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Appendix A USACE Wetland Determination Field Datasheets

CONFIDENTIAL PROPRIETARY TRADE SECRET DUKE- WALTON TO BIG BONE

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Walton- Big Bone Natur	ral Gas Pipeline	_City/County:	Boone	Sampling Date: 3	5/29/10		
Applicant/Owner: Duke Energy		The second	Kentucky	Sampling Point			
Investigator(s): Sarah Miloski, Julie Fre	er	Sectio	n, Township, Ra	ange: No PLSS in Area			
Landform (hillslope, terrace, etc.): both	the second s			none): concave	Slope (%): 0		
Subregion (LRR or MLRA): LRR N	Lat.:	38.88759		-84.742106	Datum: WGS 84		
Soil Map Unit Name No-Nolin silt loam, (0 to 2 percent slop	es, occasionally	looded N	WI Classification: N/A			
Are climatic/hydrologic conditions of the			AND I DE CONTRACTOR	The second s	plain in remarks)		
	, or hydrology , or hydrology		y disturbed? roblematic?	Are "normal circumstances" pres (If needed, explain a			
SUMMARY OF FINDINGS							
Hydric soil present? Y	es es	is the sam	pled area with	and the second se	<u>s</u> 03-PEM		
Remarks:	more things while						
HYDROLOGY Wetland Hydrology Indicators:			Secor	ndary Indicators (minim	um of two required)		
Primary Indicators (minimum of one is re	equired: check all	that apply)		urface Soil Cracks (B6)	,		
X Surface Water (A1)		atic Plants (B14)		parsely Vegetated Conc	ave Surface (B8)		
X High Water Table (A2)	A CONTRACTOR OF	Sulfide Odor (C1)		rainage Patterns (B10)			
X Saturation (A3)		Rhizospheres on L	and the second second	Moss Trim Lines (B16)			
Water Marks (B1)	X Roots (C3	Construction of the second state of the		Dry-Season Water Table (C2)			
Sediment Deposits (B2)		of Reduced Iron (Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)			
Drift Deposits (B3)	A CONTRACTOR OF A CONTRACTOR O	n Reduction in Til					
Algal Mat or Crust (B4)	Soils (C6)						
Iron Deposits (B5)	Thin Muck	Surface (C7)	10 10 10 10 10 10 10 10 10 10 10 10 10 1	eomorphic Position (D2)			
Inundation Visible on Aerial	Other (Ex	plain in Remarks)	s	Shallow Aquitard (D3)			
Imagery (B7)		Microtopographic Relief (D4)					
Water-Stained Leaves (B9)				AC-Neutral Test (D5)			
			in the second second				
Aquatic Fauna (B13)							
Aquatic Fauna (B13) Field Observations:							
Aquatic Fauna (B13) Field Observations: Surface water present? Yes	K No	Depth (inches)		Wetland			
Aquatic Fauna (B13) Field Observations: Surface water present? Yes 2 Water table present? Yes 2	K No	Depth (inches)	: 2	hydrology			
Aquatic Fauna (B13) Field Observations: Surface water present? Yes Water table present? Yes Saturation present? Yes			: 2		<u>Y</u>		
Aquatic Fauna (B13) Field Observations: Surface water present? Yes Water table present? Yes Saturation present? Yes (includes capillary fringe)	K No	Depth (inches) Depth (inches)	2	hydrology present? _	<u>Y</u>		
Aquatic Fauna (B13) Field Observations: Surface water present? Yes Water table present? Yes Saturation present? Yes (includes capillary fringe)	K No	Depth (inches) Depth (inches)	2	hydrology present? _	Y		
Aquatic Fauna (B13) Field Observations: Surface water present? Yes Water table present? Yes Saturation present? Yes (includes capillary fringe)	K No	Depth (inches) Depth (inches)	2	hydrology present? _	<u>Y</u>		
Aquatic Fauna (B13) Field Observations: Surface water present? Yes Water table present? Yes Xes Yes	K No	Depth (inches) Depth (inches)	2	hydrology present? _	Y		

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VEGETATION - U	se scientific r	names or pla	ants			Sampling Po	Int: W003-PEM
Tree Stratum 1 2 3 4	Plot Size (30 ft.)	Absolute % Cover	Dominant Species	Indicator Status	50/20 Thresholds Tree Stratum Sapling/Shrub Stratum Herb Stratum Woody Vine Stratum	20% 50% 0 0 0 0 20 50 0 0
5 6 7 8 9 10 Sapling/Shrub Stratum	Plot Size (15 ft.)	Absolute	Total Cover Dominant Species	Indicator Status	Dominance Test Worksh Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant Species Across all Strata: Percent of Dominant Species that are OBL, FACW, or FAC:	4_(A)
1 2 3 4 5 6 7 8 9 10						Prevalence Index Works Total % Cover of: OBL species 20 x 1 FACW species 70 x 2 FAC species 5 x 3 FACU species 0 x 4 UPL species 0 x 5 Column totals 95 (A) Prevalence Index = B/A = 10	$ \begin{array}{rcl} = & 20 \\ 2 = & 140 \\ 3 = & 15 \\ 3 = & 0 \\ 5 = & 0 \end{array} $
Herb Stratum 1 Cyperus escule 2 Lysimachia nui 3 Epilobium coloi 4 Persicaria sagi 5 Rumex crispus 6 Solidago sp. 7 8 9 9	mmularia ratum ittata	5 ft.)	Absolute % Cover 25 25 20 20 5 5 5	Dominant Species Y Y Y Y N N	Indicator Status FACW FACW OBL FAC	Hydrophytic Vegetation I X Rapid test for hydroph X Dominance test is >50 X Prevalence index is <3 Morphological adaptat supporting data in Rer separate sheet) Problematic hydrophyt (explain) *Indicators of hydric soil and wett present, unless disturbed or prob	ytic vegetation % 3.0* ions* (provide narks or on a ic vegetation* and hydrology must be
10	Plot Size (30 ft.)		Total Cover Dominant Species	Indicator Status	Definitions of Vegetation Tree - Woody plants 3 in. (7.6 cm breast height (DBH), regardless of Sapling/shrub - Woody plants le greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-wood size, and woody plants less than Woody vines - All woody vines of height.	n) or more in diameter at of height. uss than 3 in. DBH and ty) plants, regardless of 3.28 ft tall.
3 4 5 Remarks: (Include ph			A STATE OF STATE	= Total Cover		Hydrophytic vegetation present? Y	
rtemarks, (include pr		UI d SU	Parano 20166()				

SOIL						14 <u>1</u> 0- 1	Sai	mpling Point: W003-PEM
Profile Des	cription: (Descri	be to th	and the second se			indicato	r or confirm the absence	e of indicators.)
Depth	Matrix			ox Feat		Testate.	Texture	Remarks
(Inches)	Color (moist)	%	Color (moist)	% Type*		Loc**		
0-18	10YR 4/2	80	10YR 5/6	20	С	PL/M	silt loam	
	Concentration, D= PL=Pore Lining,			d Matrix	x, CS=C	overed o	r Coated Sand Grains	
Hydric Soil Indicators:						F2) 6) (F7) 9) 95 (F12) (MLRA 1; 0ils (F19) 21) (MLR	2 cm Muck (Coast Prairie Piedmont Fi (MLRA 136, Very Shallow Other (Expla (LRR N, MLRA 136) 36, 122) (MLRA 148) (A 127, 147)	w Dark Surface (TF12) ain in Remarks)
Restrictive Type: Depth (inch	Layer (if observe les):	ed):					Hydric soil presen	nt? <u>Y</u>
Remarks:								
Remarks:	les):							

CONFIDENTIAL PROPRIETARY TRADE SECRET DUKE- WALTON TO BIG BONE

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Walton- Big Bone N	latural Gas Pipeline	City/County:	Boone	Sampling D	Date: 3/29/16			
Applicant/Owner: Duke Energy	ALL HER GENERAL	State:	Kentucky	tucky Sampling Point: W003-PSS				
Investigator(s): Sarah Miloski, Julie	Freer	Section, Township, Range: No PLSS in Area						
Landform (hillslope, terrace, etc.):	bottom land	Local relief (co	ncave, convex,	none): concav	/e Slope (%): 0			
Subregion (LRR or MLRA): LRR N	Lat.:	38.887415		-84.741682	Datum: WGS 84			
Soil Map Unit Name LkB-Licking silt	loam, 2 to 6 percent slo	opes	N	WI Classification:	: N/A			
Are climatic/hydrologic conditions of	the site typical for this	time of the year	? Yes X	_No(If	no, explain in remarks)			
	, or hydrology		y disturbed?	Are "normal	Yes			
Are vegetation, soil	, or hydrology	naturally p	roblematic?	circumstances' (If needed, exp	" present? Ilain any answers in remark			
SUMMARY OF FINDINGS								
Hydrophytic vegetation present?	Yes							
Hydric soil present?	Yes	is the san	pled area with	in a wetland?	Yes			
Wetland hydrology present?	Yes				W003-PSS			
PEM / PSS/ PFO wetland loc	ated in Big Bone Lic	k State Park.	Pit dug in PS	S portion				
HYDROLOGY					··· · · · · · · · · · · · · · · · · ·			
Wetland Hydrology Indicators:				A STATE OF STATE OF STATE OF STATE	minimum of two required)			
Primary Indicators (minimum of one			I Share a statement of the	urface Soil Cracks				
X Surface Water (A1)		ic Plants (B14)	And the second second second		Concave Surface (B8)			
X High Water Table (A2)	Hydrogen S	Sulfide Odor (C1)	Dr	rainage Patterns (I	B10)			
X Saturation (A3)	Oxidized R	hizospheres on L		oss Trim Lines (B				
Water Marks (B1)	X Roots (C3)			Dry-Season Water Table (C2)				
Sediment Deposits (B2)		f Reduced Iron (Crayfish Burrows (C8)				
Drift Deposits (B3)		on Reduction in Tilled Saturation Visible on Aerial Imagery (C9)						
Algal Mat or Crust (B4)	Soils (C6)	Stunted or Stressed Plants (D1)						
Iron Deposits (B5)		Surface (C7)	The second se	Geomorphic Position (D2)				
Inundation Visible on Aerial	Other (Expl	ain in Remarks)		Shallow Aquitard (D3)				
Imagery (B7)			and the second se	Microtopographic Relief (D4)				
Water-Stained Leaves (B9)			F/	AC-Neutral Test (E	05)			
Aquatic Fauna (B13)								
Field Observations:		A LONGER THE	10. NO. 1 1000	N TO SHE DOWN				
Surface water present? Yes	X No	Depth (inches)	: 1	Wetland	了你的现在了。 我们的			
Water table present? Yes	X No	Depth (inches)		hydrology				
Saturation present? Yes	X No	Depth (inches)	: 0	present?	<u>Y</u>			
(includes capillary fringe)								
Describe recorded data (stream gau	ge, monitoring well, ae	ial photos, prev	ous inspections	s), if available:				
Remarks:								
Nendika.								

					Sampling Point: W003-PSS
Plot Size (30 ft.)	Absolute % Cover	Dominant Species	Indicator Status	50/20 Thresholds20%50%Tree Stratum000Sapling/Shrub Stratum20450Herb Stratum615Woody Vine Stratum00
					Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: 3 Total Number of Dominant Species Across all Strata: 4 Percent of Dominant Species that are OBL, FACW, or FAC: 75.00% (A/B)
Plot Size (15 ft.)	% Cover	Species	Status	FACW, or FAC: <u>75.00%</u> (A/B)
8		85 15 	Y Y 	FAC FAC	Prevalence Index WorksheetTotal % Cover of:OBL species $0 \times 1 = 0$ FACW species $20 \times 2 = 40$ FAC species $100 \times 3 = 300$ FACU species $10 \times 4 = 40$ UPL species $0 \times 5 = 0$ Column totals 130 (A)BACU Species Index = B/A = 2.92
Plot Size (mularia	5 ft.)	100 Absolute % Cover 20 10	= Total Cover Dominant Species Y Y	Indicator Status FACW FACU	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is <3.0*
Plot Size (30 ft.)	Absolute	Dominant	Indicator	Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter a breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
		% Cover			Woody vines - All woody vines greater than 3.28 ft in height.
	Plot Size (mularia	Plot Size (15 ft.) Plot Size (5 ft.) mularia	% Cover 0 Plot Size (15 ft.)) Absolute % Cover 85 15 15 15 100 Absolute % Cover 85 15 100 Absolute % Cover 100 Absolute % Cover 100 Absolute % Cover 100 Absolute % Cover 10 10 30	% Cover Species	% Cover Species Status

TOULE Des	cription: (Descri		e depin needed t	o uocui	ment me	muicato	r or confirm the absence	e or indicators.)
Depth	Matrix			ox Feat	tures		Texture	Remarks
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**		rionano
0-18	10YR 5/2	90	10YR 5/4	10	С	PL/M	silt loam	
	251.55279 (Mil				N.SMI			
					Statistics.	和义生		
		1.411.12						
						1.00		
	and the second							
的影响的				793	164.5	2301		也認知時非常自然思想
	1. 大田、市村市11		h Barry Bre by B	THE ST	States.			
				- 19 - 31 - 19 - 39		EST COM		
Type: C=C	Concentration, D=	Deplet	ion, RM=Reduce	d Matrix	x, CS=C	overed o	r Coated Sand Grains	
	PL=Pore Lining,	M=Mat	trix					
lydric Soi	I Indicators:		Dark Su	rface //	87)		Indicators for I	Problematic Hydric Soils:
Histiso	(A1)				w Surfac	æ (S8)	2 cm Muck	(A10) (MLRA 147)
	Epipedon (A2)		(MLRA			,		ie Redox (A16) (MLRA 147, 148
Black H	listic (A3)				ace (S9)			loodplain Soils (F19)
	en Sulfide (A4)		(MLRA				(MLRA 136	
	ed Layers (A5)				Matrix (F	-2)		w Dark Surface (TF12)
AT TAX AND A DATE OF A DAT	luck (A10) (LRR		X Deplete A11) Redox D			-	Other (Expla	ain in Remarks)
	ed Below Dark Su Dark Surface (A1)				Surface	and the second second second		
and the second se	Mucky Mineral (S				sions (F8			
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	, MLRA 147, 14						(LRR N, MLRA 136)	
	Gleyed Matrix (S					MLRA 1		
Sandy	Redox (S5)						(MLRA 148)	
Strippe	d Matrix (S6)		Red Par	ent Ma	terial (F2	21) (ML F	ka 127, 147)	
Indicators	of hydrophytic ve	egetatio	n and wetland hy	drology	y must be	e presen	t, unless disturbed or pr	oblematic
Poetrictive	Layer (if observe	d):				- Alexandria		
ype:	Layer (II Observe	u).				Ten Sta	Hydric soil preser	nt? Y
Depth (inch	ies):		and the second second					
Remarks:								
Cillains.								

CONFIDENTIAL PROPRIETARY TRADE SECRET DUKE- WALTON TO BIG BONE

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Walton-Big Bone Natural C	Gas Pipeline City/County:	Boone	Sampling Date: 3/29/16			
Applicant/Owner: Duke Energy	State	: Kentucky	Sampling Point W003-PFO			
Investigator(s): Sarah Miloski, Julie Freer		on, Township, Range:	- This is a second s			
Landform (hillslope, terrace, etc.): bottom		oncave, convex, none)				
Subregion (LRR or MLRA): LRR N	Lat.: 38.886972	Long.: -84.				
Soil Map Unit Name No- Nolin silt loam, 0 to	o 2 percent slopes, occasionali	y flooded NVVI Cla	assification: PFO1A			
Are climatic/hydrologic conditions of the site	e typical for this time of the yea	r? Yes X No	(If no, explain in remarks)			
A MARKED AND A MARKED A			"normal Yes			
Are vegetation, soil, o	r hydrology naturally		umstances" present?			
		(lf n	eeded, explain any answers in remark			
SUMMARY OF FINDINGS						
Hydrophytic vegetation present? Yes						
Hydric soil present? Yes	Is the sa	mpled area within a w	vetland? Yes			
Wetland hydrology present? Yes			W003-PFO			
Remarks:						
PEM / PSS/ PFO wetland located in	n Big Bone Lick State Park	. Pit dug in PFO po	rtion			
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary I	ndicators (minimum of two required)			
Primary Indicators (minimum of one is requ	ired; check all that apply)	Surface	Soil Cracks (B6)			
X Surface Water (A1)	True Aquatic Plants (B14)	Sparsely	Sparsely Vegetated Concave Surface (B8)			
X High Water Table (A2)	Hydrogen Sulfide Odor (C1) Drainage	Patterns (B10)			
X Saturation (A3)	Oxidized Rhizospheres on	hizospheres on Living Moss Trim Lines (B16)				
Water Marks (B1)	X Roots (C3)		son Water Table (C2)			
Sediment Deposits (B2)	Presence of Reduced Iron					
Drift Deposits (B3)	Recent Iron Reduction in T					
Algal Mat or Crust (B4)	Soils (C6)	Stunted or Stressed Plants (D1)				
Iron Deposits (B5)	Thin Muck Surface (C7)		phic Position (D2)			
Inundation Visible on Aerial	Other (Explain in Remarks)	Shallow	Aquitard (D3)			
Imagery (B7)		The second	ographic Relief (D4)			
Water-Stained Leaves (B9)		FAC-Net	utral Test (D5)			
Aquatic Fauna (B13)						
Field Observations:						
Surface water present? Yes X	No Depth (inches		Wetland			
Water table present? Yes X	No Depth (inches		hydrology			
Saturation present? Yes X (includes capillary fringe)	No Depth (inches	s): <u>0</u>	present? Y			
Describe recorded data (stream gauge, mo	nitoring well, aerial photos, pre-	vious inspections), if av	/ailable:			
Remarks:						