	E Layer (if observed):		onalia injarology ina	ot 20 p.0	cont, and					
Depth (in	nches):						Hydric Soil Pre	sent?	Yes X	No
Remarks:	·									
	s revised from Northce	ntral and	Northeast Regional	Supplem	ent Versi	on 2.0 to	reflect the NRCS F	ield Indicators	of Hydric So	ils version
7.0 March 2	2013 Errata. (http://soil	s.usda.go	ov/use/hydric)							

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	<u>san</u>	npling Date: 9/4/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH	Sampling Point: WET 32.1
Investigator(s): Lauren Zielke, Steven Blitzstein, Jeff Williams	Section, Township, Range:	Not Available	
Landform (hillside, terrace, etc.): depressions	ocal relief (concave, convex	, none): <u>concave</u>	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.325777587	1 Long:	82.0608628962	Datum: WGS 84
Soil Map Unit Name: Trumbull silty clay loam, 0 to 2 percent slopes		NWI classification	n: PFO1C
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes <u>X</u> No	(If no, explain in Re	marks.)
Are Vegetation, Soil, or Hydrologysignificant	y disturbed? Are "Norma	I Circumstances" present	? Yes X No
Are Vegetation, Soil, or Hydrologynaturally p	roblematic? (If needed,	explain any answers in Re	emarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locati	ons, transects, imp	ortant features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID: WET 32.1
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	
Remarks: (Explain alternative procedur PFO. No associated upland data form;			• • •	

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	X Surface Soil Cracks (B6)
Surface Water (A1) X 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)
X Water Marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizospheres on Living	g 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)
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes X No
Saturation Present? Yes No X Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
(includes capillary fringe)	
(includes capillary fringe)	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
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(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	

Sampling Point: WET 32.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Ulmus americana	70	Yes	FACW	Number of Dominant Species
2. Acer rubrum	30	Yes	FAC	That Are OBL, FACW, or FAC: 6 (A)
3.				Tatal Number of Deminant
4.				Total Number of Dominant Species Across All Strata: 6 (B)
5.				Dereent of Deminent Species
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:15' radius)				OBL species 0 x 1 = 0
1. Ulmus americana	60	Yes	FACW	FACW species 150 x 2 = 300
2. Acer rubrum	20	Yes	FAC	FAC species60 x 3 =180
3. Fraxinus pennsylvanica	20	Yes	FACW	FACU species 0 x 4 = 0
4.				UPL species 0 x 5 = 0
5.				Column Totals: 210 (A) 480 (B)
6.				Prevalence Index = B/A = 2.29
7.				Hydrophytic Vegetation Indicators:
	100	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)				X 2 - Dominance Test is >50%
1. Toxicodendron radicans	10	Yes	FAC	X 3 - Prevalence Index is $\leq 3.0^1$
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				¹ Indicators of hydric soil and wetland hydrology must
6.				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in. (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10.				Sapling/shrub – Woody plants less than 3 in. DBH
11.				and greater than or equal to 3.28 ft (1 m) tall.
12.				Herb – All herbaceous (non-woody) plants, regardless
	10	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2.				
3.				Hydrophytic Vegetation
4.				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa herbaceous stratum extremely limited and virtually no				•

SOIL

Profile De	escription: (Describe	to the de				or or cor	nfirm the absence of	of indicators.)
Depth	Matrix			x Featur				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 3	10YR 3/1						Mucky Loam/Clay	
3 - 18	10YR 4/1	70	10YR 4/6	30	С	М	Mucky Loam/Clay	Prominent redox concentrations
¹ Type: C=	Concentration, D=De	oletion, R	M=Reduced Matrix, C	S=Cove	red or Coa	ated San	d Grains. ² Loc	cation: PL=Pore Lining, M=Matrix.
Hydric So	oil Indicators:						Indicators fo	r Problematic Hydric Soils ³ :
Histo	sol (A1)		Polyvalue Belov	v Surface	e (S8) (LR	R R,	2 cm Muo	ck (A10) (LRR K, L, MLRA 149B)
	: Epipedon (A2)		MLRA 149B)					airie Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surfa					cky Peat or Peat (S3) (LRR K, L, R)
	ogen Sulfide (A4)		High Chroma Sa			-		e Below Surface (S8) (LRR K, L)
	fied Layers (A5)		Loamy Mucky M			(, L)		Surface (S9) (LRR K, L)
	eted Below Dark Surface	ce (A11)	Loamy Gleyed N		2)			ganese Masses (F12) (LRR K, L, R)
	Dark Surface (A12)		Depleted Matrix		、			t Floodplain Soils (F19) (MLRA 149B)
	y Mucky Mineral (S1)		X Redox Dark Sur					odic (TA6) (MLRA 144A, 145, 149B)
	y Gleyed Matrix (S4) y Redox (S5)		Depleted Dark S					ent Material (F21) Ilow Dark Surface (TF12)
	ped Matrix (S6)		Redox Depressi Marl (F10) (LRR					(plain in Remarks)
	Surface (S7)			κ κ, Ε)				
³ Indicators	s of hydrophytic vegeta	ation and	wetland hydrology mu	ust be pre	esent. unle	ess distu	rbed or problematic.	
	ve Layer (if observed)				,			
Type:	,							
Depth (i	inches):						Hydric Soil Pre	sent? Yes X No
Remarks:		entral an	d Northeast Regional	Supplen	ant Versi	on 2 0 to	reflect the NRCS F	ield Indicators of Hydric Soils version
	2013 Errata. (http://sc			Cuppion		2.0 10		

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	<u>/</u> Sar	mpling Date: 9/3/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH	Sampling Point: WET 33.1
Investigator(s): Lauren Zielke, Steven Blitzstein, Jeff Williams	Section, Township, Range:	Not Available	
Landform (hillside, terrace, etc.): till plains	ocal relief (concave, convex	, none): concave	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.324634369	9 Long:	-82.0614139129	Datum: WGS 84
Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes		NWI classificatio	n: none
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	(If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrologysignificant	y disturbed? Are "Norma	I Circumstances" present	? Yes <u>X</u> No
Are Vegetation, Soil, or Hydrologynaturally p	roblematic? (If needed,	explain any answers in Re	emarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locati	ons, transects, imp	ortant features, etc.

Hydrophytic Vegetation Present? Yes Х No Is the Sampled Area Hydric Soil Present? Yes Х No within a Wetland? Yes X No Wetland Hydrology Present? Yes Х If yes, optional Wetland Site ID: WET 33.1 No Remarks: (Explain alternative procedures here or in a separate report.) PFO

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required;	check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)	X 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)
X Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Livin	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 in Tilled	Soils (C6)	X 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)
X Sparsely Vegetated Concave Surface (B8)			X FAC-Neutral Test (D5)
Field Observations:			
Surface Water Present? Yes No	X Depth (inches):		
Water Table Present? Yes No	X Depth (inches):		
Saturation Present? Yes No	X Depth (inches):	Wetland Hy	/drology Present? Yes X No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monito	ring well, aerial photos, previous inspe	ections), if ava	ilable:
Remarks:			

Sampling Point: WET 33.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	60	Yes	FAC	
2. Quercus palustris	20	Yes	FACW	Number of Dominant SpeciesThat Are OBL, FACW, or FAC:4(A)
3. Ulmus americana	20	Yes	FACW	
4		105		Total Number of Dominant Species Across All Strata: <u>5</u> (B)
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)
7.		·		Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 80 x 1 = 80
1. Fraxinus americana	80	Yes	FACU	FACW species 75 x 2 = 150
2. Quercus bicolor	10	No	FACW	FAC species 65 x 3 = 195
3. Ulmus americana	10	No	FACW	FACU species 80 x 4 = 320
4.				UPL species $0 \times 5 = 0$
				Column Totals: 300 (A) 745 (B)
5 6.				$\frac{1}{2} \frac{1}{2} \frac{1}$
7.				Hydrophytic Vegetation Indicators:
···	100	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)	100			X 2 - Dominance Test is >50%
	80	Voo	OBL	X 3 - Prevalence Index is $\leq 3.0^{10}$
1. <i>Glyceria striata</i>	-	Yes		4 - Morphological Adaptations ¹ (Provide supporting
2. Impatiens capensis		No	FACW	data in Remarks or on a separate sheet)
3. Fraxinus pennsylvanica	5	No	FACW	
4. Toxicodendron radicans	5	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
5 6				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8		·		Tree – Woody plants 3 in. (7.6 cm) or more in
9		·		diameter at breast height (DBH), regardless of height.
10 11		·		Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:) 1.				Woody vines – All woody vines greater than 3.28 ft in height.
		·		
		·		Hydrophytic
3		. <u> </u>		Vegetation
4.				Present?
Demention (Include schools sound a school		=Total Cover		1
Remarks: (Include photo numbers here or on a sepa	irate sheet.)			

Depth	Matrix			x Feature			_	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 2	10YR 2/1	98	10YR 3/6	2	С	Μ	Loamy/Clayey	Prominent redox concentrations
2 - 18	10YR 4/1	80	10YR 4/6	20	<u> </u>	<u>M</u>	Loamy/Clayey	Prominent redox concentrations
						_		
	Concentration, D=Dep	letion, R	M=Reduced Matrix, C	CS=Cove	red or Coa	ated San		ation: PL=Pore Lining, M=Matrix.
•	il Indicators:							r Problematic Hydric Soils ³ :
	sol (A1)		Polyvalue Belov		e (S8) (LR	R R,		ck (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)					airie Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surfa					cky Peat or Peat (S3) (LRR K, L, R)
	gen Sulfide (A4)		High Chroma Sa			-		e Below Surface (S8) (LRR K, L)
	ied Layers (A5)		Loamy Mucky M			(, L)		K Surface (S9) (LRR K, L)
	ted Below Dark Surface	e (A11)	Loamy Gleyed N	Matrix (F2	2)		Iron-Man	ganese Masses (F12) (LRR K, L, R)
	Dark Surface (A12)		Depleted Matrix				Piedmon	t Floodplain Soils (F19) (MLRA 149B)
	/ Mucky Mineral (S1)		X Redox Dark Sur				Mesic Sp	odic (TA6) (MLRA 144A, 145, 149B)
	Gleyed Matrix (S4)		Depleted Dark S					ent Material (F21)
	/ Redox (S5)		Redox Depressi	• •				llow Dark Surface (TF12)
Stripp	ed Matrix (S6)		Marl (F10) (LRR	R K, L)			Other (E)	(plain in Remarks)
Dark S	Surface (S7)							
³ Indicators	of hydrophytic vegetat	tion and	wetland hydrology mu	ust be pre	esent, unle	ess distu	rbed or problematic.	
	e Layer (if observed):		,		,-		T	
Туре:								
	nches):						Hydric Soil Pre	sent? Yes <u>X</u> No
Remarks:								
Data form	is revised from Northce	entral an	d Northeast Regional	Supplem	nent Versi	on 2.0 to	reflect the NRCS F	ield Indicators of Hydric Soils version
7.0 March	2013 Errata. (http://soi	ls.usda.	gov/use/hydric)					

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	Sam	oling Date: 9/3/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH	Sampling Point: UPL 33.1
Investigator(s): Lauren Zielke, Steven Blitzstein, Jeff Williams	Section, Township, Range:	Not Available	
Landform (hillside, terrace, etc.): till plains	ocal relief (concave, convex,	none): concave	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.324370765	7Long: <u>-8</u>	32.0615548598	Datum: WGS 84
Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes		NWI classification:	none
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	(If no, explain in Rem	narks.)
Are Vegetation, Soil, or Hydrologysignificant	ly disturbed? Are "Normal	Circumstances" present?	Yes X No
Are Vegetation, Soil, or Hydrologynaturally p	roblematic? (If needed, e	xplain any answers in Rer	narks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point location	ons, transects, impo	ortant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No X No X No X	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID:	Yes	NoX
Remarks: (Explain alternative proced	ures here or in	a separate report.)			

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil Cracks (B6)		
Surface Water (A1) 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 on Li	iving Roots (C3)	Saturation Visible on Aerial Imagery (C9)		
Drift Deposits (B3) Presence of Reduced Iron (C	24)	Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4) Recent Iron Reduction in Tille	ed 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 X Depth (inches):				
Water Table Present? Yes No X Depth (inches):				
Saturation Present? Yes No X Depth (inches):	Wetland Hy	drology Present? Yes <u>No X</u>		
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous ins	spections), if avai	ilable:		
Remarks:				

Sampling Point: UPL 33.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Quercus rubra	40	Yes	FACU	Number of Dominant Species
2. Fraxinus americana	30	Yes	FACU	Number of Dominant SpeciesThat Are OBL, FACW, or FAC:2(A)
3. Quercus alba	20	Yes	FACU	Total Number of Dominant
4. Acer rubrum	10	No	FAC	Species Across All Strata: 9 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 22.2% (A/B)
7				Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 0 x 1 = 0
1. Lonicera tatarica	20	Yes	FACU	FACW species 20 x 2 = 40
2. Rosa multiflora	20	Yes	FACU	FAC species 30 x 3 = 90
3. Quercus acutissima	20	Yes	UPL	FACU species 130 x 4 = 520
4				UPL species 20 x 5 = 100
5				Column Totals: 200 (A) 750 (B)
6				Prevalence Index = B/A = 3.75
7				Hydrophytic Vegetation Indicators:
	60	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)				2 - Dominance Test is >50%
1. Carex tribuloides	20	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹
2. Toxicodendron radicans	20	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supportin
3. Viola spp.	10	Yes	UNK	data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	50	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2			·	Hydrophytic
3			·	Vegetation
4		·		Present? Yes <u>No X</u>
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa very sparse herbaceous stratum.	arate sheet.)			
very sparse herbaceous stratum.				

SOIL

	n Matrix		Redo	ox Feature					
hes)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
- 18	10YR 4/3	98	10YR 5/6	2	С	М	Loamy/Clayey		
	<u> </u>								
						·			
		<u> </u>							
ne: C=C	oncentration D=Der	oletion RM	1=Reduced Matrix, C	S=Cove	red or Co:	ated Sand	Grains ² Location:	PL=Pore Lining, M=Matrix.	
	Indicators:	<u>, , , , , , , , , , , , , , , , , , , </u>		0010	04 01 000			plematic Hydric Soils ³ :	
Histosol			Polyvalue Below	v Surface	(S8) (L R	RR.		0) (LRR K, L, MLRA 149B)	
	pipedon (A2)	-	MLRA 149B)		(00) (ER	,	·	edox (A16) (LRR K, L, R)	
-	istic (A3)		Thin Dark Surfa			I PA 140		eat or Peat (S3) (LRR K, L, R	
•	en Sulfide (A4)	-	High Chroma S						
		-				-		w Surface (S8) (LRR K, L)	
	d Layers (A5)		Loamy Mucky N			Ν, Ε)		ace (S9) (LRR K, L)	
-	d Below Dark Surfac	;e (ATT) -	Loamy Gleyed I		<u>(</u>)			e Masses (F12) (LRR K, L, F	
•	ark Surface (A12)	-	Depleted Matrix					dplain Soils (F19) (MLRA 14 9	
-	Mucky Mineral (S1)	-	Redox Dark Su					TA6) (MLRA 144A, 145, 149	
	Gleyed Matrix (S4)	-	Depleted Dark S		-7)		Red Parent Ma		
	Redox (S5)	-	Redox Depress					erk Surface (TF12)	
	d Matrix (S6)	-	Marl (F10) (LRF	R K, L)			Other (Explain	in Remarks)	
Dark Su	ırface (S7)								
			etland hydrology mu	ust be pre	esent, unle	ess disturi	bed or problematic.		
	Layer (if observed)	C.							
ype:									
epth (inc	hes):						Hydric Soil Present?	Yes No X	

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	Sampling Date: 9/3/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH Sampling Point: WET 37.1
Investigator(s): Lauren Zielke, Steven Blitzstein, Jeff V	Villiams Section, Township, Range: Not Avail	able
Landform (hillside, terrace, etc.): till plains	Local relief (concave, convex, none): con	ncave Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat:	41.3068203383 Long: -82.058960	6039 Datum:
Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent	t slopesNV	VI classification: none
Are climatic / hydrologic conditions on the site typical for	or this time of year? Yes X No (If no	o, explain in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed? Are "Normal Circumsta	ances" present? Yes X No
Are Vegetation, Soil, or Hydrology	naturally problematic? (If needed, explain any	answers in Remarks.)
	n chowing compling point locations tran	acasta important factures ata

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

Hydrophytic Vegetation Present?	Yes	X	No	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID: WET 37.1
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	
Remarks: (Explain alternative procedure PFO	es here	or in a	separate report.)	

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	X Surface Soil Cracks (B6)
Surface Water (A1) X 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)
X Water Marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizospheres on Livir	ng Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced Iron (C4)) X 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)
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inclus).	Wetland Hydrology Present? Yes X No
	Wetland Hydrology Present? Yes X No
Saturation Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe)	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe)	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe)	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspective	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspective	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspective	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspective	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspective	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspective	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspective	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspective	
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspective	

Sampling Point: WET 37.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	60	Yes	FAC	
Acer rubrum Ulmus americana	20	Yes	FAC FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)
3. Quercus bicolor	10	No	FACW	
4. Tilia americana	10	<u>No</u>	FACU	Total Number of Dominant Species Across All Strata: 6 (B)
4. Tina americana 5.	10		FACU	Species Across Air Strata.
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
···	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				$\begin{array}{c} \hline \\ \hline $
1. Ulmus americana	40	Yes	FACW	FACW species 110 x 2 = 220
2. Lindera benzoin	30	Yes	FACW	FAC species 90 x 3 = 270
3. Acer rubrum	20	Yes	FAC	FACU species 10 x 4 = 40
4. Fraxinus pennsylvanica	10	No	FACW	UPL species 0 x 5 = 0
5.				Column Totals: 210 (A) 530 (B)
6.				Prevalence Index = $B/A = 2.52$
7.				Hydrophytic Vegetation Indicators:
	100	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)		1		X 2 - Dominance Test is >50%
1. Toxicodendron radicans	10	Yes	FAC	X 3 - Prevalence Index is $\leq 3.0^1$
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				11-directors of hydric coil and watland hydrology must
6.		·		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7		·		Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in. (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11		<u> </u>		and greater than or equal to 3.28 ft (1 m) tall.
12.				Herb – All herbaceous (non-woody) plants, regardless
	10	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2.				
3.				Hydrophytic Vegetation
4.				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa				
F.pennsylvanica dead/ dying in sapling stratum; herb	aceous stra	tum very sparc	e with minima	al absolute cover.

SOIL

	escription: (Describe	to the de	epth needed to docu	iment th	e indicato	or or cor	firm the absence	of indicators.)		
Depth	Matrix			x Featur						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0 - 3	10YR 4/1						Sandy			
3 - 18	10YR 5/1	70	10YR 5/8	30	С	М	Mucky Loam/Clay	Prominent redox concentrations		
					·					
¹ Type: C=	=Concentration, D=Dep	pletion, RI	M=Reduced Matrix, C	S=Cove	red or Coa	ated San	d Grains. ² Loo	cation: PL=Pore Lining, M=Matrix.		
Hydric So	oil Indicators:						Indicators fo	or Problematic Hydric Soils ³ :		
Histo	sol (A1)		Polyvalue Belov	v Surface	e (S8) (LR	RR,	2 cm Mu	ck (A10) (LRR K, L, MLRA 149B)		
Histic	: Epipedon (A2)		MLRA 149B)				Coast Pr	airie Redox (A16) (LRR K, L, R)		
Black	(A3)		Thin Dark Surfa	ce (S9) (LRR R, M	LRA 149	9B)5 cm Mu	cky Peat or Peat (S3) (LRR K, L, R)		
	ogen Sulfide (A4)		High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)							
	ified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)									
	eted Below Dark Surfac	ce (A11)								
	Dark Surface (A12)		Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 14							
	y Mucky Mineral (S1)		Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 14							
	y Gleyed Matrix (S4) y Redox (S5)		Depleted Dark Surface (F7) Red Parent Material (F21) Redox Depressions (F8) Very Shallow Dark Surface (TF12)							
	ped Matrix (S6)		Marl (F10) (LRR	xplain in Remarks)						
	Surface (S7)									
³ Indicators	s of hydrophytic vegeta	ation and v	vetland hydrology mu	ist be pre	esent unle	ess distu	rbed or problematic			
	/e Layer (if observed)		ionana nyarorogy me	et se pr	oooni, anne			•		
	inches):						Hydric Soil Pre	esent? Yes X No		
Remarks:		control on	Northoast Pogional	Supplor	oont Vorsi	on 2.0 to	roflact the NPCS F	ield Indicators of Hydric Soils version		
	2013 Errata. (http://sc			ouppion		511 2.0 10				
		-	- /							

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	Sampl	ing Date: 9/3/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH	Sampling Point: UPL 37.1
Investigator(s): Lauren Zielke, Steven Blitzstein, Jeff Williams	Section, Township, Range: No	t Available	
Landform (hillside, terrace, etc.): till plains	ocal relief (concave, convex, nor	ie): concave	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.306159652	6 Long: <u>-82.0</u>	589915982	Datum: WGS 84
Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes		NWI classification:	none
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	(If no, explain in Rema	arks.)
Are Vegetation, Soil, or Hydrologysignificant	y disturbed? Are "Normal Cir	cumstances" present?	Yes X No
Are Vegetation, Soil, or Hydrologynaturally p	roblematic? (If needed, expl	ain any answers in Rem	arks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations	s, transects, impor	tant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes X	No X No X No	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID:	Yes	NoX
Remarks: (Explain alternative procedur	es here or in a se	eparate report.)			

Wetland Hydrology Indica	tors:					Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (Surface Soil Cracks (B6)		
Surface Water (A1)	Surface Water (A1) X 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	Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3)			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 in Tilled	I 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)				Microtopographic Relief (D4)			
Sparsely Vegetated Co	ncave Surfa	ce (B8)		-		FAC-Neutral Test (D5)	
Field Observations:							
Surface Water Present?	Yes	No	Х	Depth (inches):			
Water Table Present?	Yes	No	Х	Depth (inches):			
Saturation Present?	Yes	No	Х	Depth (inches):	Wetland Hy	vdrology Present? Yes X No	
(includes capillary fringe)							
Describe Recorded Data (st	ream gauge	, monito	ring v	well, aerial photos, previous insp	ections), if ava	ilable:	
Remarks:							
					standing water	present during spring thaw and heavy rain but	
sandy soils do not indicate r	edox or dark	surrace	3 SOII	features present.			

Sampling Point: UPL 37.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Quercus rubra	40	Yes	FACU	
2. Acer saccharum	30	Yes	FACU	Number of Dominant SpeciesThat Are OBL, FACW, or FAC:2(A)
3. Fraxinus americana	10	No	FACU	
4. Acer rubrum	10	No	FAC	Total Number of Dominant Species Across All Strata: 8 (B)
5. Prunus serotina	10	No	FACU	
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 0 x 1 = 0
1. Acer saccharum	40	Yes	FACU	FACW species 10 x 2 = 20
2. Acer rubrum	20	Yes	FAC	FAC species 40 x 3 = 120
3. Prunus virginiana	20	Yes	FACU	FACU species 170 x 4 = 680
4. Ulmus americana	10	No	FACW	UPL species 0 x 5 = 0
5.				Column Totals: 220 (A) 820 (B)
6.				Prevalence Index = B/A = 3.73
7				Hydrophytic Vegetation Indicators:
	90	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)				2 - Dominance Test is >50%
1. Parthenocissus quinquefolia	10	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
2. Toxicodendron radicans	10	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting
3. Alliaria petiolata	10	Yes	FACU	data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	30	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				Hydrophytic
3				Vegetation
4				Present? Yes <u>No X</u>
		=Total Cover		
Remarks: (Include photo numbers here or on a separ very sparse herbaceous stratum.	rate sheet.)			

r (moist) % /R 5/3	Color (moist) % Type1 Loc2	Texture Remarks Sandy
/R 5/3		Sandy
ation, D=Depletion, R	M=Reduced Matrix, CS=Covered or Coated Sand	Grains. ² Location: PL=Pore Lining, M=Matrix.
ors:		Indicators for Problematic Hydric Soils ³ :
	Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
n (A2)	MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
3)	Thin Dark Surface (S9) (LRR R, MLRA 149B	B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, F
de (A4)	High Chroma Sands (S11) (LRR K, L)	Polyvalue Below Surface (S8) (LRR K, L)
s (A5)	Loamy Mucky Mineral (F1) (LRR K, L)	Thin Dark Surface (S9) (LRR K, L)
v Dark Surface (A11)	Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12) (LRR K, L,
face (A12)	Depleted Matrix (F3)	Piedmont Floodplain Soils (F19) (MLRA 14
/lineral (S1)	Redox Dark Surface (F6)	Mesic Spodic (TA6) (MLRA 144A, 145, 149
Matrix (S4)	Depleted Dark Surface (F7)	Red Parent Material (F21)
	Redox Depressions (F8)	Very Shallow Dark Surface (TF12)
	Marl (F10) (LRR K, L)	Other (Explain in Remarks)
. ,		<u> </u>
phytic vegetation and	wetland hydrology must be present, unless disturb	ped or problematic.
		Hydric Soil Present? Yes No
	k	
	tors: n (A2) 3) de (A4) rs (A5) w Dark Surface (A11) face (A12) Wineral (S1) Matrix (S4) S5) c (S6) S7)	Polyvalue Below Surface (S8) (LRR R, MLRA 149B) 3) Thin Dark Surface (S9) (LRR R, MLRA 149I) de (A4) High Chroma Sands (S11) (LRR K, L) rs (A5) Loamy Mucky Mineral (F1) (LRR K, L) w Dark Surface (A11) Loamy Gleyed Matrix (F2) face (A12) Depleted Matrix (F3) Mineral (S1) Redox Dark Surface (F6) Matrix (S4) Depleted Dark Surface (F7) S5) Redox Depressions (F8) c (S6) Marl (F10) (LRR K, L) S7) Phytic vegetation and wetland hydrology must be present, unless disturt

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	Sam	pling Date: 9/3/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH	Sampling Point: WET 41.1
Investigator(s): Lauren Zielke, Steven Blitzstein, Jeff Williams	Section, Township, Range: N	Not Available	
Landform (hillside, terrace, etc.): flood plains	ocal relief (concave, convex, n	one): linear	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.299080715	5Long:82	2.0770499359	Datum:
Soil Map Unit Name: Tioga fine sandy loam		NWI classification:	
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	(If no, explain in Ren	narks.)
Are Vegetation, Soil, or Hydrologysignificant	y disturbed? Are "Normal C	Circumstances" present?	Yes X No
Are Vegetation, Soil, or Hydrologynaturally p	roblematic? (If needed, ex	plain any answers in Rer	marks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point location	ns, transects, impo	ortant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X No Yes X No Yes X No	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID: WET 41.1
Remarks: (Explain alternative procedu	ures here or in a separate report.	

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)			
Surface Water (A1) X 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)			
X Water Marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)			
Sediment Deposits (B2) Oxidized Rhizospheres on Livi	Roots (C3) Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3) Presence of Reduced Iron (C4	X 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)	X Microtopographic Relief (D4)			
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)			
Field Observations:				
Surface Water Present? Yes No X Depth (inches):				
Water Table Present? Yes No X Depth (inches):				
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes X No			
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			
Remarks:				

Sampling Point: WET 41.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	70	Yes	FAC	
Acer rubrum Platanus occidentalis	20	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Ilmus americana	10	No	FACW	
4	10		FACVV	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)		'		OBL species 20 x 1 = 20
1. Lindera benzoin	90	Yes	FACW	FACW species 125 x 2 = 250
2. Acer rubrum	5	No	FAC	FAC species 105 x 3 = 315
3. Ulmus americana	5	No	FACW	FACU species 10 x 4 = 40
4.		, <u> </u>		UPL species $0 \times 5 = 0$
5.				Column Totals: 260 (A) 625 (B)
6.				Prevalence Index = $B/A = 2.40$
7.				Hydrophytic Vegetation Indicators:
	100	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)				X 2 - Dominance Test is >50%
1. Toxicodendron radicans	20	Yes	FAC	X 3 - Prevalence Index is $\leq 3.0^{1}$
2. Leersia oryzoides	20	Yes	OBL	4 - Morphological Adaptations ¹ (Provide supporting
3. Persicaria virginiana	10	No	FAC	data in Remarks or on a separate sheet)
4. Parthenocissus quinquefolia	10	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5				
6				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7		·		Definitions of Vegetation Strata:
8.		·		
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10.				Sapling/shrub – Woody plants less than 3 in. DBH
11.		, <u> </u>		and greater than or equal to 3.28 ft (1 m) tall.
12.				
	60	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				
1				Woody vines – All woody vines greater than 3.28 ft in height.
2.				
3.				Hydrophytic Veretetion
4.				Vegetation Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a separ		-		1
herbaceous stratum very sparse with minimal absolut				

JOIL

			Redo	x Feature	es			
0 - 18	olor (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
	10YR 4/1	90	10YR 4/6	10	С	М	Loamy/Clayey	Prominent redox concentrations
							·	
					·			
<u> </u>					<u> </u>		2	
		pletion, RN	Reduced Matrix, C	S=Cover	red or Coa	ated Sand		cation: PL=Pore Lining, M=Matrix.
Hydric Soil Indi			Debuglue Delev		(CO) /I P			r Problematic Hydric Soils ³ :
Histosol (A1		-	Polyvalue Belov	v Sunace	(58) (LR	κĸ,		ck (A10) (LRR K, L, MLRA 149B)
Histic Epipe			MLRA 149B)	00 (50) (airie Redox (A16) (LRR K, L, R)
Black Histic Hydrogen S		-	Thin Dark Surfa High Chroma S					cky Peat or Peat (S3) (LRR K, L, R) e Below Surface (S8) (LRR K, L)
Stratified La		-	Loamy Mucky N			-		Surface (S9) (LRR K, L)
	elow Dark Surfa	- 	Loamy Gleyed I			<, ∟)		ganese Masses (F12) (LRR K, L, R)
	Surface (A12)	<u>-</u>	Depleted Matrix		-)			t Floodplain Soils (F19) (MLRA 149B)
	ky Mineral (S1)	-	X Redox Dark Su					odic (TA6) (MLRA 144A, 145, 149B)
	ed Matrix (S4)	-	Depleted Dark S					ent Material (F21)
Sandy Redo		-	Redox Depress		.,			llow Dark Surface (TF12)
Stripped Ma		-	 Marl (F10) (LRF	• •				cplain in Remarks)
Dark Surfac	ce (S7)	-		. ,				
³ Indicators of hy	drophytic vegeta	ation and w	etland hydrology mu	ust be pre	sent, unle	ess distur	bed or problematic.	
Restrictive Lay								
Туре:								
Depth (inches):						Hydric Soil Pre	sent? Yes X No
Remarks:								
	ised from Northo	central and	Northeast Regional	Supplem				

Project/Site: Avon Lake Gas Additi	on Project	City/County	Lorain County		Sampl	ling Date: 9/3	/14
Applicant/Owner: NRG Gas Pipelin	e Company LLC			State:	ОН	Sampling Poir	1t: UPL 41.1
Investigator(s): Lauren Zielke, Stev	en Blitzstein, Jeff Williams	Section, Tov	vnship, Range: Not A	vailable			
Landform (hillside, terrace, etc.): flo	od plains	Local relief (co	ncave, convex, none):	linear		Slope (%):2
Subregion (LRR or MLRA): LRR R, I	/LRA 139 Lat: 41.2990	0376631	Long: -82.076	9579125		Datum:	
Soil Map Unit Name: Tioga fine sand	y loam			NWI class	ification:		
Are climatic / hydrologic conditions o	the site typical for this tir	me of year? Y	es <u>X</u> No(lf no, explai	n in Rema	arks.)	
Are Vegetation, Soil	, or Hydrologysig	nificantly disturbed?	Are "Normal Circur	nstances" p	resent?	Yes X	No
Are Vegetation, Soil							
SUMMARY OF FINDINGS -							es, etc.
Hydrophytic Vegetation Present?	Yes No	X Is the S	ampled Area				
Hydric Soil Present?	Yes No		a Wetland?	Yes	No	Х	
Wetland Hydrology Present?	Yes No	X If yes, o	ptional Wetland Site II	D:			
Remarks: (Explain alternative proce	dures here or in a separa	te report.)					
HYDROLOGY							
Wetland Hydrology Indicators:			Sec	condary Ind	icators (m	ninimum of two	required)
Primary Indicators (minimum of one	is required; check all that	apply)		Surface Se	oil Cracks	s (B6)	
Surface Water (A1)	Water-S	Stained Leaves (B9)		Drainage I	Patterns (B10)	

Surface Water (AT)				water-Stained Leaves (B9)	Drainage Patterns (BTU)			
High Water Table (A2)		Aquatic Fauna (B13) Moss Trim Lines (B16)						
Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2)								
Water Marks (B1)	Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)							
Sediment Deposits (B2)				Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)		Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)					1)	
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position					sition (D2)			
Iron Deposits (B5)				Thin Muck Surface (C7)		Shallow Aquitare	d (D3)	
Inundation Visible on Ae	erial Imagery	Il Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)						
Sparsely Vegetated Cor	ncave Surfac							
Field Observations:								
Surface Water Present?	Yes	No	Х	Depth (inches):				
Water Table Present?	Yes	No	Х	Depth (inches):				
Saturation Present?	Yes	No	Х	Depth (inches):	Wetland Hyd	drology Present?	Yes	No X
(includes capillary fringe)				-	-			
Describe Recorded Data (str	eam gauge,	monito	ring v	vell, aerial photos, previous in	spections), if avail	able:		
Remarks:								
Romano.								
Kemarko.								
Nomano.								

Sampling Point: UPL 41.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer saccharum	40	Yes	FACU	
2. Liriodendron tulipifera	25	Yes	FACU	Number of Dominant SpeciesThat Are OBL, FACW, or FAC:4(A)
3. Acer rubrum	20	Yes	FAC	
4. Fagus grandifolia	15	No	FACU	Total Number of Dominant Species Across All Strata: 9 (B)
5.				
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>44.4%</u> (A/B)
7.				Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 0 x 1 = 0
1. Prunus virginiana	80	Yes	FACU	FACW species 20 x 2 = 40
2. Lindera benzoin	20	Yes	FACW	FAC species 40 x 3 = 120
3.				FACU species 180 x 4 = 720
4.				UPL species $0 \times 5 = 0$
5.				Column Totals: 240 (A) 880 (B)
6.				Prevalence Index = $B/A = 3.67$
7.				Hydrophytic Vegetation Indicators:
	100	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)				2 - Dominance Test is >50%
1. Parthenocissus quinquefolia	10	Yes	FACU	$3 - Prevalence Index is \leq 3.0^{10}$
Arrienocissus guinquerona Z. Toxicodendron radicans	10	Yes	FACO	4 - Morphological Adaptations ¹ (Provide supporting
				data in Remarks or on a separate sheet)
3. Acer rubrum	10	Yes	FAC	
4. Rosa multiflora	10	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	40	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2.				
3.				Hydrophytic
4.				Vegetation Present? Yes NoX
		=Total Cover		
Remarks: (Include photo numbers here or on a separ				
very sparse herbaceous stratum.	,			

JOIL

		e to the de		ment th x Featur		or or con	firm the absence of inc	licators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x realur %	Type ¹	Loc ²	Texture	Remarks
				,,,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
0 - 18	10YR 4/3	<u> </u>					Sandy	
······		·······						
·								
		······································						
		······ ·						
		·						
		·······						
<u> </u>		<u> </u>						
¹ Type: C=	Concentration, D=De	pletion, RM	/I=Reduced Matrix, C	S=Cove	red or Coa	ated Sand	Grains. ² Location	: PL=Pore Lining, M=Matrix.
	I Indicators:							blematic Hydric Soils ³ :
Histos	ol (A1)		Polyvalue Below	/ Surface	e (S8) (LR	RR,	2 cm Muck (A	10) (LRR K, L, MLRA 149B)
Histic	Epipedon (A2)		MLRA 149B)				Coast Prairie I	Redox (A16) (LRR K, L, R)
Black	Histic (A3)		Thin Dark Surfa	ce (S9) (LRR R, M	LRA 149	B) 5 cm Mucky P	eat or Peat (S3) (LRR K, L, R)
Hydrog	gen Sulfide (A4)		High Chroma Sa	ands (S1	1) (LRR K	ζ, L)	Polyvalue Belo	ow Surface (S8) (LRR K, L)
Stratifi	ed Layers (A5)		Loamy Mucky M	lineral (F	1) (LRR Þ	K, L)	Thin Dark Sur	face (S9) (LRR K, L)
Deplet	ed Below Dark Surfa	ce (A11)	Loamy Gleyed N	/latrix (F	2)		Iron-Mangane	se Masses (F12) (LRR K, L, R)
Thick I	Dark Surface (A12)		Depleted Matrix	(F3)			Piedmont Floo	odplain Soils (F19) (MLRA 149B)
	Mucky Mineral (S1)		Redox Dark Sur					(TA6) (MLRA 144A, 145, 149B)
	Gleyed Matrix (S4)		Depleted Dark S				Red Parent Ma	
	Redox (S5)		Redox Depressi	• •				Dark Surface (TF12)
	ed Matrix (S6)		Marl (F10) (LRR	K , L)			Other (Explain	in Remarks)
Dark S	Surface (S7)							
3								
			vetland hydrology mu	st be pre	esent, unle	ess disturi	bed or problematic.	
	e Layer (if observed):						
Туре:								
Depth (ir	iches):						Hydric Soil Present	? Yes No_X
Remarks:								
				Supplen	nent Versi	on 2.0 to i	reflect the NRCS Field I	ndicators of Hydric Soils version
7.0 March	2013 Errata. (http://so	biis.usda.g	ov/use/nyanc)					

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	Samp	oling Date: 9/3/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH	Sampling Point: WET 42.1
Investigator(s): Lauren Zielke, Steven Blitzstein, Jeff Williams	Section, Township, Range:	Not Available	
Landform (hillside, terrace, etc.): flood plains	ocal relief (concave, convex	none): linear	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.299333353	6 Long: -	82.0789716145	Datum: WGS 84
Soil Map Unit Name: Tioga fine sandy loam		NWI classification:	PUBG
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes <u>X</u> No	(If no, explain in Rem	narks.)
Are Vegetation, Soil, or Hydrologysignificant	y disturbed? Are "Norma	I Circumstances" present?	Yes X No
Are Vegetation, Soil, or Hydrologynaturally p	roblematic? (If needed,	explain any answers in Ren	narks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locati	ons, transects, impo	rtant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	X X X	No No No	Is the Sampled Area within a Wetland? Yes X No If yes, optional Wetland Site ID: WET 42.1	
Remarks: (Explain alternative procedure	es here	or in a	separate report.)		

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)			
Surface Water (A1) 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)			
X Water Marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)			
Sediment Deposits (B2) Oxidized Rhizospheres on Livin	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 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)			
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)			
Field Observations:				
Surface Water Present? Yes No X Depth (inches):				
Water Table Present? Yes No X Depth (inches):				
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes X No			
(includes capillary fringe)				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			
	ections), if available:			
	ections), if available:			
	ections), if available:			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous insp	ections), if available:			

Sampling Point: WET 42.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Ulmus americana	70	Yes	FACW	
2. Acer negundo	20	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)
3. Fraxinus pennsylvanica	10	No	FACW	
4.				Total Number of Dominant Species Across All Strata: 8 (B)
5.		·		Baraant of Deminent Creation
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 25 x 1 = 25
1. Lindera benzoin	10	Yes	FACW	FACW species 160 x 2 = 320
2. Fraxinus pennsylvanica	10	Yes	FACW	FAC species 35 x 3 =105
3. Acer negundo	10	Yes	FAC	FACU species <u>5</u> x 4 = <u>20</u>
4				UPL species 0 x 5 = 0
5.				Column Totals: 225 (A) 470 (B)
6				Prevalence Index = B/A = 2.09
7				Hydrophytic Vegetation Indicators:
	30	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)				X 2 - Dominance Test is >50%
1. Verbesina alternifolia	30	Yes	FACW	X 3 - Prevalence Index is $≤3.0^1$
2. Impatiens capensis	25	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting
3. Leersia oryzoides	25	Yes	OBL	data in Remarks or on a separate sheet)
4. Rosa multiflora	5	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Persicaria virginiana	5	No	FAC	¹ Indicators of hydric soil and wetland hydrology must
6. Pilea pumila	5	No	FACW	be present, unless disturbed or problematic.
7. Viola spp.	5	No	UNK	Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				Hydrophytic
3				Hydrophytic Vegetation
4				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	,	100 100 100	with maintine - 1	abaaluta aayaa
F.pennsylvanica dead/ dying in tree stratum; sapling	sinub stratu	in very sparce	with minimal	

SOIL

	escription: (Describe	to the de	epth needed to docu	ument th	e indicato	or or con	firm the absence	of indicators.)
Depth	Matrix			x Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 8	10YR 4/3							
8 - 18	10YR 4/1	95	10YR 3/6	5	С	М	Sandy	Prominent redox concentrations
	=Concentration, D=Dep	oletion, R	M=Reduced Matrix, C	S=Cove	red or Coa	ated Sand		cation: PL=Pore Lining, M=Matrix.
-	oil Indicators:							or Problematic Hydric Soils ³ :
	sol (A1)		Polyvalue Belov	v Surface	e (S8) (LR	R R,		ck (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)	(22)				rairie Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surfa					cky Peat or Peat (S3) (LRR K, L, R)
	ogen Sulfide (A4)		High Chroma Sa			-		e Below Surface (S8) (LRR K, L)
	fied Layers (A5)		Loamy Mucky M			κ, L)		k Surface (S9) (LRR K, L)
	eted Below Dark Surfac	ce (A11)	Loamy Gleyed I		2)			nganese Masses (F12) (LRR K, L, R)
	Dark Surface (A12)		Depleted Matrix					It Floodplain Soils (F19) (MLRA 149B)
	y Mucky Mineral (S1)		Redox Dark Sur	•	,			bodic (TA6) (MLRA 144A, 145, 149B)
	y Gleyed Matrix (S4)		Depleted Dark S					ent Material (F21)
	y Redox (S5)		Redox Depress)			allow Dark Surface (TF12)
	bed Matrix (S6)		Marl (F10) (LRF	(K , L)			Other (E)	xplain in Remarks)
	Surface (S7)							
³ Indicators	s of hydrophytic vegeta	ation and	wetland hydrology mu	ust be pre	esent, unle	ess distur	bed or problematic	
	ve Layer (if observed)							
Туре:								
Depth (inches):						Hydric Soil Pre	esent? Yes <u>X</u> No
Remarks:								
				Supplen	nent Versi	on 2.0 to	reflect the NRCS F	ield Indicators of Hydric Soils version
7.0 March	2013 Errata. (http://so	olis.usda.g	ov/use/nyaric)					

3/14
nt: UPL 42.1
%): 0 - 2
WGS 84
No
es, etc.

Wetland Hydrology Indicators: Secondary Indicators (minimum of two required on the secondary (minimum of two	ed)		
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)			
Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10)	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 on 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 X Depth (inches):			
Water Table Present? Yes No X Depth (inches):			
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No	Х		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

Sampling Point: UPL 42.1

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Acer saccharum	45	Yes	FACU		
2. Liriodendron tulipifera	45	Yes	FACU	Number of Dominant SpeciesThat Are OBL, FACW, or FAC:1(a)	A)
3. Fagus grandifolia	10	No	FACU		,
4.		·		Total Number of Dominant Species Across All Strata: 6 (1)	B)
5.		·		·	,
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A	A/B)
7.				Prevalence Index worksheet:	
	100	=Total Cover		Total % Cover of: Multiply by:	_
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 0 x 1 = 0	
1. Fraxinus americana	40	Yes	FACU	FACW species 10 x 2 = 20	_
2. Liriodendron tulipifera	40	Yes	FACU	FAC species 30 x 3 = 90	_
3. Rosa multiflora	10	No	FACU	FACU species 250 x 4 = 1000	_
4. Carya ovata	10	No	FACU	UPL species 0 x 5 = 0	_
5				Column Totals: 290 (A) 1110	(B)
6				Prevalence Index = B/A = 3.83	_
7				Hydrophytic Vegetation Indicators:	
	100	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation	
Herb Stratum (Plot size: 5' radius)				2 - Dominance Test is >50%	
1. Parthenocissus quinquefolia	50	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹	
2. Persicaria virginiana	30	Yes	FAC	4 - Morphological Adaptations ¹ (Provide support	orting
3. Carex tribuloides	10	No	FACW	data in Remarks or on a separate sheet)	
4. Viola spp.	10	No	UNK	Problematic Hydrophytic Vegetation ¹ (Explain	ı)
5.				¹ Indicators of hydric soil and wetland hydrology mu	uet
6.				be present, unless disturbed or problematic.	J 31
7.				Definitions of Vegetation Strata:	
8.				Tree – Woody plants 3 in. (7.6 cm) or more in	
9.				diameter at breast height (DBH), regardless of hei	ght.
10.				Sapling/shrub – Woody plants less than 3 in. DBI	н
11				and greater than or equal to 3.28 ft (1 m) tall.	
12.				Herb – All herbaceous (non-woody) plants, regard	
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.	1000
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28	ftin
1				height.	
2.					
3				Hydrophytic Vegetation	
4				Present? Yes No X	
		=Total Cover			
Remarks: (Include photo numbers here or on a separ	ate sheet.)				

nches)	Matrix		ox Feature				
noneo)	Color (moist)	% Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 3	10YR 4/2					Sandy	
8 - 18	10YR 5/4					Sandy	
					<u> </u>		
ype: C=C	Concentration, D=Depleti	on, RM=Reduced Matrix, C	CS=Cove	red or Coa	ated Sand	Grains. ² Location:	PL=Pore Lining, M=Matrix.
•	I Indicators:						lematic Hydric Soils ³ :
Histosc	ol (A1)	Polyvalue Belov	v Surface	e (S8) (LR	R R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic E	Epipedon (A2)	MLRA 149B)				Coast Prairie Re	edox (A16) (LRR K, L, R)
	Histic (A3)	Thin Dark Surfa					at or Peat (S3) (LRR K, L, R)
	gen Sulfide (A4)	High Chroma Sa			-		/ Surface (S8) (LRR K, L)
	ed Layers (A5)	Loamy Mucky M			K, L)		ce (S9) (LRR K, L)
	ed Below Dark Surface (/			2)			Masses (F12) (LRR K, L, R)
	Dark Surface (A12) Mucky Mineral (S1)	Depleted Matrix		`			plain Soils (F19) (MLRA 149E
	Gleyed Matrix (S4)	Redox Dark Sur Depleted Dark S				Red Parent Mat	A6) (MLRA 144A, 145, 149B erial (E21)
	Redox (S5)	Redox Depressi					ark Surface (TF12)
-	ed Matrix (S6)	Marl (F10) (LRR				Other (Explain i	. ,
	Surface (S7)		, ,)
_							
ndicators of	of hydrophytic vegetation	and wetland hydrology mu	ust be pre	esent, unle	ess disturb	ed or problematic.	
estrictive	e Layer (if observed):						
Type [.]							
- ypc.							
Depth (in	iches):					Hydric Soil Present?	Yes <u>No X</u>
	iches):					Hydric Soll Present?	Yes NoX

Project/Site: Avon Lake Gas Addition Project				City/County:	Lorain County	Sam	pling Date: 9/	10/14		
Applicant/Owner: NRC	G Gas Pipel	ine Company LLC				State:	ОН	Sampling Poi	nt: w	/ET 43.1
Investigator(s): Laurer	n Zielke, Ste	even Blitzstein		Section, Tow	nship, Range:	Not Available				
Landform (hillside, terra	ace, etc.):	lake plains, terraces		Local relief (cor	ncave, convex,	none): Concave		Slope	(%):	0 - 2
Subregion (LRR or MLF	RA): <u>LRR R</u>	<u>, MLRA 139</u> Lat: <u>4</u>	1.29940289	68	Long: -	82.0819065841		Datum:	WGS	84
Soil Map Unit Name: Fi	itchville silt l	oam, low terrace, 0 to	2 percent			NWI classi	fication:	none		
Are climatic / hydrologic	c conditions	on the site typical for	this time of	year? Ye	s <u>X</u> No	(If no, explair	n in Ren	narks.)		
Are Vegetation	, Soil	, or Hydrology	significa	ntly disturbed?	Are "Normal	Circumstances" pr	resent?	Yes X	No	·
Are Vegetation	, Soil	, or Hydrology	naturally	problematic?	(If needed, e	explain any answer	s in Rer	marks.)		
		• · · · • ·								

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?		X X X	No No No	Is the Sampled Area within a Wetland? Yes X No If yes, optional Wetland Site ID: WET 43.1
Remarks: (Explain alternative procedure PFO.	s here o	r in a s	separate report.)	

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) X 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)
X Water Marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizospheres on Living F	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 So	ils (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)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes X No Depth (inches): 14 V	Vetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspecti	ons), if available:
Remarks:	

Sampling Point: WET 43.1

Tree Stratum (Plot size: 30' radius)	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. Fraxinus pennsylvanica	<u>% Cover</u> 60	Yes	FACW	
Acer rubrum	40	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
3		103		
				Total Number of Dominant Species Across All Strata: 5 (B)
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)
7.				Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)		-		OBL species 0 x 1 = 0
1. Fallopia japonica	60	Yes	UNK	FACW species 80 x 2 = 160
2. Fraxinus pennsylvanica	10	No	FACW	FAC species 40 x 3 = 120
3.		·		FACU species 15 x 4 = 60
4.		·		UPL species 0 x 5 = 0
5.				Column Totals: 135 (A) 340 (B)
6.				Prevalence Index = $B/A = 2.52$
7.		·		Hydrophytic Vegetation Indicators:
	70	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation
<u>Herb Stratum</u> (Plot size: 5' radius)		•		X 2 - Dominance Test is >50%
1. Parthenocissus quinquefolia	15	Yes	FACU	X 3 - Prevalence Index is ≤3.0 ¹
2. Persicaria pensylvanica	10	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting
3.		·		data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.		·		
6.		·		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7		·		Definitions of Vegetation Strata:
8.		·		
9.		·		Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10.		·		
11.		·		Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.		·		
	25	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)		•		
1				Woody vines – All woody vines greater than 3.28 ft in height.
2.		·		
3.		·		Hydrophytic
4.		·		Vegetation Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a separ	rate sheet.)			
Green ash trees dying in tree stratum. Herbaceous str				

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Profile Des Depth	scription: (Describe Matrix	to the de		u ment th ox Featur		or or cor	nfirm the absence o	of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 2	10YR 3/1						Mucky Loam/Clay	
2 - 18	10YR 4/1	85	10YR 3/6	15	С	М	Mucky Loam/Clay	Prominent redox concentrations
							·	
				_				
¹ Type: C=	Concentration, D=Dep	letion, R	M=Reduced Matrix, C	CS=Cove	red or Coa	ated San	d Grains. ² Loc	ation: PL=Pore Lining, M=Matrix.
Histos Histic Black Hydrog Stratifi X Deplet Thick I Sandy Sandy Sandy Strippe Dark S	¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sa Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 1 Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) X Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Matrix (F3) Sandy Mucky Mineral (S1) X Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S6) Marl (F10) (LRR K, L) Dark Surface (S7) 3						2 cm Muc Coast Pra 5 cm Muc Polyvalue Thin Dark Iron-Mang Piedmont Mesic Spo Red Pare Very Shal Other (Ex	r Problematic Hydric Soils ³ : ck (A10) (LRR K, L, MLRA 149B) airie Redox (A16) (LRR K, L, R) cky Peat or Peat (S3) (LRR K, L, R) e Below Surface (S8) (LRR K, L) a Surface (S9) (LRR K, L) ganese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B) odic (TA6) (MLRA 144A, 145, 149B) nt Material (F21) llow Dark Surface (TF12) rplain in Remarks)
	e Layer (if observed)						Hydric Soil Pre	sent? Yes <u>X</u> No
	is revised from Northc 2013 Errata. (http://so			Supplen	nent Versi	on 2.0 to	reflect the NRCS Fi	eld Indicators of Hydric Soils version

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	Sa	ampling Date: 9/10/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH	Sampling Point: WET 44.1
Investigator(s): Lauren Zielke, Steven Blitzstein	Section, Township, Range:	Not Available	
Landform (hillside, terrace, etc.): depressions	Local relief (concave, convex	, none):	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.296472	.142 Long: -	82.0885751806	Datum: WGS 84
Soil Map Unit Name: Miner silty clay loam		NWI classification	on: none
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes X No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrologysignified	cantly disturbed? Are "Norma	I Circumstances" presen	it? Yes <u>X</u> No
Are Vegetation, Soil, or Hydrologynatura	ally problematic? (If needed,	explain any answers in F	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 Yes Yes	X X X	No No No	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID:	Yes X WET 44	< 4.1	No
Remarks: (Explain alternative procedure PFO.	s here	or in a	separate report.)				

Primary Indicators (minimum of one is required; check all that apply)Surface Soil Cracks (B6)Surface Water (A1)XWater-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)XWater Marks (B1)Hydrogen Sulfide Odor (C1)Crayfish Burrows (C8)Sediment Deposits (B2)Oxidized Rhizospheres on 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)
High Water Table (A2)Aquatic Fauna (B13)Moss Trim Lines (B16)Saturation (A3)Marl Deposits (B15)Dry-Season Water Table (C2)X Water Marks (B1)Hydrogen Sulfide Odor (C1)Crayfish Burrows (C8)Sediment Deposits (B2)Oxidized Rhizospheres on 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)
Saturation (A3)Marl Deposits (B15)Dry-Season Water Table (C2)XWater Marks (B1)Hydrogen Sulfide Odor (C1)Crayfish Burrows (C8)Sediment Deposits (B2)Oxidized Rhizospheres on 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)
X Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on 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)
Sediment Deposits (B2) Oxidized Rhizospheres on 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)
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)
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)
X Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes No X Depth (inches):
Water Table Present? Yes No X Depth (inches):
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No
(includes capillary fringe)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:

Sampling Point: WET 44.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	60	Yes	FAC	
2. Fraxinus pennsylvanica	20	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
3. Ulmus americana	10	No	FACW	
4. Quercus palustris	10	No	FACW	Total Number of Dominant Species Across All Strata: 5 (B)
5	10		1401	
6				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)		•		OBL species 0 x 1 = 0
1. Fraxinus pennsylvanica	30	Yes	FACW	FACW species 70 x 2 = 140
2. Acer rubrum	30	Yes	FAC	FAC species 100 x 3 = 300
3.				FACU species 0 x 4 = 0
4.				UPL species 0 x 5 = 0
5.				Column Totals: 170 (A) 440 (B)
6.				Prevalence Index = B/A = 2.59
7.				Hydrophytic Vegetation Indicators:
	60	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)		•		X 2 - Dominance Test is >50%
1. Toxicodendron radicans	10	Yes	FAC	X 3 - Prevalence Index is $\leq 3.0^1$
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.		·		data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	10	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				
3.				Hydrophytic Vegetation
4.				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	arate sheet.)			-
herbaceous stratum extremely limited and virtually no	on-existant			

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	escription: (Describe	to the de				or or co	nfirm the absence of	of indicators.)
Depth (inchoo)	Matrix Color (moist)	%	Color (moist)	x Featur %		Loc ²	Texture	Remarks
(inches)		70		70	Type ¹	LOC		Remarks
0 - 2	10YR 3/1						Mucky Loam/Clay	
2 - 18	10YR 4/1	80	10YR 5/6	20	С	Μ	Mucky Loam/Clay	Prominent redox concentrations
							·	
		lation D		-Cove	rad as Car			cation: PL=Pore Lining, M=Matrix.
	bil Indicators:	netion, R	M=Reduced Matrix, C	-2=C0ve		aleu San		r Problematic Hydric Soils ³ :
	sol (A1)		Polyvalue Below	v Surface	e (S8) (LR	R R.		ck (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)			,		airie Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surfa		LRR R, M	LRA 14		cky Peat or Peat (S3) (LRR K, L, R)
	ogen Sulfide (A4)		High Chroma S					e Below Surface (S8) (LRR K, L)
	fied Layers (A5)		Loamy Mucky N					k Surface (S9) (LRR K, L)
	eted Below Dark Surfac	e (A11)	Loamy Gleyed I			, ,		ganese Masses (F12) (LRR K, L, R)
	Dark Surface (A12)	- ()	Depleted Matrix		_,			t Floodplain Soils (F19) (MLRA 149B)
	y Mucky Mineral (S1)		X Redox Dark Su)			odic (TA6) (MLRA 144A, 145, 149B)
	y Gleyed Matrix (S4)		Depleted Dark S					ent Material (F21)
	y Redox (S5)		Redox Depress					Illow Dark Surface (TF12)
	ped Matrix (S6)		Marl (F10) (LRF	• •				xplain in Remarks)
	Surface (S7)		(110) (211	, _/				
³ Indicators	s of hydrophytic vegeta	tion and	wetland hydrology mu	ust be pre	esent, unle	ess distu	rbed or problematic.	
	ve Layer (if observed):							
Туре:								
Depth (i	inches):						Hydric Soil Pre	esent? Yes <u>X</u> No
Remarks:				. .				
				Supplen	nent Versi	on 2.0 to	o reflect the NRCS F	ield Indicators of Hydric Soils version
7.0 March	2013 Errata. (http://so	lis.usda.g	jov/use/nyaric)					

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain Cou	nty	Sampling Date: 9/10/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State:	OH Sampling Point: UPL 44.
Investigator(s): Lauren Zielke, Steven Blitzstein	Section, Township, Ran	ge: Not Available	
Landform (hillside, terrace, etc.): depressions	Local relief (concave, conv	ex, none):	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.299165	8638 Long	g: <u>-82.0888398453</u>	Datum: WGS 84
Soil Map Unit Name: Miner silty clay loam		NWI classific	cation: none
Are climatic / hydrologic conditions on the site typical for this time of	of year? Yes X N	o(If no, explain i	n Remarks.)
Are Vegetation, Soil, or Hydrologysignific	cantly disturbed? Are "Nor	mal Circumstances" pres	sent? Yes X No
Are Vegetation, Soil, or Hydrologynatura	lly problematic? (If neede	d, explain any answers	in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point loc	ations, transects, i	important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No X No X No X	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID:	Yes	No <u>X</u>
Remarks: (Explain alternative procedu	res here or in a	a separate report.)			

Wetland Hydrology Indicators: Secondary Indicators (minimum of two requirements)	ed)
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)	ļ
Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10)	
High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16)	ļ
Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2)	ļ
Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)	ļ
Sediment Deposits (B2) Oxidized Rhizospheres on 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 X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No	X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

Sampling Point: UPL 44.1

<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
3 4				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC:0.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 0 x 1 = 0
1				FACW species 0 x 2 = 0
2				FAC species 0 x 3 = 0
3				FACU species 100 x 4 = 400
4.				UPL species 0 x 5 = 0
5.				Column Totals: 100 (A) 400 (B)
6.				Prevalence Index = $B/A = 4.00$
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
<u>Herb Stratum</u> (Plot size: 5' radius)				2 - Dominance Test is >50%
1. Festuca rubra	70	Yes	FACU	$3 - Prevalence Index is \leq 3.0^1$
2. Trifolium pratense	15	No	FACU	4 - Morphological Adaptations ¹ (Provide supporting
3. Daucus carota	10	No	FACU	data in Remarks or on a separate sheet)
4. Taraxacum officinale	5	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
			17.00	
6				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8 9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10.				
11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12	100	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				
				Woody vines – All woody vines greater than 3.28 ft in height.
				Hydrophytic
3 4.				Vegetation Present? Yes No X
4		-Total Cover		Present? Yes <u>No X</u>
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa Only herbaceous stratum present				

iches)	Matrix		Redo	x Featur	es			
10	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
) - 18	10YR 4/3	100					Loamy/Clayey	
ype: C=Co	ncentration, D=De	pletion, RN	M=Reduced Matrix, C	S=Cove	red or Coa	ated Sand	d Grains. ² Location:	PL=Pore Lining, M=Matrix.
dric Soil Ir	ndicators:						Indicators for Prob	lematic Hydric Soils ³ :
Histosol ((A1)	-	Polyvalue Belov	v Surface	e (S8) (LR	R R,	2 cm Muck (A10	D) (LRR K, L, MLRA 149B)
Histic Epi	ipedon (A2)		MLRA 149B)				Coast Prairie R	edox (A16) (LRR K, L, R)
Black His	stic (A3)	-	Thin Dark Surfa	ce (S9) (LRR R, M	LRA 149	B) 5 cm Mucky Pe	at or Peat (S3) (LRR K, L, R)
Hydroger	n Sulfide (A4)	-	High Chroma Sa	ands (S1	1) (LRR Þ	Κ, L)	Polyvalue Below	v Surface (S8) (LRR K, L)
Stratified	Layers (A5)	-	Loamy Mucky M	lineral (F	1) (LRR 🖌	K, L)	Thin Dark Surfa	ce (S9) (LRR K, L)
Depleted	Below Dark Surface	ce (A11)	Loamy Gleyed N	Matrix (F2	2)		Iron-Manganese	e Masses (F12) (LRR K, L, R)
Thick Da	rk Surface (A12)	-	Depleted Matrix	(F3)			Piedmont Flood	lplain Soils (F19) (MLRA 1498
Sandy M	ucky Mineral (S1)	-	Redox Dark Sur	face (F6)		Mesic Spodic (1	TA6) (MLRA 144A, 145, 149B
Sandy Gl	leyed Matrix (S4)	_	Depleted Dark S	Surface (F7)		Red Parent Mat	terial (F21)
Sandy Re	edox (S5)	_	Redox Depressi	ions (F8)			Very Shallow D	ark Surface (TF12)
Stripped	Matrix (S6)		Marl (F10) (LRF	R K, L)			Other (Explain i	n Remarks)
Dark Sur	face (S7)	-						
_								
dicators of	hydrophytic vegeta	ation and w	vetland hydrology mu	ust be pre	esent, unle	ess distur	bed or problematic.	
estrictive L	ayer (if observed)):						
Туре:								
Depth (inch	ies):						Hydric Soil Present?	Yes No X
emarks:								
ta form is r	evised from Northo	central and	Northeast Regional	Supplem	nent Versi	on 2.0 to	reflect the NRCS Field Inc	dicators of Hydric Soils version

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	Sampl	ing Date: 9/2/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH	Sampling Point: WET 45.1
Investigator(s): Lauren Zielke, Steven Blitzstein	Section, Township, Range:	Not Available	
Landform (hillside, terrace, etc.): flood plains	Local relief (concave, convex,	none): depressional	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.294510	7895 Long: -	82.0886468177	Datum: WGS 84
Soil Map Unit Name: Miner silty clay loam		NWI classification:	
Are climatic / hydrologic conditions on the site typical for this time of	f year? Yes X No	(If no, explain in Rema	arks.)
Are Vegetation, Soil, or Hydrologysignific	antly disturbed? Are "Norma	Circumstances" present?	Yes X No
Are Vegetation, Soil, or Hydrologynatural	ly problematic? (If needed,	explain any answers in Rem	arks.)

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes <u>X</u> No Yes <u>X</u> No Yes <u>X</u> No	within a Wetland? Yes X No	
Remarks: (Explain alternative procedu	ures here or in a sepa	arate report.)	

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) X Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
X 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 on Livin	g 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) X 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)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes X No Depth (inches): 12	Wetland Hydrology Present? Yes X No
Saturation Present? Yes X No Depth (inches): 12 (includes capillary fringe)	Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
(includes capillary fringe)	
(includes capillary fringe)	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	

Sampling	Point:	WET 45.1
Camping		

1.				Dominance Test worksheet:Number of Dominant SpeciesThat Are OBL, FACW, or FAC:1Total Number of DominantSpecies Across All Strata:1Percent of Dominant SpeciesThat Are OBL, FACW, or FAC:100.0%Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species0x 1 =0FACW species90x 2 =180FAC species0x 3 =0FACU species10x 4 =40
2.				That Are OBL, FACW, or FAC:1(A)Total Number of Dominant Species Across All Strata:1(B)Percent of Dominant Species That Are OBL, FACW, or FAC:100.0%(A/B)Prevalence Index worksheet:100.0%(A/B)OBL species0 $x 1 = 0$ (A)FACW species90 $x 2 = 180$ (A)FAC species0 $x 3 = 0$ (A)FACU species10 $x 4 = 40$ (A)
4.				Species Across All Strata:1(B)Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species0 $x 1 = 0$ FACW species90 $x 2 = 180$ FAC species0 $x 3 = 0$ FACU species10 $x 4 = 40$
6.				That Are OBL, FACW, or FAC:100.0%(A/B)Prevalence Index worksheet: $\$ $\$ $\$ $\$ $\$ Total % Cover of:Multiply by: $\$ $\$ $\$ $\$ $\$ $\$ $\$ OBL species0x 1 =0 $\$ $\$ $\$ $\$ $\$ $\$ $\$ $\$ FACW species90x 2 =180 $\$ </td
Sapling/Shrub Stratum (Plot size: 15' radius) 1.		=Total Cover		Total % Cover of:Multiply by:OBL species0 $x 1 = 0$ FACW species90 $x 2 = 180$ FAC species0 $x 3 = 0$ FACU species10 $x 4 = 40$
1.		=Total Cover		OBL species0 $x 1 =$ 0FACW species90 $x 2 =$ 180FAC species0 $x 3 =$ 0FACU species10 $x 4 =$ 40
1.				FACW species90 $x 2 =$ 180FAC species0 $x 3 =$ 0FACU species10 $x 4 =$ 40
2.				FACW species90 $x 2 =$ 180FAC species0 $x 3 =$ 0FACU species10 $x 4 =$ 40
2.				FAC species0 $x \ 3 =$ 0FACU species10 $x \ 4 =$ 40
3.				FACU species 10 x 4 = 40
4.				
5.				UPL species $0 \times 5 = 0$
6. 7.				Column Totals: 100 (A) 220 (B)
7.				Prevalence Index = $B/A = 2.20$
				Hydrophytic Vegetation Indicators:
	<u> </u>	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation
(Use Ctrotum (Distaize) El radiue)		-Tulai Cuvei		
Herb Stratum (Plot size: 5' radius)	~	Vee		X 2 - Dominance Test is $>50\%$
	90	Yes	FACW	X 3 - Prevalence Index is $\leq 3.0^{1}$
	10	No	FACU	 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
3				
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.			_	Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in. (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10.				
11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.				
	00 =	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2.				
3.				Hydrophytic Vegetation
4.				Vegetation Present? Yes X No
	<u> </u>	=Total Cover		
Remarks: (Include photo numbers here or on a separate sh	_			

Profile De	escription: (Describe	e to the d	epth needed to docu	iment th	e indicato	or or cor	nfirm the absence	of indicators.)
Depth	Matrix			x Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 4/1	85	7.5YR 5/6	15	С	М	Mucky Loam/Clay	Prominent redox concentrations
10-18	10YR 6/1	95	10YR 7/6	5	С	М	Loamy/Clayey	Prominent redox concentrations
¹ Type: C=	=Concentration, D=De	oletion. R	M=Reduced Matrix. C	S=Cove	red or Coa	ated San	d Grains. ² Loc	cation: PL=Pore Lining, M=Matrix.
	bil Indicators:			0 0010				or Problematic Hydric Soils ³ :
	sol (A1)		Polyvalue Below	v Surface	e (S8) (LR	RR,		ck (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)		. , .			airie Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surfa	ce (S9) (LRR R, M	LRA 149		cky Peat or Peat (S3) (LRR K, L, R)
Hydro	ogen Sulfide (A4)		High Chroma Sa	ands (S1	1) (LRR K	ζ, L)	Polyvalue	e Below Surface (S8) (LRR K, L)
Strati	fied Layers (A5)		Loamy Mucky M	lineral (F	1) (LRR Þ	(, L)	Thin Darl	k Surface (S9) (LRR K, L)
Deple	eted Below Dark Surface	ce (A11)	Loamy Gleyed N	Matrix (F2	2)		Iron-Man	ganese Masses (F12) (LRR K, L, R)
Thick	Dark Surface (A12)		Depleted Matrix	(F3)			Piedmon	t Floodplain Soils (F19) (MLRA 149B)
Sand	y Mucky Mineral (S1)		X Redox Dark Sur	face (F6)		Mesic Sp	oodic (TA6) (MLRA 144A, 145, 149B)
Sand	y Gleyed Matrix (S4)		Depleted Dark S	Surface (F7)		Red Pare	ent Material (F21)
Sand	y Redox (S5)		Redox Depressi	ions (F8)			Very Sha	allow Dark Surface (TF12)
Stripp	oed Matrix (S6)		Marl (F10) (LRR	R K, L)			Other (Ex	xplain in Remarks)
Dark	Surface (S7)							
³ Indicators	s of hydrophytic vegeta	ation and	wetland hydrology mu	ist be pre	esent, unle	ess distu	rbed or problematic	-
	ve Layer (if observed)							
Туре:								
Depth (i	inches):						Hydric Soil Pre	esent? Yes <u>X</u> No
Remarks:								
Data form	is revised from Northo	central an	d Northeast Regional	Supplem	nent Versi	on 2.0 to	reflect the NRCS F	ield Indicators of Hydric Soils version
7.0 March	2013 Errata. (http://sc	oils.usda.	gov/use/hydric)					

Project/Site: Avon Lake Gas Addition Project	San	npling Date: 9/2/14			
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH	Sampling Point: UPL 45.1		
Investigator(s): Lauren Zielke, Steven Blitzstein	Section, Township, Range:	Not Available			
Landform (hillside, terrace, etc.): flood plains	Local relief (concave, convex, n	one): linear	Slope (%): 0 - 2		
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat:	41.2944260113 Long: -82	2.0889032596	Datum: WGS 84		
Soil Map Unit Name: Tioga fine sandy loam		NWI classification	n: None		
Are climatic / hydrologic conditions on the site typical for	or this time of year? Yes X No	(If no, explain in Re	marks.)		
Are Vegetation, SoilX, or Hydrology	significantly disturbed? Are "Normal C	Circumstances" present	? Yes <u>No X</u>		
Are Vegetation, Soil, or Hydrology	naturally problematic? (If needed, ex	plain any answers in Re	emarks.)		
SUMMARY OF FINDINGS – Attach site ma	SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No X Is the Sampled Area No within a Wetland? No X If yes, optional Wetland S		lo_X_		
Remarks: (Explain alternative procedures here or in a near railroad grade; gravel substrate exists at 5" depth					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicators	(minimum of two required)		
Primary Indicators (minimum of one is required; check		Surface Soil Cracks (B6)			
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pattern	· · · ·		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines	(B16)		

Saturation (A3)				Marl Deposits (B15)		Dry-Season Wat	ter Table (C2)
Water Marks (B1)				Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)		
Sediment Deposits (B2)				Oxidized Rhizospheres on Livi	ing Roots (C3)	Saturation Visibl	e on Aerial Ir	nagery (C9)
Drift Deposits (B3)				Presence of Reduced Iron (C4	Presence of Reduced Iron (C4)			D1)
Algal Mat or Crust (B4)				Recent Iron Reduction in Tilled	d Soils (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)				Thin Muck Surface (C7)		Shallow Aquitard (D3)		
Inundation Visible on A	erial Imager	y (B7)		Other (Explain in Remarks)		Microtopographi	c Relief (D4)	
Sparsely Vegetated Co	oncave Surfa	ice (B8)		-	FAC-Neutral Test (D5)			
Field Observations:								
Surface Water Present?	Yes	No	Х	Depth (inches):				
Water Table Present?	Yes	No	Х	Depth (inches):				
Saturation Present?	Yes	No	Х	X Depth (inches): Wetland Hydrology Present? Yes				No X
(includes capillary fringe)								
Describe Recorded Data (s	tream gauge	e, monito	ring	well, aerial photos, previous insp	Dections), if avail	adie:		
Remarks:								

Sampling Point: UPL 45.1

3.	Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
4.	2				
6.					
Saping/Shrub Stratum (Plot size:15' radius) 10 Yes FACU FACW species0	6				
Sapiling/Shrub Stratum (Plot size: 15 radius) 10 Yes FACU 1. Quercus alba 10 Yes FACU 2.	7				Prevalence Index worksheet:
1. Ouercus alba 10 Yes FACU FACW species 0 x 2 = 0 2.			=Total Cover		Total % Cover of: Multiply by:
2.	Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species 0 x 1 = 0
3.	1. Quercus alba	10	Yes	FACU	FACW species 0 x 2 = 0
3.	2.				FAC species 5 x 3 = 15
4.	0				FACU species 80 x 4 = 320
5.					UPL species 25 x 5 = 125
6.					Column Totals: 110 (A) 460 (B)
7.	6				
10 =Total Cover 1 - Rapid Test for Hydrophytic Vegetation 11 Solidago canadensis 40 Yes FACU 3 - Prevalence Index is ≤3.0 ¹ 2. Cirsium discolor 20 Yes UPL 4 - Morphological Adaptations ¹ (Provide supp data in Remarks or on a separate sheet) 3. Daucus carota 20 Yes FACU Problematic Hydrophytic Vegetation ¹ (Explain 10) 4. Ambrosia artemisiifolia 10 No FACU Problematic Hydrophytic Vegetation ¹ (Explain 10) 5. Asclepias syriaca 5 No UPL ¹ Indicators of hydric soil and wetland hydrology m be present, unless disturbed or problematic. 7.					
Herb Stratum (Plot size: 5' radius 40 Yes FACU 3 - Prevalence Index is <3.0 ¹ 2. Cirisium discolor 20 Yes UPL 4 - Morphological Adaptations ¹ (Provide supp data in Remarks or on a separate sheet) 3. Daucus carota 20 Yes FACU 4 - Morphological Adaptations ¹ (Provide supp data in Remarks or on a separate sheet) 4. Ambrosia artemisiifolia 10 No FACU Problematic Hydrophytic Vegetation ¹ (Explain 5. Asclepias syriaca 5 No UPL ¹ Indicators of hydric soil and wetland hydrology me be present, unless disturbed or problematic. 7.		10	=Total Cover		
1. Solidago canadensis 40 Yes FACU 3 - Prevalence Index is \$3.0 ¹ 2. Cirsium discolor 20 Yes UPL 4 - Morphological Adaptations ¹ (Provide supplication and the second seco	Herb Stratum (Plot size: 5' radius)				
2. Cirsium discolor 20 Yes UPL 4 - Morphological Adaptations ¹ (Provide supplication and the provide supplication andifference and the provide supplication and the provid		40	Yes	FACU	I—
3. Daucus carota 20 Yes FACU data in Remarks or on a separate sheet) 4. Ambrosia artemisiifolia 10 No FACU Problematic Hydrophytic Vegetation ¹ (Explain 5. Asclepias syriaca 5 No UPL 1 Indicators of hydric soil and wetland hydrology methods be present, unless disturbed or problematic. 7.					
4. Ambrosia artemisiifolia 10 No FACU Problematic Hydrophytic Vegetation ¹ (Explain 5. Asclepias syriaca 5 No UPL ¹ Indicators of hydric soil and wetland hydrology m be present, unless disturbed or problematic. 7.					
5. Asclepias syriaca 5 No UPL 'Indicators of hydric soil and wetland hydrology m 6. Toxicodendron radicans 5 No FAC be present, unless disturbed or problematic. 7.					Problematic Hydrophytic Vegetation ¹ (Evolution)
6. Toxicodendron radicans 5 No FAC be present, unless disturbed or problematic. 7.					
7.					¹ Indicators of hydric soil and wetland hydrology must
8.	7		<u> </u>	FAC	
9.	0				
11.	0				diameter at breast height (DBH), regardless of height.
12.					Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
100 =Total Cover Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size:) Woody vines – All woody vines greater than 3.28 ft tall. 1. 2. 3.					
1. . </td <td></td> <td>100</td> <td>=Total Cover</td> <td></td> <td></td>		100	=Total Cover		
2.	/				Woody vines – All woody vines greater than 3.28 ft in
3.					height.
3. Vegetation 4.					Hydrophytic
=Total Cover	3				Vegetation
	4				Present? Yes <u>No X</u>
Remarks: (Include photo numbers here or on a separate sheet.)			=Total Cover		
	Remarks: (Include photo numbers here or on a separ	rate sheet.)			

SOI	
-----	--

Depth	Scription: (Describe Matrix	to the de	•	ment the x Feature		or or con	firm the absence of i	ndicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0-5	10YR 2/1	100					Sandy			
6+		·						aravolly substra	to	
0+		<u> </u>						gravelly substra	ite	
		·								
		<u> </u>								
		· ·								
		·								
		·								
		·								
1		·								
	Concentration, D=Dep	letion, RN	/I=Reduced Matrix, C	S=Cove	red or Coa	ated Sand		on: PL=Pore Lining, M=		
-	il Indicators:			o (roblematic Hydric Soil		
	ol (A1)	•	Polyvalue Belov	v Surface	e (S8) (LR	RR,		A10) (LRR K, L, MLRA		
	Epipedon (A2)		MLRA 149B)	(CO) (e Redox (A16) (LRR K,		
	Histic (A3)		Thin Dark Surfa					Peat or Peat (S3) (LRR		
	gen Sulfide (A4)		High Chroma Sa			-		elow Surface (S8) (LRR	r , L)	
	ed Layers (A5)		Loamy Mucky M			 L)	Thin Dark Surface (S9) (LRR K, L)			
	ted Below Dark Surface	e (ATT)	Loamy Gleyed N		<u><</u>)			nese Masses (F12) (LRI		
	Dark Surface (A12) Mucky Mineral (S1)	•	Depleted Matrix Redox Dark Sur		`			oodplain Soils (F19) (M l c (TA6) (MLRA 144A, 1		
	Gleyed Matrix (S4)	•	Depleted Dark St					Material (F21)	43, 1490)	
	Redox (S5)	•	Redox Depressi					w Dark Surface (TF12)		
	ed Matrix (S6)		Marl (F10) (LRF					ain in Remarks)		
	Surface (S7)			, _/						
Duint d										
³ Indicators	of hydrophytic vegeta	tion and v	vetland hydrology mu	ist be pre	esent, unle	ess disturl	bed or problematic.			
Restrictive	E Layer (if observed)		, , ,		,					
Type:										
Depth (ir	nches):						Hydric Soil Prese	nt? Yes	No	
Remarks:							,			
	is revised from Northc	entral and	Northeast Regional	Supplem	nent Versi	on 2 0 to i	reflect the NRCS Field	I Indicators of Hydric So	ils version	
	2013 Errata. (http://so			ouppion		011 2.0 10 1				
		-	- /							

Project/Site: Avo	n Lake Gas Addition Project	City/County: Lorain Count	y	Sampling Dat	e: <u>9/2/14</u>	ł
Applicant/Owner:	NRG Gas Pipeline Company LL	0	State:	OH Sampli	ing Point:	WET 47.1
Investigator(s): La	auren Zielke, Steven Blitzstein	Section, Township, Range	Not Available			
Landform (hillside,	terrace, etc.): flood plains	Local relief (concave, convex	, none): linear		Slope (%)	0 - 2
Subregion (LRR or	MLRA): LRR R, MLRA 139	.at: 41.2794382212 Long:	-82.0936487748	Da	atum: <u>WG</u>	S 84
Soil Map Unit Nam	e: Tioga fine sandy loam		NWI classi	ification: PFO10	2	
Are climatic / hydro	ologic conditions on the site typic	al for this time of year? Yes X No	(If no, explai	n in Remarks.)		
Are Vegetation	, Soil, or Hydrology	significantly disturbed? Are "Norma	al Circumstances" p	resent? Ye	s <u>X</u> 1	No
Are Vegetation	, Soil, or Hydrology	naturally problematic? (If needed,	explain any answer	rs 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 X No Yes X No Yes X No	Is the Sampled Area within a Wetland? Yes X No If yes, optional Wetland Site ID: WET 47.1
Remarks: (Explain alternative procedu	ures here or in a separate re	port.)

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) X 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)
X Water Marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizospheres on Living	g 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 S	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)
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes X No Depth (inches): 14	Wetland Hydrology Present? Yes X No
Saturation Present? Yes X No Depth (inches): 14 (includes capillary fringe)	Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
(includes capillary fringe)	
(includes capillary fringe)	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	

Sampling Point: WET 47.1

Tree Stratum (Distaire: 20 radius)	Absolute	Dominant	Indicator	Deminence Test werkeheet
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	60	Yes	FAC	Number of Dominant Species
2. Ulmus americana	20	Yes	FACW	That Are OBL, FACW, or FAC: 5 (A)
3. Acer negundo	10	No	FAC	Total Number of Dominant
4. Fraxinus pennsylvanica	10	No	FACW	Species Across All Strata: <u>5</u> (B)
5		·		Percent of Dominant Species
6		. <u> </u>		That Are OBL, FACW, or FAC: 100.0% (A/B)
7		·		Prevalence Index worksheet:
	100	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species x 1 =
1. Lindera benzoin	40	Yes	FACW	FACW species 100 x 2 = 200
2. Fraxinus pennsylvanica	30	Yes	FACW	FAC species 80 x 3 = 240
3				FACU species 0 x 4 = 0
4				UPL species 0 x 5 = 0
5				Column Totals: 180 (A) 440 (B)
6				Prevalence Index = B/A = 2.44
7				Hydrophytic Vegetation Indicators:
	70	=Total Cover		X 1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)				X 2 - Dominance Test is >50%
1. Toxicodendron radicans	10	Yes	FAC	X 3 - Prevalence Index is $\leq 3.0^1$
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				The directions of building of the duration of building to many state
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	10	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2.				
3.	_			Hydrophytic Vogetation
4.				Vegetation Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			
F.pennsylvanica dead/ dying in tree stratum; Herbac		n extremely spa	arce with mini	mal absolute cover

SOIL

Profile De	scription: (Describe	e to the de				or or cor	nfirm the absence of	of indicators.)
Depth	Matrix			x Featur				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 18	10YR 5/2	95	10YR 5/8	5	С	М	Mucky Loam/Clay	Prominent redox concentrations
¹ Type: C=	Concentration, D=De	pletion, RI	M=Reduced Matrix, C	S=Cove	red or Coa	ated San	d Grains. ² Loc	ation: PL=Pore Lining, M=Matrix.
Hydric So	il Indicators:						Indicators fo	r Problematic Hydric Soils ³ :
Histos	ol (A1)		Polyvalue Below	v Surface	e (S8) (LR	RR,	2 cm Mu	ck (A10) (LRR K, L, MLRA 149B)
Histic	Epipedon (A2)		MLRA 149B)				Coast Pra	airie Redox (A16) (LRR K, L, R)
Black	Histic (A3)		Thin Dark Surfa	ce (S9) (LRR R, M	LRA 149	9B) 5 cm Muo	cky Peat or Peat (S3) (LRR K, L, R)
Hydro	gen Sulfide (A4)		High Chroma Sa	ands (S1	1) (LRR K	(, L)	Polyvalue	e Below Surface (S8) (LRR K, L)
Stratif	ied Layers (A5)		Loamy Mucky M	lineral (F	1) (LRR #	(, L)		Surface (S9) (LRR K, L)
	ted Below Dark Surfa	ce (A11)	Loamy Gleyed N			. ,		ganese Masses (F12) (LRR K, L, R)
	Dark Surface (A12)	()	Depleted Matrix		,			t Floodplain Soils (F19) (MLRA 149B)
	Mucky Mineral (S1)		X Redox Dark Sur		5)			odic (TA6) (MLRA 144A, 145, 149B)
	Gleyed Matrix (S4)		Depleted Dark S					ent Material (F21)
	Redox (S5)		Redox Depressi					llow Dark Surface (TF12)
	ed Matrix (S6)		Marl (F10) (LRR					plain in Remarks)
	Surface (S7)		(, _/				
Duik (
³ Indicators	of hydrophytic vegeta	ation and v	vetland hydrology mi	ist be pre	esent unle	ess distu	rbed or problematic	
	e Layer (if observed)		rotana nyarology ma					
Type:		,.						
Depth (ii	ncnes):						Hydric Soil Pre	sent? Yes <u>X</u> No
Remarks:								
				Supplen	nent Versi	on 2.0 to	reflect the NRCS F	ield Indicators of Hydric Soils version
7.0 March	2013 Errata. (http://so	biis.usda.g	ov/use/nydric)					

Project/Site: Avon Lake Gas Addition Project	City/County: Lorain County	Samp	pling Date: 9/2/14
Applicant/Owner: NRG Gas Pipeline Company LLC		State: OH	Sampling Point: UPL 47.1
Investigator(s): Lauren Zielke, Steven Blitzstein	Section, Township, Range:	Not Available	
Landform (hillside, terrace, etc.): flood plains	ocal relief (concave, convex, r	none): linear	Slope (%): 0 - 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.2787838562	2Long: <u>-8</u>	2.0955655331	Datum: WGS 84
Soil Map Unit Name: Tioga fine sandy loam		NWI classification:	None
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes <u>X</u> No	(If no, explain in Rem	narks.)
Are Vegetation, Soil, or Hydrologysignificantl	y disturbed? Are "Normal (Circumstances" present?	Yes X No
Are Vegetation, Soil, or Hydrologynaturally p	roblematic? (If needed, ex	xplain any answers in Rer	narks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locatio	ons, transects, impo	rtant features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No X No X No X	Is the Sampled Area within a Wetland? Yes No X If yes, optional Wetland Site ID:					
Remarks: (Explain alternative procedures here or in a separate report.)								

Wetland Hydrology Indicators:	Se	condary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	ly)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stain	ned Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2) Aquatic Fa	una (B13)	Moss Trim Lines (B16)
Saturation (A3) Marl Depos	its (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen S	Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized R	nizospheres on Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence c	f Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iror	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 (Exp	ain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No X Depth (inc	:hes):	
Water Table Present? Yes No X Depth (inc	:hes):	
Saturation Present? Yes No X Depth (inc	ches): Wetland Hydro	logy Present? Yes No X
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial pl	notos, previous inspections), if availabl	e:
Remarks:		

Sampling Point: UPL 47.1

<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer saccharum	45	Yes	FACU	Number of Dominant Species
2. Fagus grandifolia	35	Yes	FACU	That Are OBL, FACW, or FAC: 1 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>6</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>16.7%</u> (A/B)
7				Prevalence Index worksheet:
	80	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15' radius)				OBL species x 1 =
1. Acer saccharum	40	Yes	FACU	FACW species 0 x 2 = 0
2. Quercus rubra	30	Yes	FACU	FAC species x 3 =60
3. <u>Rosa multiflora</u>	10	No	FACU	FACU species 170 x 4 = 680
4. Acer rubrum	10	No	FAC	UPL species 0 x 5 = 0
5				Column Totals: 190 (A) 740 (B)
6.				Prevalence Index = B/A = 3.89
7.				Hydrophytic Vegetation Indicators:
	90	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)		•		2 - Dominance Test is >50%
1. Parthenocissus quinquefolia	10	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
2. Toxicodendron radicans	10	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				¹ Indicators of hydric soil and wetland hydrology must
6.				be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	20	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				
3.				Hydrophytic Vegetation
4.				Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			•
sparse herbaceous stratum	,			

JOIL

		e to the de				or or con	firm the absence of ind	licators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Featur %	Type ¹	Loc ²	Texture	Remarks
					190	200		Romano
0-18	10YR 5/1	100				. <u> </u>	Sandy	
·								
·						·		
·							······	
·								
¹ Type: C=(Concentration D=De	nletion RI	M=Reduced Matrix, C	S=Cove	red or Co:	ated Sand	Grains ² Location	: PL=Pore Lining, M=Matrix.
	I Indicators:			0 0010				blematic Hydric Soils ³ :
Histos			Polyvalue Below	/ Surface	e (S8) (L R	RR.		10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B)	Canad	,(00)(,		Redox (A16) (LRR K, L, R)
	Histic (A3)		Thin Dark Surface	ce (S9) (LRR R. M	LRA 149		eat or Peat (S3) (LRR K, L, R)
	gen Sulfide (A4)		High Chroma Sa					ow Surface (S8) (LRR K, L)
	ed Layers (A5)		Loamy Mucky M			-		ace (S9) (LRR K, L)
	ed Below Dark Surfa	ce (A11)	Loamy Gleyed N			, ,		se Masses (F12) (LRR K, L, R)
	Dark Surface (A12)	. ,	Depleted Matrix		,			dplain Soils (F19) (MLRA 149B)
	Mucky Mineral (S1)		Redox Dark Sur)			(TA6) (MLRA 144A, 145, 149B)
	Gleyed Matrix (S4)		Depleted Dark S				Red Parent Ma	
Sandy	Redox (S5)		Redox Depressi	ons (F8)			Very Shallow [Dark Surface (TF12)
Strippe	ed Matrix (S6)		Marl (F10) (LRR	K, L)			Other (Explain	in Remarks)
Dark S	Surface (S7)							
³ Indicators	of hydrophytic vegeta	ation and v	wetland hydrology mu	st be pre	esent, unle	ess disturl	bed or problematic.	
Restrictive	e Layer (if observed):						
Туре:								
Depth (in	iches):						Hydric Soil Present	? Yes No X
Remarks:								
	s revised from North	central and	d Northeast Regional	Supplen	nent Versi	on 2.0 to i	reflect the NRCS Field Ir	ndicators of Hydric Soils version
	2013 Errata. (http://so							

Appendix C

Ohio Rapid Assessment Method Forms

Background Information

Namo: Lawen Zelke	
Date: 9/10/14	
Affiliation: EP.M	
Address: 1701 Golf Rd, Suite 1-700, Polling Mendows, Il	-60008
Phone Number: 847-258-8941	
e-mail address: Jawen.zielke@erm.com	
Name of Wetland: Wetland 25.1	
Vegetation Communit(les): PFO	
HGM Class(05): Seasonally inundated / seasonally saturated	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
See mapbook page 14.	
LavLong or UTM Coordinate See Aquatic Resources Table	
USGS Quad Name	Graffon
County	Lorain
Township	N. Ridseville
Section and Subsection	None
Hydrologic Unit Code	4110001
Site Visit	9/3/14
National Wetland Inventory Map	65%-2
Ohio Wetland Inventory Map	
Soil Survey	
Delineation report/map	Paje 14

Name of Wetland: 25.1 Wetland Wetland Size (acres, hectares): O. 8 a cres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. wetland area ψ agricultural field ψ ψ ¥ > wetland Ψ PFO agricultural field ROW \uparrow N Comments, Narrative Discussion, Justification of Category Changes: Wetland 25.1 is a palustrine forested depressional wethand that is surrounded by an agricultural field to true east and sorth, additional wetland area to the north and west which is adjacent to a parking lot and large building. Final score : 30 Category: 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
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 berns 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.		
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.		
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.	~	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
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.		

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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.

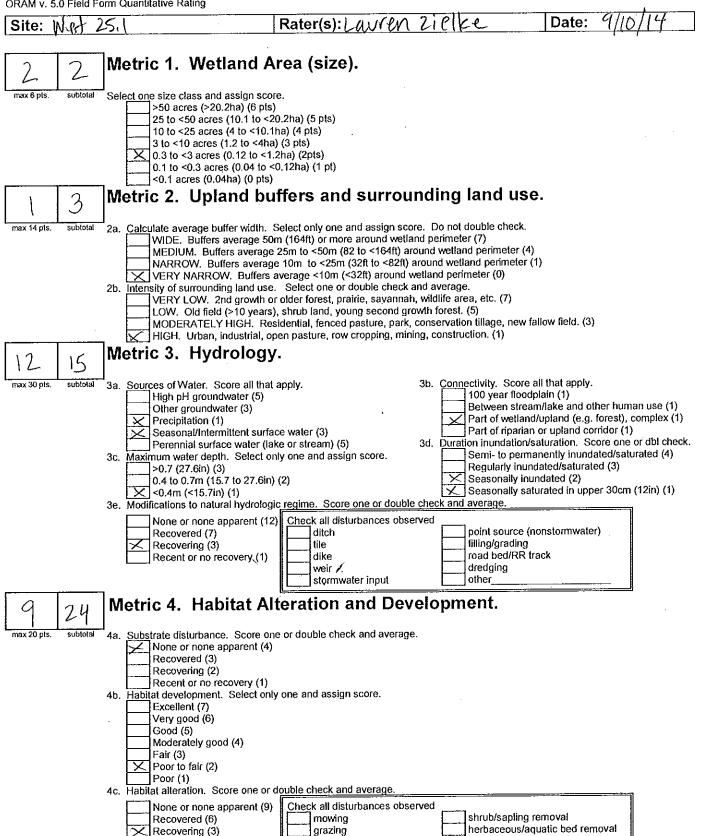
#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical	YES Wetland should be	NO Go to Question 2
	habitat" for any threatened 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	evaluated for possible Category 3 status	
	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, or documented occurrences of federal or state-listed	YES	(NO)
	threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
		Go to Question 3	0
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES	(N9
		Wetland is a Category 3 wetland	Go to Question 4
-		Go to Question 4	5
1	Significant Breeding or Concentration Area. Does the welland	YES	(NO)
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of	YES	NO
	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	Wetland is a Category 1 wetland	Go to Question 6
	no vegetation?	Go to Question 6	
i	Bogs. Is the welland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses,	YES	(NO)
	particularly Sphagnum 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	and the second se
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free	YES	(NO)
	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	as the second se
a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics:	YES	NO
	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	Wetland is a Category 3 wetland.	Go to Question 8b
	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?	Go to Question 8b	

	·		\sim
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	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	<u></u>
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is		
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be evaluated for possible	Go to Question 9c
	landward dikes or other hydrological controls?	Category 3 status	
		outegory o otatao	
		Go to Question 10	
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	Go to Question 9d	Go to Question 10
	"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	NO
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	160	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
••	tolerant native plant species within its vegetation communities?		
		Wetland should be	Go to Question 10
		evaluated for possible Category 3 status	
		Go to Question 10	0
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	
	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	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.		$\square \square$
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	Wetland should be	Complete
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	
			<u> </u>

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invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex aligosperma	Cladium mariscoides	Carex buxbaumi
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellin
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsi
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	2 1	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 terebinthinaceun
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutan:
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddelli
	Salix serissima	Xyris difformis		contrago matem
	Solidago ohioensis			
	Tofieldia glutinosa			
•	Triglochin maritimum			
	Triglochin palustre			

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

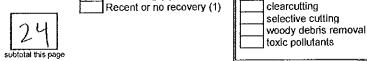


sedimentation

nutrient enrichment

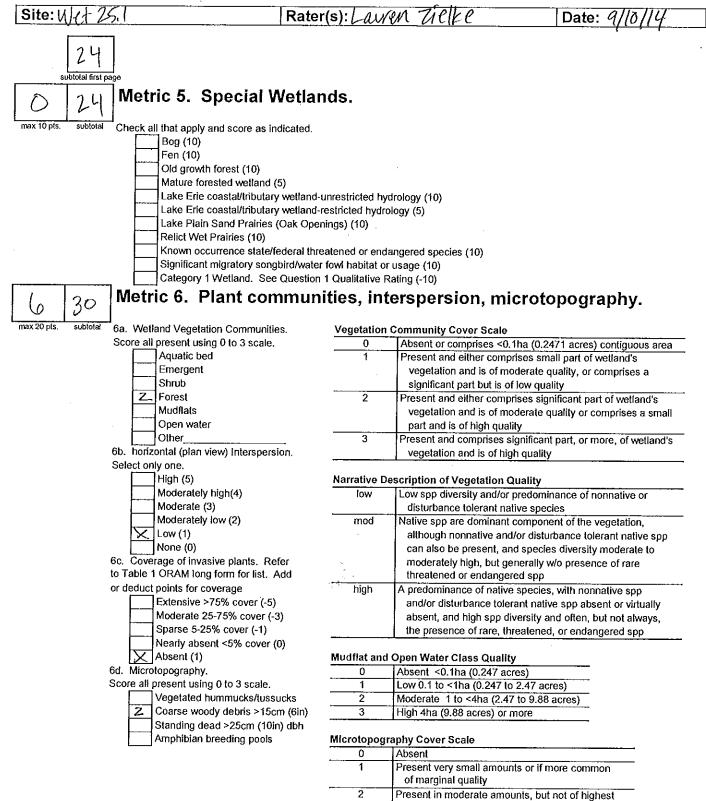
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farming





ORAM v. 5.0 Field Form Quantitative Rating





End of Quantitative Rating. Complete Categorization Worksheets.

3

quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

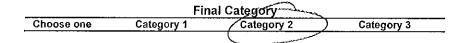
		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If 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	Z	
raung	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	Ò	
	Metric 6. Plant communities, interspersion, microtopography	6	
	TOTAL SCORE	30	Category based on score breakpoints

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

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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-
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	RO CO	categorized by the ORAM 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 greater 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 /Iffe scoring range	(NO)	If the score of the welland is located within the scoring range for a particular category, the welland 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.



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: aven Zielke Date: Affiliation: ERM 701 Golf Rd., Svite 1-700, Rolling Mendows, IL 60008 Address: Phone Number: 7-258-8941 lavien.zielk@erm.com e-mail address: Name of Wetland: W. Hland 32.1 Vegetation Communit(ies): PFO HGM Class(es): Seasonally inundated seasonally saturated Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See mapbook page 18. See Aquatic Resources take Lat/Long or UTM Coordinate **USGS Quad Name** Grafton County Lorain Township Eaton Section and Subsection None Hydrologic Unit Code 4110001 Site Visit q 13/14 National Wetland Inventory Map **Ohio Wetland Inventory Map** Soil Survey Page 18 Delineation report/map

Name of Wetland: Wetland 32.1 Wetland Size (acres, hectares): 2,4 acres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. residences ROW Ψ Ý ψ Ý = wetland ψ Ψ residence lesi funce > PFO ψ 1 Flint Ridge Drive N Comments, Narrative Discussion, Justification of Category Changes: wetland 32.1 is a palustrine firested depressional wehand with plint Pidge Drive to the South, and residences to the north, east and west, Final score : 29 Category: l

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, AX'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.		
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.		
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.	/	
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.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
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.		

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES	NO
	been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species?	Wetland should be evaluated for possible	Go to Question 2
	Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has	Category 3 status	
	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, or documented occurrences of federal or state-listed	YES	NO/
	threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
	·	Go to Question 3	0
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES	NO
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	0
4	Significant Breeding or Concentration Area. Does the welland contain documented regionally significant breeding or nonbreeding	YES	(NO)
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	R
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of	YES	NO
	vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or	Wetland is a Category 1 wetland	Go to Question 6
	2) an acidic pond created or excavated on mined lands that has little or no vegetation?	Go to Question 6	
3	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses,	YES	(NO)
	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	0
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free	YES	(NO)
	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	\sim
la	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics:	YES	(NO)
	overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence	Wetland is a Category 3 wetland.	Go to Question 8b
	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?	Go to Question 8b	

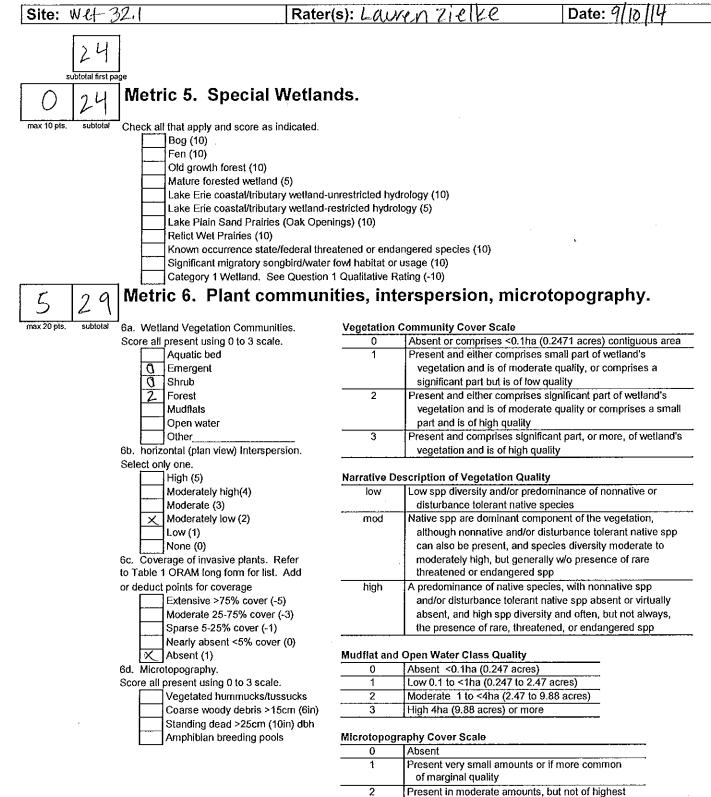
			ram .
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	(NO)
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Welland should be evaluated for possible Category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

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invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica yar. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumi
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartvelli
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsi
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	2	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicate
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 terebinthinaceun
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddelli
	Salix serissima	Xyris difformis		Solidago Hallella
	Solidago ohioensis	1.9.12 (001,000		
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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



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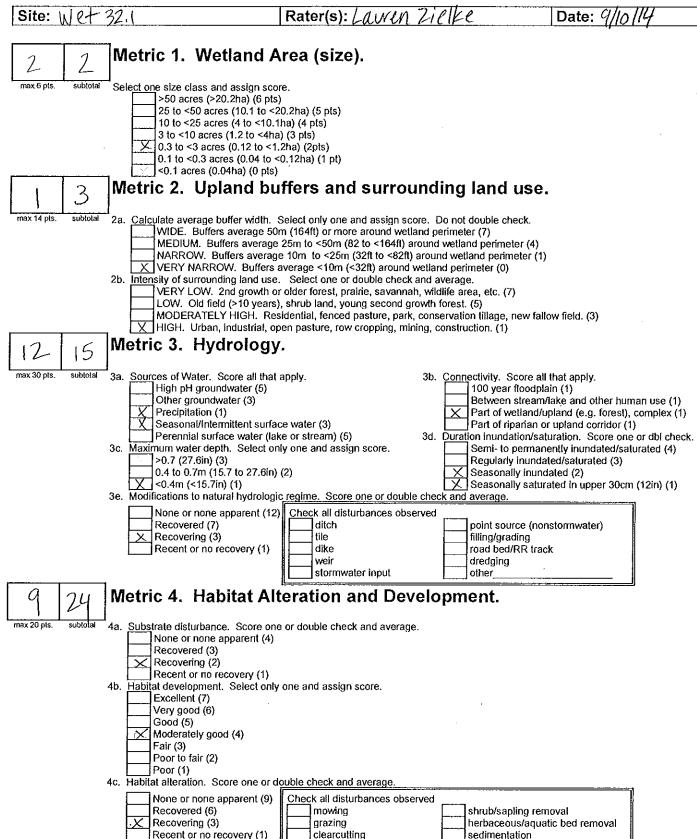
End of Quantitative Rating. Complete Categorization Worksheets.

3

quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality



selective cutting

toxic pollutants

woody debris removal

dredging

nutrient enrichment

farming

subtotal this page last revised 1 February 2001 jjm

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
loonig	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	29	Category based on score breakpoints

ORAM Summary Worksheet

Complete Wetland Categorization Worksheet.

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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		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 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 greater 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 Welland 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 ecreational functions AND he 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 his 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 critena 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.

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

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Lawren Zielke Date: 10/14 Affiliation: ERM 1701 Oolf Rd, Suite 1-700, Rolling Meadows, IL 60008 Address: Phone Number: 847-258-8941 lauren. zielke@erm.com e-mail address: Name of Wetland: Wetland 33.1 Vegetation Communit(les): PFO HGM Class(es): Seasonally invedded / seasonally saturated Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. HGM Class(es): See mapbook page 18-19. Lat/Long or UTM Coordinate See Aquatic Resources Table Grafton **USGS** Quad Name County Lordin Township Eaton Section and Subsection Nine Hydrologic Unit Code 4110001 Site Visit 913/14 National Wetland Inventory Map Ohio Wetland Inventory Map Soil Survey Page 18, 19 Delineation report/map

Name of Wetland: Wetland 33. 1 Wetland Size (acres, hectares): 1.0 acres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Flint Ridge Drive resimple \checkmark ψ + + PFO residence V Ý = agricultural field -> ≁ N Comments, Narrative Discussion, Justification of Category Changes: Wetland 33.1 is a palustrine forested depressional wethand with Flint Fidge Drive to the North, an apprecitival field to the south, and residences to the east and west. Final score : 28 Category:

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Summary: Application of NRG Ohio Pipeline Company LLC continued - Attachment I (Part 10) electronically filed by Teresa Orahood on behalf of Sally Bloomfield