CONSTRUCTION NOTICE FOR THE

F7481– 138kV Blue Ash Road Improvement Project

PUCO Case No. 19-0398-EL-BNR

Submitted to:

The Ohio Power Siting Board

Pursuant to O.A.C. 4906-6

Submitted by:

Duke Energy Ohio, Inc.

February 2019

Construction Notice

This Construction Notice has been prepared by Duke Energy Ohio, Inc., (hereafter "Duke Energy Ohio") in accordance with Ohio Administrative Code (O.A.C.) Section **4906-06-05** for the review of Accelerated Certificate Applications for the F7481 – 138-kilovolt (kV) Blue Ash Road Improvement Project (Project). The following section corresponds to the administrative code sections for the requirements of a Construction Notice.

4906-06-05 ACCELERATED APPLICATION REQUIREMENTS

4906-6-05 (B): General Information

4906-6-05 (B)(1) Name, Reference Number, Brief Description, and Letter of Notification Requirement

Name of Project: **F7481–138kV Blue Ash Road Improvement Project**

2018 LTFR Reference: The Project was not included on the Long-Term Forecast Report (LTFR) as this Project need is not driven by Duke Energy Ohio and due to oversight, this Project was not included in the LTFR. The Project has not been presented to PJM for an upgrade identification number, as it results in no change to the model.

Brief Description of the Project:

Duke Energy Ohio proposes to remove, replace, and relocate approximately 0.42-miles (2,218 feet) of 138kV transmission line, located in the City of Deer Park, Hamilton County, Ohio. The Project will be conducted in conjunction with, and as required by, the City of Deer Park Blue Ash Road Improvement Project (HAM-CR251-0.75) and will involve the in-kind replacement and relocation of seventeen (17) wood 138-kV structures with updated steel structures. Additionally, there are three (3) other steel structures being installed as "stub" poles which will help with structural integrity. The Project initiates north of Redmont Road and west of Duneden Avenue and terminates at the Duke Energy Ohio Deer Park Substation located west of Blue Ash Road and north of East Galbraith Road.

Construction Notice Requirement:

This Project qualifies as a Construction Notice filing as it meets the requirements outlined in O.A.C. 4906-1-01, Appendix A, item (5). Item (5) allows the filing of a Construction Notice for *"Replacement or relocation of an electric power transmission line and associated*

facilities where the project is required by publicly funded entities and is located on or adjacent to right-of-way or land owned by the public entity requiring the project."

4906-6-05 (B)(2): Need for the Project

The purpose and need for the Project is to facilitate the Blue Ash Road Improvement Project (HAM-CR251-0.75) at the behest of the City of Deer Park, which aims to improve the region's transportation system and pedestrian accessibility in the City of Deer Park, Hamilton County, Ohio. The existing line provides 138kV electric transmission service to residential, commercial, and industrial facilities and serves as a pathway in the transmission grid serving the City of Deer Park, Hamilton County, Ohio, and surrounding areas. The replaced transmission line will continue to provide the area with 138 kV transmission service.

4906-6-05 (B)(3): Location of the Project Relative to Existing or Proposed Lines

The location of the Project is depicted in Attachment A: Figures 1 and 2. Figure 1 shows the general Project vicinity depicted on a United States Geological Survey (USGS) quadrangle topographic map. Figure 2 depicts the planned transmission line location, ecological resources in the Project vicinity, and additional details depicted on an aerial imagery map. Attachment B depicts the Project location relative to the existing transmission lines.

4906-6-05 (B)(4): Alternatives Considered

The proposed Project will occur within public ROW and existing Duke Energy Ohio ROW at the request of the City of Deer Park in conjunction with the ODOT Blue Ash Road Improvement Project (HAM-CR251-0.75). No additional long-term impacts to adjacent properties are anticipated as a result of the rebuild Project. Therefore, the current alignment is the only reasonable alternative available and no alternatives were considered.

4906-6-05 (B)(5): Public Information Program

Due to the entirety of the proposed Project being located within public ROW and existing Duke Energy Ohio ROW and its connection to the ODOT Blue Ash Road Improvement Project (HAM-CR251-0.75), a public information program for this Project has not been developed. Duke Energy Ohio will maintain information on this Construction Notice on its website. Letters will be sent to affected property owners at least seven (7) days before start of construction on the Project informing them of the Project's construction schedule.

4906-6-05 (B)(6): Construction Schedule

The Construction team is planning to start clearing activities and other support activities on March 11, 2019, contingent upon approval of this Construction Notice to support the scheduled outage of April 1, 2019. The Project is anticipated to be completed and in service by May 31, 2019.

4906-6-05 (B)(7): Area Map

Figures 1 and 2 depict the general location of the Project. Attachment A, Figure 1, depicts the general Project vicinity depicted on a USGS quadrangle topographic map. Attachment A, Figure 2, depicts the planned transmission line location, ecological resources in the Project vicinity, and additional details on an aerial imagery map. Attachment B depicts the Project location relative to the existing transmission lines.

4906-6-05 (B)(8): Property Owner List

The proposed Duke Energy Ohio Project is located entirely within public ROW and existing Duke Energy Ohio ROW easements. Duke Energy Ohio has identified property owners and tenants near the Project area and these owners have been notified as outlined in this response [Part 4906-6-05(B)(5)]. The adjacent property owners and tenants list and correspondence letter is located in Attachment C.

4906-6-05 (B)(9): TECHNICAL FEATURES OF THE PROJECT

The Project involves the removal, relocation, and replacement of approximately 0.42-miles (2,218 feet) of 138kV transmission line. The proposed transmission line will include replacement of seventeen (17) wood 138kV structures with updated steel structures. Additionally, there are three (3) other steel structures being installed as "stub" poles which will help with structural integrity. Please see Table 1-1, below for the existing pole heights versus the new pole heights above ground. The Project initiates north of Redmont Road and west of Duneden Avenue and terminates at the Duke Energy Ohio Deer Park Substation located west of Blue Ash Road and north of East Galbraith Road.

Table 1-1: Blue Ash Road Above Ground Structure Heights

HL Number	Pole Number	Existing Height (feet)	Proposed Height (feet)	Difference Between Existing and Proposed (feet)
499	U17-783	65.5	77.0	11.5
	U17-778	25	36.5	11.5
500	U17-491	79	99.5	20.5
501	U17-295	88	99.5	11.5
503	U17-293	70	95.0	25.0
	U17-541	25	41.0	16.0
504	U17-292	65.5	90.5	25.0
505	U17-282	65.5	86.0	20.5
	U17-283	34	36.5	2.5
506	U17-281	65.5	86.0	20.5
507	U17-280	70	86.0	16.0
508	U17-268	70	86.0	16.0
509	U17-267	65.5	90.5	25.0
510	U17-266	65.5	95.0	29.5
511	U17-253	65.5	99.5	34.0
512	U17-252	65.5	99.5	34.0
513	U17-251	65.5	90.5	25.0
514	U17-235	65.5	81.5	16.0
515	U17-234	65.5	77.0	11.5
516	U17-233	65.5	72.5	7.0

4906-6-05 (B)(9)(a): Operating Characteristics

Voltage: 138kV

Structure Type: Remove, relocate, and replace seventeen (17) existing wood 138kV structures with updated steel structures.

Conductors: Three (3) 954 ACSR 45x7 "Rail"

Static Wire: One (1) 7#8 Alumoweld

Insulators: 138-kV Polymer insulators

Right-of-Way/Land Requirements: Duke Energy Ohio operates the poles in the public and existing ROW.

4906-6-05 (B)(9)(b): Electric and Magnetic Fields

Information concerning the electric and magnetic fields is included in Attachment D.

4906-6-05 (B)(9)(b)(i): Calculated Electric and Magnetic Fields Strength Levels

Three load conditions were examined: (a) normal maximum loading, (b) emergency line loading, and (c) winter normal conductor rating. Normal maximum loading represents the peak flow expected with all system facilities in service; daily/hourly flows fluctuate below this level. Emergency loading is the maximum current flow during unusual (contingency) conditions, which exist only for short periods of time. Winter normal (WN) conductor rating represents the maximum current flow that a line, including its terminal equipment, can carry during winter conditions.

Duke Energy designs its facilities according to the National Electric Safety Code (NESC), at a minimum. The structure height and configuration was chosen based on the NESC engineering parameters, and cost. See Table 1-2 for the electric and magnetic field (EMF) summary for the Project.

Table 1-2: Electric and Magnetic Fields

Condition	Circuit Load (Amps)	Electric Field (kV/m) @ Edge of ROW	Magnetic Field (mG) @ Edge of ROW	*Electric Field (kV/m) @ Structure	*Magnetic Field (mG) @ Structure
(1) Normal Maximum Loading	350	0.146	6.5	0.049	8.35
(2) Emergency Line Loading	1113	0.146	20.68	0.049	26.55
(3) Winter Normal Conductor Ratir	1585	0.146	29.45	0.049	37.81

*EMF Level Calculated one meter above ground assuming balanced currents and volatge. EMF Levels at structure locations are taking at the conductor location, which is offset 3' from structure center line.

4906-6-05 (B)(9)(b)(ii): Alternative Design Consideration for Electric and Magnetic Fields

The proposed project includes the construction of a new transmission line within the new and existing transmission ROW. Other alternative routes were not considered because the Project was able to take advantage of existing easements and avoid further impacts.

4906-6-05 (B)(9)(c): Estimated Cost

The estimated cost for the proposed Project is approximately $1,750,000.

4906-6-05 (B)(10): SOCIAL AND ECOLOGICAL IMPACTS

4906-6-05 (B)(10)(a): Land Uses

The Project is located in the City of Deer Park, Hamilton County, Ohio. The City of Deer Park, which covers approximately 0.87 square miles and contained a population of 5,679 people based on 2017 census data. The land use immediately surrounding the Project area is predominantly commercial and residential.

4906-6-05 (B)(10)(b): Agricultural Land

Agricultural land vegetation assemblage does not exist within the Project area.

4906-6-05 (B)(10)(c): Archaeological or Cultural Resources

The Ohio Historic Preservation Office's (OHPO) online mapping system was consulted to identify previously recorded cultural resources within 1.6 km (1 mi) of the Project Area (one-mile buffer). The OHPO records check indicates that 1 archaeological site, 327 historic structures, and 1 cemetery have been previously recorded in the one-mile buffer. One National Register of Historic Places (NRHP) listed resource is located just outside of the one-mile buffer (Gerald B. and Beverly Tonkens House; NPS Ref. No. NPS Ref. No. 91001414). In addition, one NRHP Determination of Eligibility (DOE) structure is located within the one-mile buffer (OHI No. HAM0459550). The previously identified archaeological site, historic structures, NRHP listed resource, NRHP-DOE structure, and cemetery are not located in the Project Area. Table 1-1 lists cultural resources located within the one-mile buffer.

None of the Project Area has been previously investigated for cultural resources and no cultural resources investigations have been conducted in the one-mile buffer. Prior disturbance has occurred in large portions of the Project Area, resulting from the construction of adjacent buildings, an adjacent railroad line, gravel parking areas, the construction of Blue Ash Road, and existing transmission pole structures. Due to the previously disturbed soils and limited amount of ground disturbance related to the removal of existing transmission structures and installation of new transmission pole structures, no archaeological reconnaissance is recommended.

Table 1-3 Cultural Resources in the 1.0 mile buffer

Resource Number	Resource Type	Resource Name	Address/ Location
33-Ha-0009	Mound/ enclosure/ geometric earthwork	Gould Works	Confidential
NPS Ref. No. 91001414	NRHP Listed Structure	Gerald B. and Beverly Tonkens House	Slightly over 1.0 mi southwest of the Project area
HAM0459550	NRHP DOE	Daniel Schenck House	4208 Schenck Ave
OGS ID 4750; OHI No. HAM0419550	Cemetery	Mount Carmel Baptist Church-Sycamore Township-Pioneer Memorial Churchyard	0.62 mi northeast of the Project area
HAM0277650	Single Dwelling		4245 North Ave
HAM0277750	Single Dwelling		4126 South Ave
HAM0277850	Single Dwelling		6920 Plainfield Rd
HAM0277950	Single Dwelling	Muson Clarence House	6845 Ohio Ave
HAM0278050	Single Dwelling	William R Gould House	6825 Kenton Ave
HAM0278250	Single Dwelling		6851 Kenton Ave
HAM0278650	Single Dwelling		6819 Park Ave
HAM0278950	Commercial	Silverton Grill	7045 Montgomery Rd
HAM0279050	Commercial	Pat's Flowers & Gifts/The Market Place	7124-7126 Montgomery Rd
HAM0279350	Single Dwelling		6811 Plainfield Rd
HAM0279450	Industrial/Engineering	Superior Lumber Millwork Inc.	7011 Plainfield Rd
HAM0279750	Single Dwelling		6839 Plainfield Rd
HAM0279850	Religious	Silverton Baptist Church	6846 Plainfield Rd
HAM0280050	Government Office	Silverton Memorial Municipal Bd	6860 Plainfield Rd
HAM0280150		Meiers Wine Cellar, Inc.	6955 Plainfield Rd
HAM0280250	Single Dwelling		3925 St James Ave
HAM0280550	Single Dwelling		6802 Alpine Ave

Table 1-3 Cultural Resources in the 1.0 mile buffer

Resource Number	Resource Type	Resource Name	Address/ Location
HAM0280750	Single Dwelling		6829 Alpine Ave
HAM0280850	Single Dwelling		6723 Highland Ave
HAM0280950	Single Dwelling		6737 Highland Ave
HAM0281050	Single Dwelling		6705 Highland Ave
HAM0281150	Church Related Structure	St Theresa Home	6760 Belkenton Ave
HAM0284150	Residential Domestic	Ferris House	8849 Kenwood Rd
HAM0413950	Single Dwelling		8558 Plainfield Rd
HAM0414050	Single Dwelling		8582 Plainfield Rd
HAM0414150	Single Dwelling		4302 Sycamore Ave
HAM0414250	Single Dwelling		4310 Sycamore Ave
HAM0414350	Single Dwelling		4314 Sycamore Ave
HAM0414450	Single Dwelling		4316 Sycamore Ave
HAM0414550	Single Dwelling		4318 Sycamore Ave
HAM0414650	Single Dwelling		4406 Sycamore Ave
HAM0414750	Single Dwelling		4458 Sycamore Ave
HAM0414850	Single Dwelling		8661 Lancaster Ave
HAM0414950	Single Dwelling		4529 Sycamore Ave
HAM0415050	Single Dwelling		4551 Sycamore Ave
HAM0415150	Single Dwelling		4565 Sycamore Ave
HAM0415250	Single Dwelling		4605 Sycamore Ave
HAM0415350	Single Dwelling		4715 Sycamore Ave
HAM0415450	Single Dwelling		4554 Harrison Ave
HAM0415550	Single Dwelling		4558 Harrison Ave
HAM0415650	Single Dwelling		4560 Harrison Ave
HAM0415750	Single Dwelling		4566 Harrison Ave
HAM0415850	Single Dwelling		8467 Vorhees Lane
HAM0415950	Single Dwelling		8463 Vorhees Lane
HAM0416050	Commercial		8608 Blue Ash Rd
HAM0416150	Single Dwelling		8606 Blue Ash Rd
HAM0416250	Single Dwelling		8604 Blue Ash Rd
HAM0416350	Single Dwelling		8480 St Clair Ave
HAM0416450	Single Dwelling		8476 St Clair Ave
HAM0416550	Single Dwelling		8470 St Clair Ave
HAM0416650	Single Dwelling		8453 St Clair Ave
HAM0416750	Single Dwelling		4502 Kugler Mill Rd
HAM0416850	Single Dwelling		4504 Kugler Mill Rd
HAM0416950	Single Dwelling		8461 Monroe Ave
HAM0417050	Single Dwelling		8463 Monroe Ave
HAM0417150	Single Dwelling		8478 Monroe Ave
HAM0417250	Single Dwelling		8476 Monroe Ave
HAM0417350	Single Dwelling		8469 Pine St
HAM0417450	Single Dwelling		8468 Pine St
HAM0417550	Single Dwelling		8462 Blue Ash Rd
HAM0417650	Church/Religious Structure	Memorial Baptist Church	8366 Blue Ash Rd

Table 1-3 Cultural Resources in the 1.0 mile buffer

Resource Number	Resource Type	Resource Name	Address/ Location
HAM0417750	Single Dwelling		8474 Blue Ash Dr
HAM0417850	Single Dwelling		4461 Kugler Mill Rd
HAM0417950	Single Dwelling		8407 St Clair Ave
HAM0418050	Single Dwelling		8401 St Clair Ave
HAM0418150	Single Dwelling		8211 St Clair Ave
HAM0418250	Single Dwelling		4515 Kugler Mill Rd
HAM0418350	Church/Religious Structure	Church of Bible Convent	4555 Kugler Mill Rd
HAM0418450			8402 Monroe Ave
HAM0418550	Single Dwelling		8321 Monroe Ave
HAM0418650	Single Dwelling		8311 Monroe Ave
HAM0418750	Single Dwelling		8303 Monroe Ave
HAM0418850	Church/Religious Structure	2nd Baptist Church Rossmoyne	8215 Monroe Ave
HAM0418950	Single Dwelling		8211 Monroe Ave
HAM0419050	Single Dwelling		4600 Galbraith Rd
HAM0419150	Single Dwelling		8216 Monroe Ave
HAM0419250	Single Dwelling		4661 Kugler Mill Rd
HAM0419350	Single Dwelling		4651 Kugler Mill Rd
HAM0419450	Single Dwelling		4709 Kugler Mill Rd
HAM0419550	Cemetery	Mt Carmel Cemetery	8495 Kenwood Rd
HAM0419650	Single Dwelling		8504 Kenwood Rd
HAM0419750	Fraternal/Patriotic Org	Odd Fellows House	5400 Kugler Mill Rd
HAM0458650	Rectory/Parsonage	St John's Cath Rectory	7121 Plainfield Rd
HAM0458750	Church School	St John's Cath Elem School	7131 Plainfield Rd
HAM0458850	Unknown Use	Spooner's Pizzaria	7114 Blue Ash Rd
HAM0458950	Commercial		SEC Blue Ash & Glenway
HAM0459050	Commercial	Deer Park Inn	7228 Blue Ash Rd
HAM0459150	Unknown Use	Stewart Industries	7234 Blue Ash Rd
HAM0459250	Commercial	Continental Hair Designs	7500 Blue Ash Rd
HAM0459350	Commercial	Sherri's Saloon	7714-7716 Blue Ash Rd
HAM0459450	Village/Twp/City Hall	Deer Park Municipal Bldg	NWC Matson & Beech
HAM0459550	Single Dwelling		4208 Schenck Ave
HAM0459650	Mill/Processing/	NAA	4298 E Galbraith Rd
HAM0459750	Manufacturing Facility	Deer Park Elem School	4320 E Galbraith Rd
HAM0459850	School		4114-4120 E Galbraith Rd
HAM0459950	Commercial	Deer Park High School	8351 Plainfield Rd
HAM0592850	School		6856 Kenton Ave
HAM0592950	Single Dwelling		4242 Sibley Ave
HAM0593050	Single Dwelling		6831 Park St
HAM0593150	Single Dwelling		3842 N Broadlawn Cir
HAM0593250	Single Dwelling		6937 Montgomery Rd
HAM0593350	Single Dwelling		3749 S Berkley Cir
HAM0593450	Single Dwelling		6835 Kenton Ave
HAM0593550	Single Dwelling		6806 Alpine Ave

Table 1-3 Cultural Resources in the 1.0 mile buffer

Resource Number	Resource Type	Resource Name	Address/ Location
HAM0593650	Single Dwelling		3904 Gatewood Ln
HAM0593750	Multiple Dwelling		7353 Montgomery Rd
HAM0593850	Single Dwelling		7339 Montgomery Rd
HAM0593950	Single Dwelling	Colonial Insti-Prints-Paper Shop	7333-7335 Montgomery Rd
HAM0594050	Commercial	Mitre Box-David Fisher Drapes	7214-7220 Montgomery Rd
HAM0594150	Retail Store/Shop		7208 Montgomery Rd
HAM0594250	Commercial		7131-7133 Montgomery Rd
HAM0594350	Commercial	Turn of the Century Shop	7001 Montgomery Rd
HAM0594450	Commercial	Silverton Depot	Montgomery Rd
HAM0594550	Unknown Use		6916-6924 Montgomery Rd
HAM0594650	Single Dwelling		6841-6845 Montgomery Rd
HAM0594750	Single Dwelling		6842-6914 Montgomery Rd
HAM0612250	Multiple Dwelling		4387 OakWood Ave
HAM0612350	Single Dwelling		4246 Duneden Rd
HAM0612450	Single Dwelling		4355 Matson Ave
HAM0612550	Single Dwelling		8102 Dalton Ave
HAM0612650	Single Dwelling		4307 Orchard Ave
HAM0612750	Single Dwelling		4261 Orchard Ave
HAM0612850	Single Dwelling		3914-3916 O'Leary Ave
HAM0612950	Single Dwelling		4009 O'Leary Ave
HAM0613050	Single Dwelling		SEC Cliford Ave & Irvin Ave
HAM0613150	Single Dwelling		8016 Plainfield Rd
HAM0636250	Apartment House	Elmer Heitmeyer House	8710 Kenwood Rd
HAM0636350	Single Dwelling		8626 Kenwood Rd
HAM0637050	Single Dwelling		7500 Montgomery Rd
HAM0637150	Single Dwelling		7605 Montgomery Rd
HAM0637250	Single Dwelling	Caroline Seelmeyer House	7769 Kenwood Rd
HAM0654250	Single Dwelling	Herb's Machine Shop & Auto Repair	4347 E Galbraith Rd
HAM0669750	Service Station	Taters	7031 Plainfield Rd
HAM0669850	Service Station	City of Silverton Service Building	3869 Alta Ave
HAM0669950	Other Use		6738 Alta Ave
HAM0670050	Single Dwelling		6828 Parkview Ln
HAM0670150	Single Dwelling		6832 Parkview Ln
HAM0670250	Single Dwelling		6836 Parkview Ln
HAM0670350	Single Dwelling		3917 St James Ave
HAM0670650	Single Dwelling	Petite Shop	7005 Montgomery Rd
HAM0670750	Commercial	Wade Family African Art/Upholstery Shop	7009-7011 Montgomery Rd
HAM0670850	Commercial	Owen's Sign Co	7053 Montgomery Rd
HAM0671050	Commercial		3939 Section Rd
HAM0671150	Single Dwelling		3940 Section Rd

Table 1-3 Cultural Resources in the 1.0 mile buffer

Resource Number	Resource Type	Resource Name	Address/ Location
HAM0671250	Single Dwelling		3948 Section Rd
HAM0671350	Single Dwelling		3950 Section Rd
HAM0671450	Single Dwelling		6915 Section Rd
HAM0671550	Single Dwelling		6910 Section Rd
HAM0671650	Single Dwelling		7000-7008 Plainfield Rd
HAM0671750	Apartment House	Nolan's Unique Body Shop	4039 Deer Park Ave
HAM0671850	Commercial	Casey Nat Office Supplies/Prosew/Tobacco Shop	4045 Deer Park Ave
HAM0671950	Commercial	Custom Security Co/Bokay Flowers/ S Ohio Builders	7032-7038 Blue Ash Rd
HAM0672050	Apartment House		7100 Blue Ash Rd
HAM0672150	Commercial	Conservatory Plant Leasing Inc.	7108 Blue Ash Rd
HAM0672350	Commercial		3921 Orchard Dr
HAM0672450	Single Dwelling		3925 Orchard Dr
HAM0672550	Single Dwelling		3924 Orchard Dr
HAM0675150	Apartment House	Appliance Service Inc.	7116 Blue Ash Rd
HAM0675250	Commercial	Hebeeba's Dance of the Arts	7150 Blue Ash Rd
HAM0675350	Commercial	Barresi's Restaurante Italiano	4111-4115 Webster Ave
HAM0675550	Single Dwelling		4131 Superior Ave
HAM0675650	Single Dwelling		4133-4135 Superior Ave
HAM0675750	Multiple Dwelling		4132 Superior Ave
HAM0675850	Single Dwelling		4134 Superior Ave
HAM0675950	Single Dwelling		4140 Superior Ave
HAM0676050	Single Dwelling	Calvery Baptist Church	4180 Hegner Ave
HAM0676150	Church/Religious Structure		7306 Blue Ash Rd
HAM0676250	Single Dwelling		7310 Blue Ash Rd
HAM0676350	Single Dwelling		7314 Blue Ash Rd
HAM0676450	Single Dwelling		4145 Landowne ave
HAM0676550	Single Dwelling		4147 Landowne Ave
HAM0676650	Single Dwelling		4146 Landowne Ave
HAM0676750	Single Dwelling		4148 Landowne Ave
HAM0676850	Single Dwelling		4150 Landowne Ave
HAM0676950	Single Dwelling		4101 Orchard Dr
HAM0677050	Single Dwelling		4105 Orchard Dr
HAM0677150	Single Dwelling		4102 Orchard Dr
HAM0677250	Single Dwelling		7346 Blue Ash Rd
HAM0677350	Single Dwelling		7350 Blue Ash Rd
HAM0677450	Single Dwelling	John's Carry Out	7354 Blue Ash Rd
HAM0677550	Service Station		4211 Clifford St
HAM0677650	Single Dwelling		4167 O'Leary Ave
HAM0677750	Single Dwelling		4369 O'Leary Ave

Table 1-3 Cultural Resources in the 1.0 mile buffer

Resource Number	Resource Type	Resource Name	Address/ Location
HAM0677850	Multiple Dwelling		4168 O'Leary Ave
HAM0677950	Single Dwelling		4172 O'Leary Ave
HAM0678050	Single Dwelling		7526 Blue Ash Rd
HAM0678150	Single Dwelling		7528 Blue Ash Rd
HAM0678250	Single Dwelling		7530 Blue Ash Rd
HAM0678350	Single Dwelling		7532 Blue Ash Rd
HAM0678450	Single Dwelling		7534 Blue Ash Rd
HAM0678550	Single Dwelling		4243 Redmont Ave
HAM0678650	Single Dwelling		7602 Blue Ash Rd
HAM0678750	Single Dwelling		7604 Blue Ash Rd
HAM0678850	Single Dwelling		7606 Blue Ash Rd
HAM0678950	Single Dwelling		7610 Blue Ash Rd
HAM0679050	Single Dwelling		7612 Blue Ash Rd
HAM0679150	Multiple Dwelling	Chamberlain Park & Community Center	7640 Plainfield Rd
HAM0679250	Entertainment/ Recreation/ Cultural Activities		4219 Duneden Ave
HAM0679350	Single Dwelling		4242 Duneden Ave
HAM0679450	Single Dwelling		7700 Blue Ash Rd
HAM0679550	Single Dwelling		7702 Blue Ash Rd
HAM0679650	Single Dwelling		7708 Blue Ash Rd
HAM0679750	Single Dwelling		7710 Blue Ash Rd
HAM0679850	Single Dwelling		7712 Blue Ash Rd
HAM0679950	Single Dwelling	Cinn City Choppers	7711 Blue Ash Rd
HAM0680050	Commercial		4261 Matson Ave
HAM0680150	Single Dwelling		4263 Matson Ave
HAM0680250	Single Dwelling	Laxland	4265 Matson Ave
HAM0680350	Commercial	The Cutting Edge Beauty Salon	4264 Matson Ave
HAM0680450	Commercial	Ideal Air Service	4268 Matson Rd
HAM0680550	Single Dwelling		4345 Matson Ave
HAM0680650	Apartment House		4351 Matson Ave
HAM0680750	Single Dwelling	Cat's Den Sports Cards	4346 Matson Ave
HAM0680850	Commercial	Kim's Tanning, Nails & Gifts, Kidz Klubz	7908-7910 Blue Ash Rd
HAM0680950	Commercial	Car Rock Café	7912 Blue Ash Rd
HAM0681050	Commercial	Deer Park Deli	7916 Blue Ash Rd
HAM0681150	Single Dwelling		7920 Blue Ash Rd
HAM0681250	Single Dwelling	Barry's Barbershop	7922 Blue Ash Rd
HAM0681350	Single Dwelling		4348 Bader Ct
HAM0681450	Single Dwelling		4350 Bader Ct
HAM0681550	Single Dwelling	Tech Systems, The Detail Shop, Pat's MBC Inc., TORO	7915-7923 Blue Ash Rd
HAM0681650	Commercial		4345 Schenck Ave

Table 1-3 Cultural Resources in the 1.0 mile buffer

Resource Number	Resource Type	Resource Name	Address/ Location
HAM0681750	Single Dwelling	Carol's Curls, Enricos Slacks +,Deer Park Dog Groom	8006 Blue Ash Rd
HAM0681850	Single Dwelling		8024 Blue Ash Rd
HAM0681950	Movie Theater	Rusty's Restaurant	8028 Blue Ash Rd
HAM0682050	Restaurant/bar	Strikes-N-Spares	8032 Blue Ash Rd
HAM0682150	Bowling Alley		4322-4326 Schenck Ave
HAM0682250	Apartment House		4323-4329 Oakwood Ave
HAM0682350	Apartment House		4326-4334 Oakwood Ave
HAM0682450	Apartment House		4376 Oakwood Ave
HAM0682550	Single Dwelling	The Corner Cone	8100 Blue Ash Rd
HAM0682650	Single Dwelling	Martial Science Institute, Mikes & Marlene's	8104-8106 Blue Ash Rd
HAM0682750	Commercial		8108 Blue Ash Rd
HAM0682850	Single Dwelling	Appletree Pet Clinic	4333 E Galbraith Rd
HAM0683550	Single Dwelling		8920 Blue Ash Rd
HAM0685050	Single Dwelling	Bill's Kenwood Pool & Hot Tubs	8211 Blue Ash Rd
HAM0685150	Commercial	Sign Studio	4315 Myrtle Ave
HAM0685250	Mill/Processing/	Kurtz Property	4320 Myrtle Ave
HAM0685350	Manufacturing Facility		8352 Blue Ash Rd
HAM0685450	Commercial		8356 Blue Ash Rd
HAM0685550	Single Dwelling		8358 Blue Ash Rd
HAM0685650	Single Dwelling		8362 Blue Ash Rd
HAM0685750	Single Dwelling	Owens Precision Grinding	8383 Blue Ash Rd
HAM0685850	Single Dwelling	Champion Cleaning Specialists	8391 Blue Ash Rd
HAM0685950	Mill/Processing/		8402 Blue Ash Rd
HAM0686050	Manufacturing Facility		8406 Blue Ash Rd
HAM0686150	Mill/Processing/	Max & Sons General Machine Work Inc.	8401 Blue Ash Rd
HAM0686250	Manufacturing Facility	Paragon Metal Fabricators	4317 Kugler Mill Rd
HAM0686350	Single Dwelling	Happy Hearts Day Care	4323 Kugler Mill Rd
HAM0686450	Single Dwelling		4328 Kugler Mill Rd
HAM0686550	Mill/Processing/		8463 Vorhees Ln
HAM0686650	Manufacturing Facility		8465 Vorhees Ln
HAM0686750	Mill/Processing/	Energy Alliances Inc., Schaffeld Woodworking, etc	8469 Blue Ash Rd
HAM0686850	Manufacturing Facility	Railyard Café, Emerald Rock & Gift Shop,Universal	8450-8454 Blue Ash Rd

Table 1-3 Cultural Resources in the 1.0 mile buffer

Resource Number	Resource Type	Resource Name	Address/ Location
HAM0686950	Other Use	Blue Ash Blues, The Ronin Academy, Deer Park Roofing	8460-8464 Blue Ash Rd
HAM0687050	Single Dwelling		8466 Blue Ash Rd
HAM0687150	Single Dwelling		8470 Blue Ash Rd
HAM0687250	Single Dwelling		8478 Blue Ash Rd
HAM0687350	Mill/Processing/		8482 Blue Ash Rd
HAM0687450	Manufacturing Facility	Cincinnati Bell Switching Station	4515 Blue Ash Rd
HAM0687550	Commercial		8612 Blue Ash Rd
HAM0687650	Commercial		8614 Blue Ash Rd
HAM0687750	Single Dwelling		8616 Blue Ash Rd
HAM0687850	Single Dwelling		8651 Lancaster Ave
HAM0687950	Single Dwelling		8653 Lancaster Ave
HAM0688050	Single Dwelling		8655 Lancaster Ave
HAM0688150	Other Use		8661 Lancaster Ave
HAM0688250	Single Dwelling	Bethleham United Baptist	8703 Lancaster Ave
HAM0688350	Single Dwelling		8707 Lancaster Ave
HAM0688450	Single Dwelling		8709 Lancaster Ave
HAM0688550	Single Dwelling		8711 Lancaster Ave
HAM0688650	Single Dwelling		8801 Lancaster Ave
HAM0688750	Single Dwelling		8700 Blue Ash Rd
HAM0688850	Single Dwelling		8706 Blue Ash Rd
HAM0688950	Church/Religious Structure		8708 Blue Ash Rd
HAM0689050	Single Dwelling		8710 Blue Ash Rd
HAM0689150	Single Dwelling		8712 Blue Ash Rd
HAM0689250	Single Dwelling		8714 Blue Ash Rd
HAM0689350	Single Dwelling		8802 Blue Ash Rd
HAM0689450	Single Dwelling		8804 Blue Ash Rd
HAM0689550	Single Dwelling		8806 Blue Ash Rd
HAM0689650	Single Dwelling		8808 Blue Ash Rd
HAM0689750	Single Dwelling		8810 Blue Ash Rd
HAM0689850	Single Dwelling		8812 Blue Ash Rd
HAM0689950	Single Dwelling		8814 Blue Ash Rd
HAM0690050	Single Dwelling		8816 Blue Ash Rd
HAM0690150	Single Dwelling	Meta Manufacturing Corp Aston Inc	8901 Blue Ash Rd
HAM0690250	Single Dwelling	AMS Construction Inc	8915 Blue Ash Rd
HAM0690350	Single Dwelling		8902 Blue Ash Rd
HAM0690450	Single Dwelling		8904 Blue Ash Rd
HAM0690550	Single Dwelling		8906 Blue Ash Rd
HAM0690650	Single Dwelling		8908 Blue Ash Rd
HAM0690750	Single Dwelling		8910 Blue Ash Rd
HAM0690850	Mill/Processing/		8912 Blue Ash Rd
HAM0690950	Manufacturing Facility		8908 Blue Ash Rd
HAM0691050	Mill/Processing/		8946 Blue Ash Rd

Table 1-3 Cultural Resources in the 1.0 mile buffer

Resource Number	Resource Type	Resource Name	Address/ Location
HAM0691150	Manufacturing Facility		8948 Blue Ash Rd
HAM0691250	Single Dwelling	Knights of Columbus Bishop Fenwick Council Hall	4421 Linden Ave
HAM0691350	Single Dwelling	Blue Ash Tree Service	8204 Blue Ash Rd
HAM0691450	Single Dwelling	Armstrong Stationery Co	8206 Blue Ash Rd
HAM0691550	Single Dwelling		8208 Blue Ash Rd
HAM0691850	Single Dwelling		3926 Orchard Dr
HAM0711950	Single Dwelling		3921-3933 E Gatewood Ln
HAM0713750	Single Dwelling		6751 Highland Ave
HAM0713850	Multiple Dwelling		6760 Highland Ave
HAM0713950	Multiple Dwelling		7116 Plainfield Rd
HAM0714050	Meeting Hall		7120 Plainfield Rd
HAM0714150	Commercial		7130 Plainfield Rd
HAM0727750	Single Dwelling	Schaffer House	7540 Montgomery Rd
HAM0727850	Single Dwelling	Cinci Metro Housing Auth	7544 Montgomery Rd
HAM0727950	Apartment House	Ben Lockard House	7548 Montgomery Rd
HAM0728050	Multiple Dwelling	Wess House & Apartment	7560 Montgomery Rd
HAM0728150	Single Dwelling	Mambort Building	7558 Montgomery Rd
HAM0728250	Single Dwelling		7600 Montgomery Rd
HAM0728350	Single Dwelling		7604 Montgomery Rd
HAM0728450	Multiple Dwelling	Grossi House	7608 Montgomery Rd
HAM0728550	Multiple Dwelling	Janning House	7616 Montgomery Rd
HAM0728650	Single Dwelling	George House	7620 Montgomery Rd
HAM0728750	Single Dwelling	Griffith House	7535 Montgomery Rd
HAM0728850	Single Dwelling	Hill House	7541 Montgomery Rd
HAM0728950	Apartment House	Johnson House	7545 Montgomery Rd
HAM0729050	Double	First Apostolic Church	7595 Montgomery Rd
HAM0729150	Single Dwelling	Cahall House	7601 Montgomery Rd
HAM0729250	Double	Ward House	7619 Montgomery Rd
HAM0729350	Double	Faller House	7629 Montgomery Rd
HAM0729450	Single Dwelling	Baluyot House	7753 Montgomery Rd
HAM0772150	Single Dwelling	Ehrhard House	7712 Plainfield Rd.

4906-6-05 (B)(10)(d): Local, State, and Federal Requirements

A permit from the Ohio Department of Transportation, District 8, is required for construction access. Duke Energy Ohio received clearance from Federal Aviation Administration (FAA) and Ohio Department of Transportation for the Project on the structures not impacting navigable airspace. No other local, state or federal permit or other authorizations are required for the Project.

4906-6-05 (B)(10)(e): Endangered, Threatened, and Rare Species Investigation

Several sources of information were consulted to further define the potential habitat of listed species that occur within the County of the Project. Attachment A, Table 1, contains a list of the Rare, Threatened and Endangered (RTE) species known to occur within Hamilton County and their potential to occur within the Project Area based on their habitat requirements and observations during the field survey.

Coordination with the U.S. Fish and Wildlife Service (USFWS) was initiated on January 4, 2019, and coordination with the Ohio Department of Natural Resources Division of Wildlife (ODNR-DOW) was initiated on January 4, 2019. A response from ODNR-DOW was received on February 5, 2019 and a response from USFWS was received on February 8, 2019. Copies of the agency responses can be found in Attachment E.

The entire Project Area was field surveyed by Cardno, Inc., (Cardno) as part of contracted services to assess ecological impacts. This included habitat assessments to identify RTE species and their habitat, specifically Indiana Bat and Northern Long-Eared Bat roost trees. Based on Cardno's field inspection, the Project Area consisted of maintained turf and impervious surfaces habitats.

There was no suitable bat roost habitat observed within the Project Area. However, based on the USFWS recommendation that all tree-clearing activities occur between October 1 and March 31, impacts to the Indiana Bat or Northern Long-Eared Bat are not expected if the USFWS recommendation is adhered to. If tree clearing activities cannot be completed within the USFWS recommended October 1 through March 31 window mist-net surveys for the Indiana Bat and Northern Long-Eared Bat, clearing activities will need to occur following the USFWS 2018 Range-wide Indiana Bat Summer Survey Guidelines (April 2018) protocol. Due to the presence of white-nose syndrome in Ohio, the ODNR-DOW and USFWS Ohio Field Office has determined that mist-net surveys in Ohio should be conducted between June 1 and August 15.

4906-6-05 (B)(10)(f): Areas of Ecological Concern

As a part of the investigation, Duke Energy Ohio hired Cardno to conduct research into the areas of ecological concern. As a part of Cardno's investigation, a request was submitted to the ODNR Environmental Review Services on January 4, 2019, and UWFWS on January 4, 2019, to research the presence of any unique ecological sites, geological features, animal assemblages, scenic rivers, state wildlife area, nature preserves, parks or forest, national wildlife refuges, or other protected areas within one (1) mile of the Project area using the ODNR Natural Heritage Database. Copies of the request receipts are located in Attachment E.

As a part of the field investigation and ecological assessment, Cardno conducted a wetland delineation and stream assessment of the Project area. Cardno's investigation included the approximately 5.33 AC Project area around the proposed centerline, access roads, and

additional workspace areas. Cardno did not identified any wetlands or streams within the Project area. See Attachment F, Regulated Waters Delineation Report.

The proposed construction access plan as shown in Attachment G, Figures 4.01 to 4.03, was developed by Cardno to avoid and/or minimize disturbance to all streams and wetlands. Impacts to regulated waters and RTE habitat are not anticipated by the Project.

As a part of the investigation, Cardno identified 100-year floodplains using the FEMA National Flood Hazard Layer within the Project area. Attachment A, Figure 2, depicts the location of the 100-year floodplains in relation to the Project area. None of the proposed single pole structures and activities will be within a 100-year floodplain.

4906-6-05 (B)(10)(g): Other Information

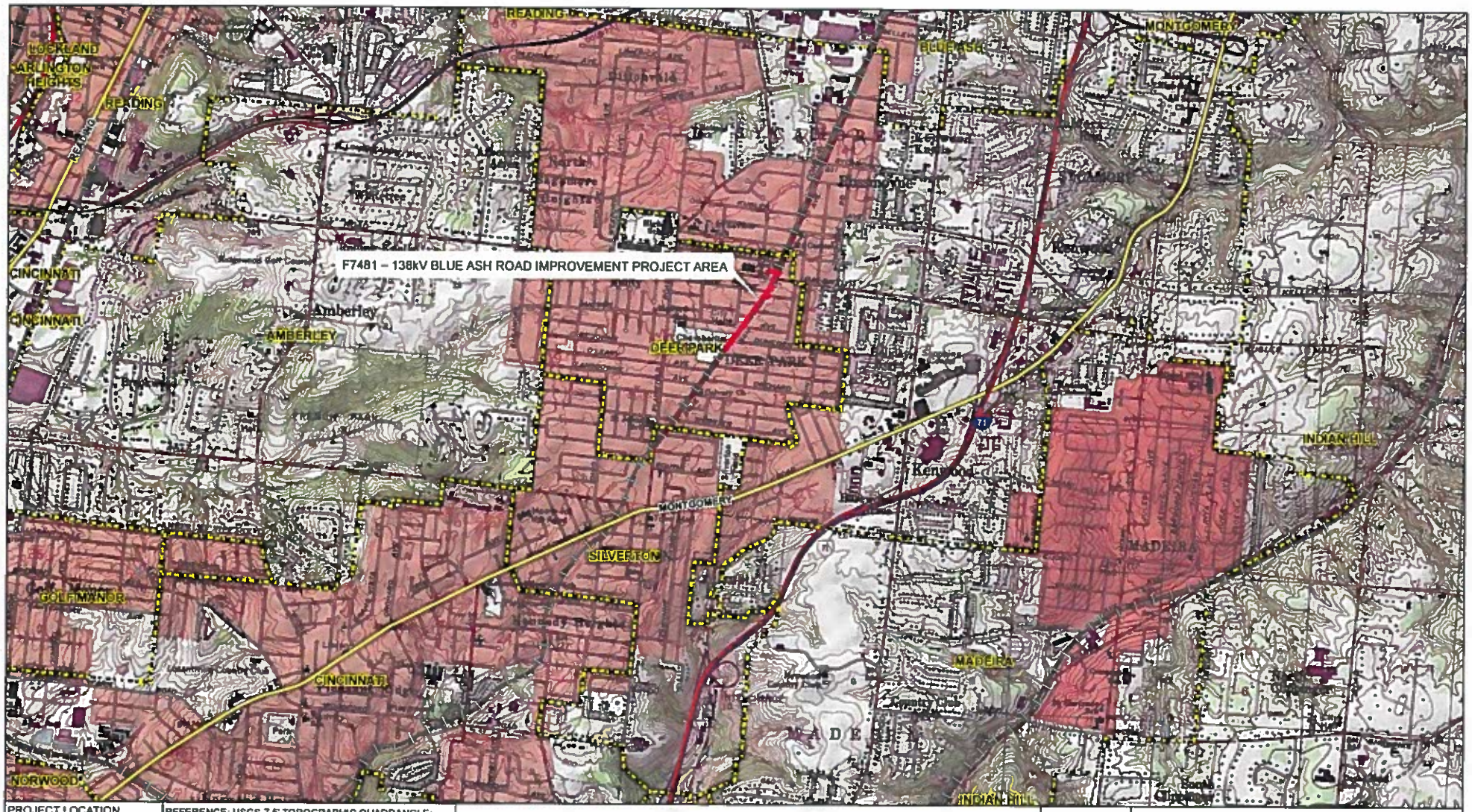
To the best of Duke Energy Ohio's knowledge, no unusual conditions exist that would result in environmental, social, health, or safety impacts. Construction and operation of the proposed Project will meet all applicable safety standards established by the Occupational Safety and Health Administration, and will be in accordance with the requirements specified in the latest revision of the National Electric Safety Code, as adopted by the Public Utilities Commission of Ohio. The Stormwater Pollution Prevention Plan (SWPPP), depicting the Project's access plan, is located in Figures 4.01 to 4.03 of Attachment G.

4906-6-07: Document of Construction Notice Transmittal and Availability for Public Review

Copies of this Construction Notice have been sent to governmental offices in the City of Deer Park and Hamilton County and the Public Libraries of Deer Park and Hamilton County as required by rule.

Attachment A

Figures and Tables



PROJECT LOCATION

HAMILTON COUNTY, OH

REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE: CINCINNATI EAST, OHIO. OBTAINED VIA ESRI USA TOPO, NATIONAL GEOGRAPHIC TOPO, AND USGS, ACCESSED 01/2017.

0 1,000 2,000 4,000 Feet

Project Centerline
Interstate
State Highway
US Highway
Railroad
County Boundary
Municipal Boundary

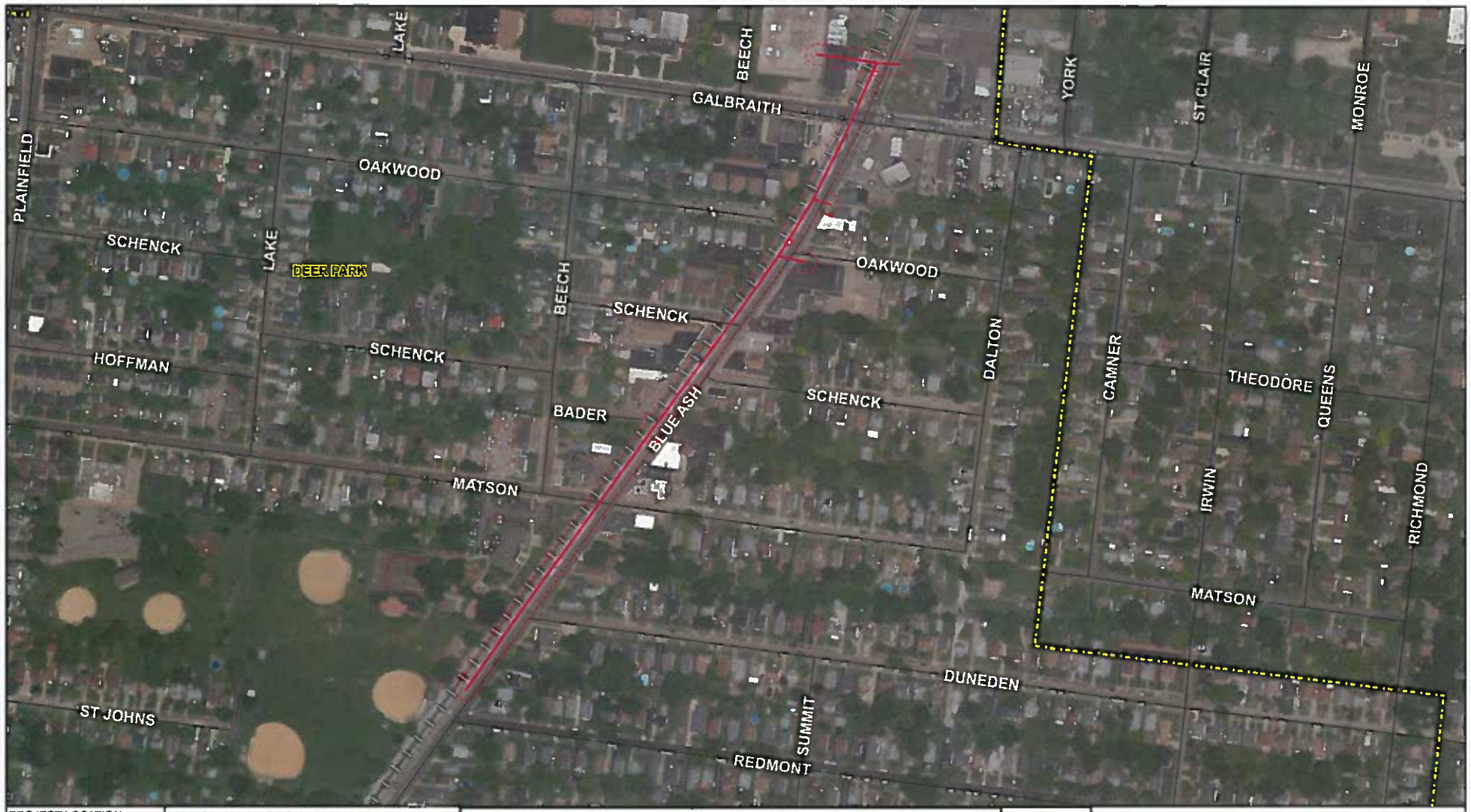
DUKE ENERGY.

Cardno

FIGURE 1
OPSB CN (BNR) FILING
F7481 – 138kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY OHIO
PROJECT VICINITY MAP

DRAWN BY: COD DATE: 2/13/2019
CHECKED: CJ APPROVED: JT

R:\Projects\15\156\156720M_DukeEnergy9193\M77_SOW37_138kVBlueAshImprovement\GIS\MXD\OPSB\OPSB_M77_BlueAsh_1_Project_Vicinity.mxd



PROJECT LOCATION

HAMILTON COUNTY, OH

REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE: CINCINNATI EAST, OHIO. OBTAINED VIA ESRI USA TOPO, NATIONAL GEOGRAPHIC TOPO, AND USGS, ACCESSED 01/2017.

N

0 200 400 Feet

Project Centerline
58-ft Right-of-Way
Local Road
Interstate*
State Highway*
US Highway*
Railroad
Municipal Boundary

*Indicates a layer with no features visible in map extent.

DUKE ENERGY.

Cardno

FIGURE 2

OPSB CN (BNR) FILING
F7481 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY OHIO
AERIAL LOCATION MAP

DRAWN BY: COD DATE: 2/13/2019
CHECKED: CJ APPROVED: JT

R:\Projects\15\156\156720M_DukeEnergy\193M77_SOW\77_138kVBlueAshImprovement\GIS\MXD\OPSB\OPSB_M77_BlueAsh_F2_AERIAL LOCATION MAP.mxd

SPECIES	COMMON NAME	STATE STATUS[1]	FEDERAL STATUS[2]	HABITAT[3]	BREEDING PERIOD[3]	PROBABILITY OF OCCURENCE[4]
Hamilton County						
MAMMAL						
Eptesicus fuscus	Big Brown Bat	SSC	---	Wooded and Semi wooded areas, mainly along streams.	August-October	None
Lasionycteris noctivagans	Silver-haired Bat	SSC	---	Wooded and Semi wooded areas, mainly along streams.	August-October	None
Lasiurus borealis	Red Bat	SSC	---	Wooded area and wooded edges and hedgerows.	August-September	None
Lasiurus cinereus	Hoary Bat	SSC	---	Wooded, Semi wooded areas, and wooded edges.	August -October	None
Microtus ochrogaster	Prairie Vole	SSC	---	Dry, vegetated areas; pastures, fields, meadows and prairies	May-October	None
Microtus pinetorum	Woodland Vole	SSC	---	Wooded areas with thick organic material on forest floor.	April-August	None
Myotis lucifugus	Little Brown Bat	SSC	---	Under rocks, wood piles and sometimes caves.	August-December	Low
Myotis sodalis	Indiana Myotis	E	E	Wooded and Semi wooded areas, mainly along streams. Maternity colonies are around hollow trees.	August-October	None
Myotis septentrionalis	Northern long-eared Bat	SSC	T	Wooded and Semi wooded areas; live trees and in snags.	July-August	None
Perimyotis subflavus	Tri-colored Bat	SSC	---	Edge habitats near areas of mixed agricultural use.	August-October	None
Peromyscus maniculatus	Deer Mouse	SCC	---	Grasslands, brushlands, and agricultural fields.	Year round; mostly during warmer months	None
Reithrodontomys humulis	Eastern Harvest Mouse	T	---	Open grassy areas such as abandoned fields, marshes or wet meadows.	April and August	None
Synaptomys cooperi	Southern Bog Lemming	SSC	---	Low, moist areas, glasslands, mixed deciduous forests, freshwater wetlands, marshes and meadows.	Year-round	None
Taxidea taxus	Badger	SSC	---	Open grasslands, agricultural areas and other treeless spaces.	July-August	None
BIRD						
Dendroica cerulean	Cerulean Warbler	SSC	---	Deciduous hardwood forests, uplands, wet bottomlands, moist slopes.	May-June	None
Regulus satrapa	Golden-crowned Kinglet	SI	---	Deciduous and mixed forests, wooded bogs, parks, bottomland hardwoods, swamps and riversides.	June-July(Migratory)	None
FISH						
Ammocrypta pellucida	Eastern Sand Darter	SSC	---	Rocky pools and runs of creeks and small to medium rivers, often near vegetation or other cover.	Late April-May	None
Cycleptus elongatus	Blue Sucker	T	---	Large river systems, in a heavy current.	April-June	None
Esox masquinongy	Muskellung	SSC	---	Lakes and large rivers; Prefer shallow water with a rocky bottom and heavy cover.	April	None

Ictalurus furcatus	Blue Catfish	SSC	---	Large river systems.	May-August	None
Lepisosteus platostomus	Shortnose Gar	E	---	Calm waters of large rivers and their backwaters.	February-June	None
Macrhybopsis hyostoma	Shoal Chub	E	---	Small streams with various substrates.	April-June	None
Moxostoma carinatum	River Redhorse	SSC	---	Medium to large rocky rivers with moderate to strong currents. Usually found in long, deep run habitats.	Early June	None
Notropis boops	Bigeye Shiner	T	---	Small to medium sized streams with pools over substrates of gravel, rock, or sand.	April-August	None
Noturus eleutherus	Mountain Madtom	T	---	Fast flowing clear riffles that are shallow.	June-July	None
Noturus stigmosus	Northern Madtom	E	---	Large rivers in swift currents.	June-July	None
Percina copelandi	Channel Darter	T	---	Gravelly shallows of lakes, and in small and medium-sized rivers in riffles over sand, gravel or rock bottoms.	April-May	None
Percina shumardi	River Darter	T	---	Major rivers and mouths of tributaries with swift currents over sandy, gravelly or rocky substrates.	Year-round, depending on water temperatures.	None
Polyodon spathula	Paddlefish	T	---	Large, slow moving rivers with access to sand or gravel bars.	March-June	None
INVERTEBRATE						
Actinonaias ligamentina ligamentina	Mucket	X	---	Medium to large rivers, usually in areas with fairly good flow. The substrates it prefers include sand and/or gravel.	June-July	None
Alasmidonta marginata	Elktoe	SSC	---	Shallow to medium sized creeks or rives.	June-July	None
Catocala maestosa	---	SI	---	Riparian wooded areas.	July-October	None
Cumberlandia monodonta	Spectacelecase	X	E	Large rivers where they live in areas sheltered from the main force of the river current. This species often clusters in firm mud and in sheltered areas, such as beneath rock slabs, between boulders and even under tree roots.	May-August	None
Cyclonaias tuberculate	Purple Wartyback	SSC	---	Large to medium sized rivers with a gravel or mixed sand substrates.	May-August	None
Cyprogenia stegaria	Fanshell	E	E	Rivers and streams with abundant gravel and sand substrates.	April-August	None
Ellipsaria lineolata	Butterfly Mussel	E	---	Large rivers with swift currents in sand or gravel substrates.	July-August	None
Elliptio crassidens crassidens	Elephant-ear	E	---	Rivers and streams with muddy sand, sand, and rocky substrates in moderate currents.	April-May	None
Epioblasma obliquata obliquata	Purple Cat's Paw	E	E	Large rivers with gravel or mixed sand substrates.	April-May	None
Epioblasma torulosa rangiana	Northern Riffleshell	E	E	Large to small streams.	Breeding season occurs once a year, dependent upon water temperature	None
Epioblasma triquetra	Snuffbox	E	E	Riffles areas of fast moving rivers and streams.	July-August	None

Fusconaia ebena	Ebonyshell	E	---	Rivers and streams with coarse sand and gravel substrates.	June-September	None
Fusconaia maculata maculata	Long-solid	E	---	Small to large rivers in gravel with strong currents.	May-July	None
Gomphus externus	Plains Clubtail	E	---	Found near large, slow, muddy streams and rivers.	May-Late July	None
Hemistena lata	Cracking Pearl Mussel	X	E	Prefers gravel riffles of medium-sized streams, and mud and sand bottoms in slower-moving water.	June-July	None
Lampsilis abrupta	Pink Mucket	E	E	Small to medium rivers with swift currents.	June-July	None
Lampsilis fasciola	Wavy-rayed Lampmussel	SSC	---	Medium streams with gravel or sand bottoms.	June-July	None
Lampsilis ovata	Sharp-ridged Pocketbook	E	---	Ponds, lakes and streams with slow moving water and plenty of cover.	June-July	None
Lampsilis teres	Yellow Sandshell	E	---	Large rivers with slow moving currents.	June-July	None
Lasmigona compressa	Creek Heelsplitter	SSC	---	Medium to large rives in pools over compact sand and gravel, or mud patches near shore.	June-July	None
Leptodea leptodon	Scaleshell	X	E	Medium-sized and large rivers with stable channels and good water quality.	June-July	None
Ligumia recta	Black Sandshell	T	---	Rivers, lakes and large streams in riffles over muddy to gravel substrates.	July-August	None
Lycaena helloides	Purplish Copper	E	---	Wet meadows, marshes and streamsides.	July-August	None
Megalonaias nervosa	Washboard	E	---	Slow moving rivers and streams with muddy to rocky substrates.	August-October	None
Nannothermis bella	Elfin Skimmer	E	---	Bogs and fens.	March-September	None
Obliquaria reflexa	Threehorn Wartyback	T	---	Large rivers with sand or gravel substrates.	July-August	None
Obovaria olivaria	Hickorynut	X	E	Shallow water over silt-free sand and gravel bottoms of large rivers.	June-July	None
Obovaria retusa	Ring Pink	X	E	Shallow water over silt-free sand and gravel bottoms of large rivers.	June-July	None
Orconectes sloanii	Sloan's Crayfish	T	---	Freshwater lakes and streams, under rocks and logs.	August-October	None
Plethobasus cicatricosus	White Wartyback	X	E	Clean, fast-flowing water in silt-free rubble, gravel and sand bottoms of large and rivers.	June-July	None
Plethobasus cooperianus	Orange-footed Pearly Mussel	X	E	Clean, fast-flowing water in silt-free rubble, gravel or sand of medium to large rivers.	June-July	None
Plethobasus cyphyus	Sheepnose	E	E	Large rivers in shallow areas with moderate to swift currents that flow over coarse sand and gravel substrates.	July-August	None
Pleurobema clava	Clubshell	E	E	Medium to large rivers with gravel or sandy substrates.	July-August	None
Pleurobema cordatum	Ohio Pigtoe	E	---	Large rivers in riffle areas with clear, swift moving water.	April-May	None
Pleurobema plenum	Rough Pigtoe	X	E	Wide variety of streams from large to small. It buries itself in bottoms of firmly packed sand or gravel.	June-July	None
Pleurobema rubrum	Pyramid Pigtoe	E	---	Medium to large rivers in sand or gravel.	May-July	None

Pleurobema sintoxia	Round Pigtoe	SSC	---	Small to large rivers with moderate to swift flowing water with gravel, cobble or boulder substrates.	June-July	None
Ptychobranchus fasciolaris	Kidneyshell	SSC	---	Small to medium sized rivers in riffle areas with clear, swift moving water.	April-August	None
Quadrula cylindrical cylindrical	Rabbitsfoot	E	T	Large, clean, fast-flowing waters.	April-August	None
Quadrula fragosa	Winged Mapleleaf	X	E	Found in riffles with clean gravel, sand, or rubble bottoms and in clear, high quality water.	June-July	None
Quadrula metanevra	Monkeyface	E	---	Large, clean, fast-flowing waters in silt-free rubble, gravel and sand bottoms.	March-July	None
Quadrula nodulata	Wartyback	E	---	Large, clean, fast-flowing waters in silt-free rubble, gravel and sand bottoms.	May	None
Speyeria idalia	Regal Fritillary	E	---	Tall-grass prairie and other open location including meadows, marshes and pastures.	June-July	None
Truncilla donaciformis	Fawnsfoot	T	---	Rivers and lakes in slower moving water. Usually in sand or gravel substrates.	April-May	None
Truncilla truncata	Deertoe	SSC	---	Lakes and medium to large rivers. Usually in mud, sand or gravel substrates.	August-July	None
Uniomerus tetralasmus	Pondhorn	T	---	Freshwater rivers, ponds and lakes.	Unknown	None
Villosa fabalis	Rayed Bean	E	E	Small headwater creeks, sometimes found in large rivers. Prefers gravel or sand substrates.	Unknown; Egg-bearing females have been found in May.	None
REPTILE						
Clonophis kirtlandii	Kirtland's Snake	T	---	Prairie fens, wet meadows, wet prairies and associated open and wooded wetlands	February-March, May, August-September	None
Opheodrys aestivus aestivus	Northern Rough Greensnake	SSC	---	Moist meadows and woodlands, often near water.	April-May	None
Terrapene Carolina	Eastern Box Turtle	SC	---	Forests, especially bottomland forests and edge habitats.	May-October	None
AMPHIBIAN						
Acris crepitans crepitans	Eastern Cricket Frog	SSC	---	The shores of sparsely vegetated permanent ponds and streams.	April-June	Low
Cryptobranchus alleganiensis alleganiensis	Eastern Hellbender	E	---	Medium to large, rocky streams that are not excessively silty and have an abundance of crayfish.	September	Low
Eurycea lucifuga	Cave Salamander	E	---	In and around caves, seeps, springs, and small forested limestone creeks associated with groundwater. Rock crevices or under rocks, logs, or other debris.	December-February	Low
PLANT						
Corallorhiza wisteriana	Spring Coral-Root	P	---	Broad array of coniferous to deciduous habitats in humus rich soils.	n/a	None

Cyperus acuminatus	Pale Umbrella-Sedge	P	---	Open, wet, sandy habitats. Sores, seepages, and fields.	n/a	None
Descurainia pinnata	Tansy Mustard	T	---	Anthropogenic (man-made or disturbed habitats), cliffs, or ledges, ridges or ledges, talus and rocky slopes.	n/a	None
Echinodorus berteroi	Burhead	P	---	Muddy shores and shallow water of lakes, ponds, slow-moving streams, and ditches. Also in swamp woods and river bottoms.	n/a	None
Lipocarpha micrantha	Dwarf Bulrush	T	---	Sandy-peaty shore of soft water lakes associated with intermittent wetlands and coastal plain marshes.	n/a	None
Paspalum repens	Riverbank Paspalum	T	---	Frequently found submersed or floating, growing in the mud or shallow waters of rivers, ponds, streams and swamps.	n/a	None
Phacelia bipinnatifida	Fern-leaved Scorpion-weed	P	---	Moist areas of deciduous woodlands and rocky woodlands, rocky banks and low areas along woodland streams, moist depressions of bluffs, bottoms of sandstone canyons, and lower slopes of ravines.	n/a	None
Ribes missouriense	Missouri Gooseberry	T	---	Mesic to dry open woodlands, savannas, woodland borders, thickets, power line clearances and small meadows and wooded areas, abandoned fields, and partially shaded fence rows.	n/a	None
Sida hermaphrodita	Virginia-mallow	P	---	Anthropogenic (man-made or disturbed habitats), meadows and fields.	n/a	Low
Spermacoce glabra	Smooth Buttonweed	P	---	Wet meadows, banks of streams, and ditches.	n/a	None
Trifolium reflexum	Buffalo Clover	E	---	Rocky open woods, glades, old fields, prairies. Typically on acid soils.	n/a	None
Trifolium stoloniferum	Running Buffalo Clover	E	E	Disturbed bottomland meadows. Disturbed sites that have shade part of the day.	n/a	None
Trillium recurvatum	Prairie Wake-robin	P	---	Rich woodlands, open woodlands, and savannas, where deciduous trees are dominant. Sometimes this species survives degradation of woodland habitats, and it can be found along fence rows with woody vegetation, overgrown areas near railroads, and miscellaneous waste areas with partial or light shade.	n/a	None
Triphora trianthophora	Three-birds Orchid	P	---	Upland, hardwood forests, often with a well-developed humus layer.	n/a	None
Viburnum rufidulum	Southern Black-haw	P	---	Dry, rocky, wooded slopes and forest edges.	n/a	None

1. STATE STATUS - X = extirpated, E = endangered, T = threatened, P= potentially threatened R = rare, SSC = special concern, WL = watch list, SG = significant, SI = Special Interest ** = no status but rarity warrants concern
Ohio Department of Natural Resources, Division of Wildlife Website - http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/publications/information/pub356.pdf (March 2016).

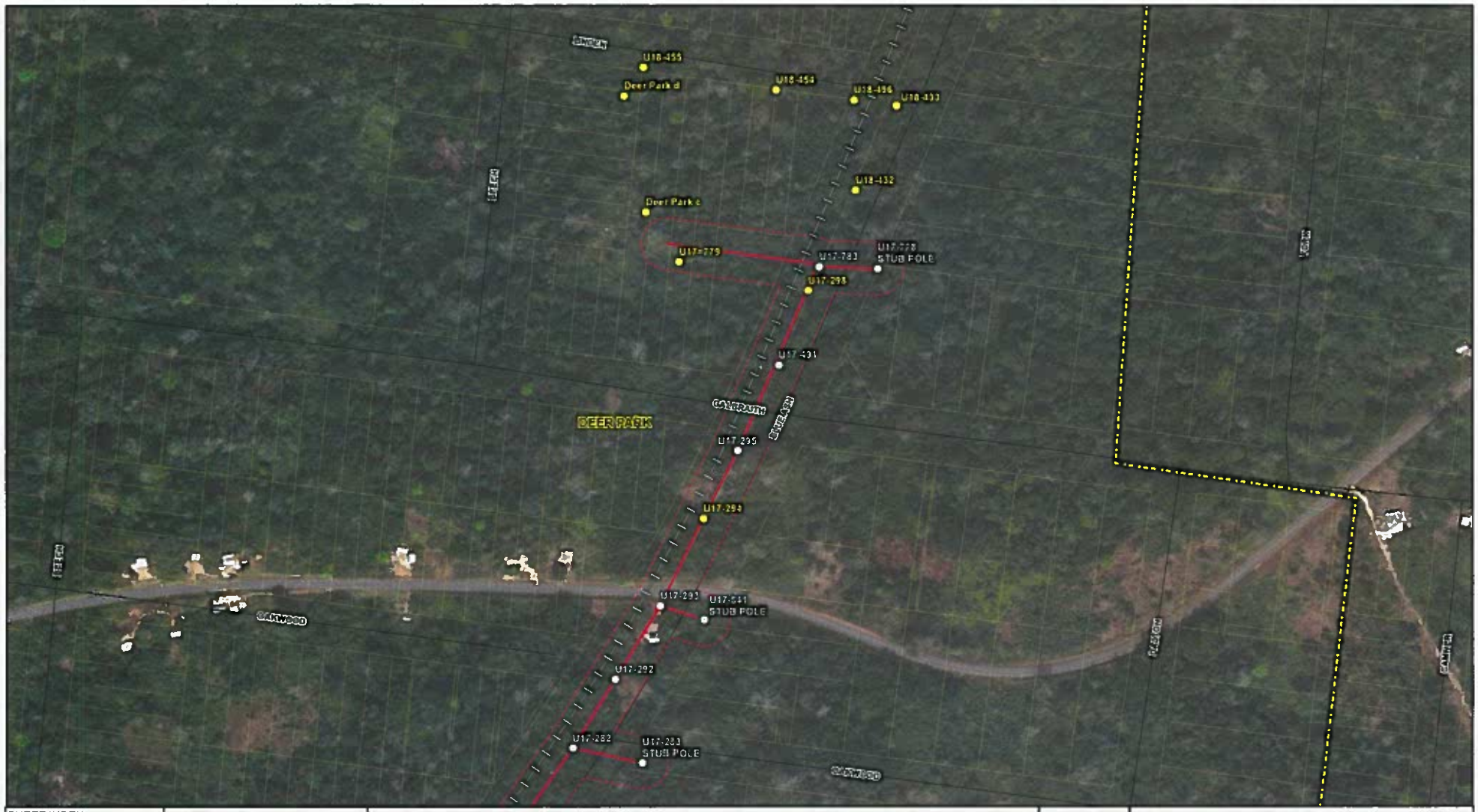
2. FEDERAL STATUS - E = endangered, T = threatened, R = rare, LELT = different listing for specific ranges or species, PE = proposed endangered , PT = proposed threatened, e/sa – appearance similar to a listed endanger species, **= not listed
United States Fish and Wildlife Service, County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species - http://www.fws.gov/midwest/endangered/lists/ohio-cty.html (January 2017).

3. Habitats and Breeding Periods described by:
   a. NatureServe: An online encyclopedia of life [web application].2000. Version 1.1 Arlington, Virginia, USA: Association for Biodiversity information. Available: http://www.natureserve.org/ (Accessed January 6, 2017).
   b. United States Fish and Wildlife Service Rayed Bean Fact Sheet - http://www.fws.gov/midwest/endangered/clams/rayedbean/RayedBeanFactSheet.html (January 6, 2017).
   c. United States Fish and Wildlife Service Indiana Bat Fact Sheet - http://www.fws.gov/midwest/endangered/mammals/inba/index.html (January 6, 2017).
   d. United States Fish and Wildlife Service Northern Long-eared Bat Fact Sheet - http://www.fws.gov/midwest/endangered/mammals/nleb/index.html (January 6, 2017).
   e. United States Fish and Wildlife Service Eastern Massasauga Fact Sheet - http://www.fws.gov/midwest/endangered/mammals/inba/index.html (January 6, 2017).
   f. United States Fish and Wildlife Service Running buffalo clover Fact Sheet - http://www.fws.gov/midwest/endangered/mammals/nleb/index.html (January 6, 2017).

4. Likelihood of occurrence: None, Low, Moderate, or High based on best available data and selective field observations.

Attachment B

Site Plans and Project Area Location Relative to Existing Electric Lines



SHEET INDEX

REFERENCE:
ESRI WORLD IMAGERY, OBTAINED THROUGH ESRI WORLD IMAGERY MICROSOFT CORPORATION, ACCESSED 01/2017

N

0 40 80 160 Feet

Proposed Structure
Existing Structure
Fence Line*
Project Centerline
58-ft Right-of-Way
Parcels
Local Road
Interstate*
State Highway*
US Highway*
Railroad
Municipal Boundary

*Indicates a layer with no features visible in map extent.

DUKE ENERGY.

Cardno

EXHIBIT 3.01
OPSB CN (BNR) FILING
F7481 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY OHIO
PROJECT SITE PLANS

DRAWN BY: COD
CHECKED: DKT
DATE: 2/13/2019
APPROVED: JT

R:\Projects\15\156\156720M_DukeEnergy9193\M77_SOW37_138kVBlueAshImprovement\GIS\MXD\OPSB\OPSB_M77_BlueAsh_E1.mxd

SHEET INDEX

REFERENCE:
ESRI WORLD IMAGERY, OBTAINED THROUGH ESRI WORLD IMAGERY MICROSOFT CORPORATION, ACCESSED 01/2017

N

0 40 80 160 Feet

Proposed Structure
Existing Structure
Fence Line*
Project Centerline
58-ft Right-of-Way
Parcels
Local Road
Interstate*
State Highway*
US Highway*
Railroad
Municipal Boundary

*Indicates a layer with no features visible in map extent.

DUKE ENERGY.

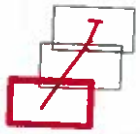
Cardno

EXHIBIT 3.02
OPSB CN (BNR) FILING
F7481 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY OHIO
PROJECT SITE PLANS

DRAWN BY: COD
CHECKED: DKT
DATE: 2/13/2019
APPROVED: JT

R:\Projects\15\156\156720M_DukeEnergy9193\M77_SOW37_138kVBlueAshImprovement\GIS\MXD\OPSB\OPSB_M77_BlueAsh_E1.mxd

SHEET INDEX



REFERENCE:
ESRI WORLD IMAGERY, OBTAINED THROUGH ESRI WORLD IMAGERY MICROSOFT CORPORATION, ACCESSED 01/2017

N

0 40 80 160 Feet

Proposed Structure
Existing Structure
Fence Line*
Project Centerline
58-ft Right-of-Way Parcels
Local Road
Interstate*
State Highway*
US Highway*
Railroad
Municipal Boundary

*Indicates a layer with no features visible in map extent.

DUKE ENERGY.

Cardno

EXHIBIT 3.03
OPSB CN (BNR) FILING
F7481 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY OHIO
PROJECT SITE PLANS

DRAWN BY: COD
CHECKED: DKT
DATE: 2/13/2019
APPROVED: JT

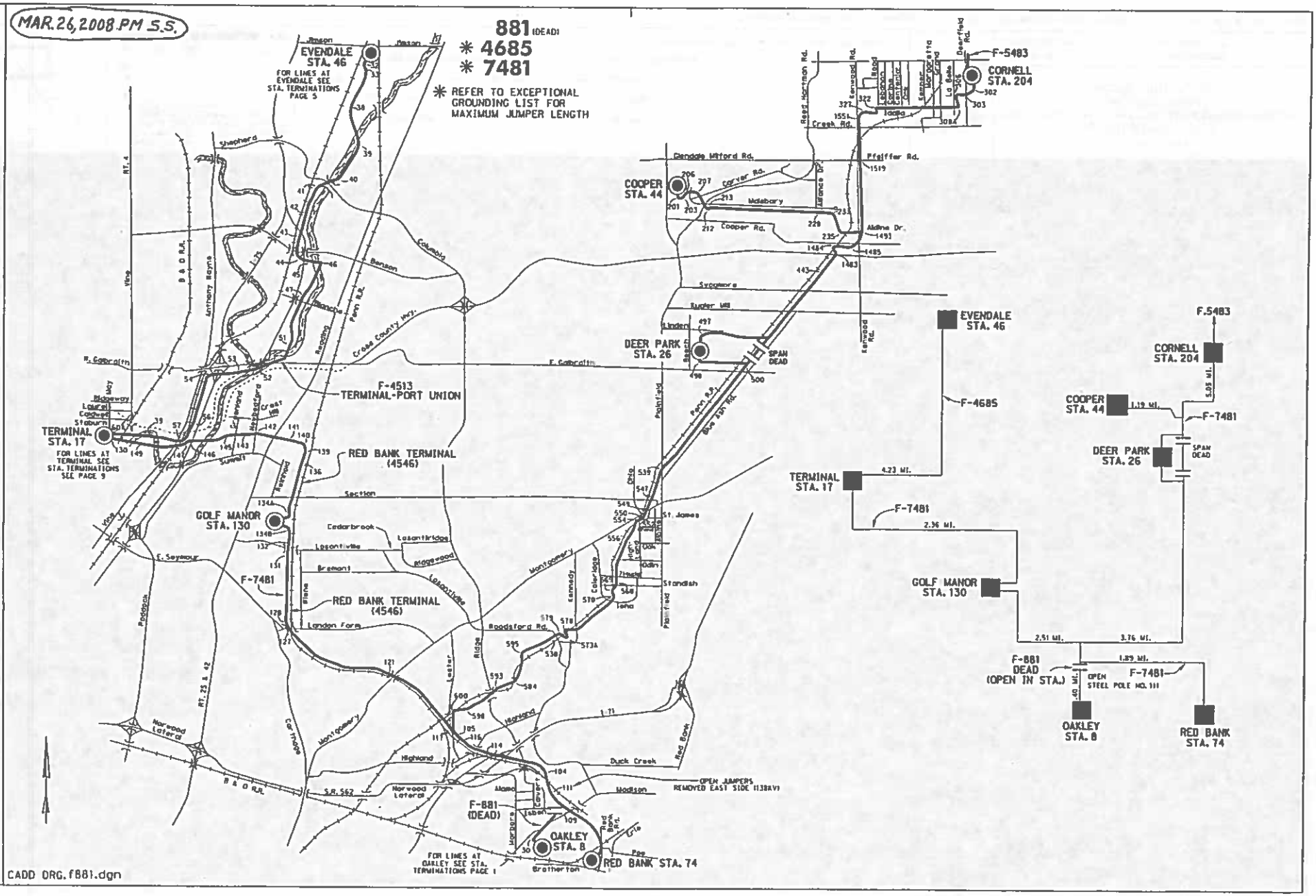
R:\Projects\15\156\156720M_DukeEnergy9193\M77_SOW37_138kVBlueAshImprovement\GIS\MXD\OPSB\OPSB_M77_BlueAsh_E1.mxd

HL

MAR. 26, 2008 PM S.S.

881 (DEAD)
* 4685
* 7481

* REFER TO EXCEPTIONAL GROUNDING LIST FOR MAXIMUM JUMPER LENGTH



CADD ORG. f881.dgn

HL

MAR 7 1996 PM JB

881 (DEAD)
4685
7481

F 4685			
POLE	PHASE	CONDUCTORS	STATIC
FACING EVENDALE STA.	3 2 1	3-1590 KCMIL	1-7 No. 8AW
TOWER 72	S 1 2 3	"	2-7 No. 8AW
TWR. 35-48	S 4 5 1 3 / S 1 2 3	6-954 KCMIL 45/7 A.C.S.R.	1-7 No. 8AW
STEEL POLE 49	S 4 5 1 3 / S 1 2 3	"	"
TOWER 30-54	S 4 5 1 3 / S 1 2 3	"	"
TOWER 55-60	4 S 5 1 3 / S 1 2 3 (73A 1765)	"	"
TOWER 60A	F S 7 4 8 1 / S 1 2 3	6-1590 KCMIL 61 STR. AL.	"
TOWER STA.	3 2 1	3-1590 KCMIL 61 STR. AL.	"
F. 7481			
FACING RED BANK STA.	3 2 1	3-1590 AA.	1-7 No. 8AW
FACING AWAY FROM RED BANK STA.			
STEEL POLE 104-110	S 1 2 3 — RED BANK TERMINAL 345	6-954 KCMIL 45/7 A.C.S.R.	2-7 No. 8AW
STEEL POLE 111	S 3 1 2 3 — RED BANK TERMINAL 345	"	"
STEEL POLE 112-134	S 1 2 3 — RED BANK TERMINAL 345	"	"
POLE 134B	1 2 3	3-1590 KCMIL 61 STR. AL.	———
LOOKING AT GOLF MANOR STA. SOUTH SIDE	1 2 3	3-1590 KCMIL 61 STR. AL.	———
LOOKING AT GOLF MANOR STA. NORTH SIDE	1 2 3	3-1590 KCMIL 61 STR. AL.	———
POLE 134A	1 2 3	"	———
STEEL POLE 135-144	S 1 2 3 — RED BANK TERMINAL 345	6-954 KCMIL 45/7 A.A.	1-7 No. 8AW
TWR. 145-146	S 1 2 3 — R.B. 345 KV / S 1 2 3	6-954 KCMIL 45/7 A.C.S.R.	1-7 No. 8AW
TWR. 147-150	S 1 2 3 — R.B. 345 KV / S 1 2 3 (3263 661)	"	"
POLE 151	1 2 3	3-1590 KCMIL 61 STR. AL.	———
TWR. 60A	S 1 2 3 — 4 6 8 5 / S 1 2 3	"	1-7 No. 8AW
FACING TERMINAL STA.	3 2 1	"	"

POLE	PHASE	CONDUCTORS	STATIC
TAP TO CORNELL STATION			
116-605	1 2 3	3-795 KCMIL AA	———
604-601	1 S 2 3	"	1-1/0 ACSR
600-594	1 S 2 3	"	"
593	1 S 2 3	"	"
592-568	S 1 2 3	"	"
567-557	1 S 2 3	"	"
556-515	1 S 2 3	"	"
514	S 2 1 3	3-954 KCMIL 45/7 ACSR	1-7 No. 8AW
513-507	S 1 2 3	"	"
506	S 3 1 2	"	"
505-501	S 3 1 2	"	"
500	S 3 1 2	"	"
499	S 3 1 2	3-795 KCMIL AA	1-1/0 ACSR
498	S 3 1 2	"	"
FACING DEER PARK STA. SO. SIDE	3 2 1	"	"
FACING DEER PARK STA. NO. SIDE	1 2 3	"	"
497-495	S 3 1 2	"	"
494-304	S 3 1 2	"	"
303-302	S 3 1 2	"	"
CORNELL STA.	1 2 3	"	"

F. 881 (DEAD)			
FACING OAKLEY STA.	1 2 3	3-400 KCMIL H.D.B.C.	1-134.6 KCMIL 12/7 A.C.S.R.
POLE 31	1 2 3	"	"
POLE 30	S 1 2 3 — 8 5 3 / 1	"	"
TWR 29	S 1 2 3	"	"
POLE 29A-29B	S 1 2 3	"	"
STEEL POLE 111	F S 7 4 8 1 — R.B. 345 KV	3-#400 KCMIL H.D.B.C.	1-134.6 KCMIL 12/7 A.C.S.R.

POLE	PHASE	CONDUCTORS	STATIC
TAP TO COOPER STATION			
1493-233	S 3 1 2	3-795 KCMIL AA	1-1/0 AAAC
232-229	S 3 1 2	"	"
228-227	1 S 3 2	"	"
225-217	S 3 1 2	"	"
216-215	1 S 3 2	"	"
214	S 3 1 2	"	"
213-212	S 3 1 2	"	"
211	S 3 1 2	"	"
210	S 3 1 2	"	"
209-208	S 3 1 2	"	"
207	S 3 2 1	"	"
206	S 3 1 2	"	"
205-204	S 3 1 2	"	"
203	S 3 1 2	"	"
202	S 3 1 2	"	"
201	S 3 1 2	"	"
FACING COOPER STATION	3 2 1	"	"

CADD DRG. f881.dgn

Attachment C

Property Owner Notification Letter and Recipient List

DUKE ENERGY.

Transmission – Public Engagement
EX552 | 315 Main Street
Cincinnati, OH 45202
duke-energy.com

January 16, 2019

Re: : Important information about a Duke Energy transmission project in your area, related to the Deer Park street beautification project

Dear Project Neighbor:

Duke Energy will be rebuilding a section of electric transmission line through your Hamilton County community this spring, in collaboration with the city of Deer Park's comprehensive plan to build a unique and vibrant city and to revitalize the Blue Ash Road corridor. Because you live around or near the Duke Energy easement that is affected by this beautification project, we are contacting you to provide information about Duke Energy's transmission line project, as well as information on how to contact us should you have any questions.

The Duke Energy project will involve rebuilding a 138-kilovolt (kV) transmission line along Blue Ash Road, from Duneden Avenue to East Galbraith Road. The rebuilt portion will enter the south side of the Deer Park Substation, located at 4405 Linden Ave. (see map enclosure).

As part of our energy reliability enhancement program, Duke Energy – like other utility companies around the nation – is replacing wood utility poles with steel poles as its new standard for transmission projects. The project will involve the replacement of approximately 15 wood utility poles with steel poles and other associated equipment.

The new steel poles will be approximately 40 feet taller than the present wood utility pole construction. The extra height will be needed to accommodate clearances for the city's planning for new streetlights and traffic signals at the intersections of Matson Avenue and East Galbraith Road. The base of the poles will increase in diameter according to pole height, which makes the poles stronger and more reliable.

The distribution portion of the project – the lines that carry energy to residences, schools and businesses – is planned to start in February. Individual customers will be notified in advance (via door hangers, phone calls or direct contact by a contractor) should there be brief service interruptions during some of this work.

Construction on the transmission line – the power lines that carry energy over longer distances – is planned to begin in April and to be completed in early May. Skilled contractors will work during daylight hours. Work zones will be established to provide safety for our crews and for the public. At times, a road may be blocked temporarily as we set up equipment. Drivers are advised to be cautious and slow down as they approach crews and their equipment.

Upon completion of the project, we will remove all construction material and debris, and the easement area will be restored as closely as possible to its original condition.

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We are committed to communicating with you throughout the project. If you have additional questions, please call us toll-free at **888.827.5116**. Or you can email questions and comments to **MWOhioTransmission@duke-energy.com.** We appreciate your patience and cooperation as we work to meet your current and future energy needs.

Sincerely,

Joshua Waldroff

Joshua Waldroff
Project Manager for Duke Energy

State Parcel Identification Number (PIN):

Every year, the Duke Energy Foundation funds more than $2 million in charitable grants, matching gifts and volunteer grants in Ohio and Kentucky, supporting the environment, communities and K-12 education.

©2017 Duke Energy Corporation 190042 1/19

Parcel Number	Owner Name	Mailing Address	City	State	Zip
60900020076; 60900020077; 60900020078	DUKE ENERGY OHIO INC C/O TAX DEPARTMENT	550 TRYON ST	CHARLOTTE	NC	28201
60900020063; 60900020064	DUKE ENERGY OHIO INC C/O TAX DEPARTMENT	550 TRYON ST	CHARLOTTE	NC	28201
060900040049	JOHNSTON JAY L	8010 BEECH AVE	CINCINNATI	OH	45236-2630
060900040052	SIEMANTEL CHARLES	8008 1/2 BEECH AVE	CINCINNATI	OH	45236-2630
060900050137	CLARK RICHARD E & MICHELLE L	4863 BELL AVE	CINCINNATI	OH	45242
060900050279	RUDASILL TODD H & CHRISTA A	4242 DUNEDEN AVE	CINCINNATI	OH	45236
060900060024; 060900060023; 060900060025	DEER PARK CITY OF OHIO THE	4250 MATSON AVE	CINCINNATI	OH	45236
060900040065; 060900040066; 060900040067; 060900040068; 060900040069	DEER PARK ROOFING INC	4268 MATSON AVE	CINCINNATI	OH	45236
060900040033	AYERS RUSSELL S & MELODY	4320 SCHENCK AVE	CINCINNATI	OH	45236
060900040030; 060900040031	GUITERREZ DORIS & DIOMY L MONTERO	4318 SCHENCK AVE	CINCINNATI	OH	45236-2636
060900040028	TERMUHLEN JOHN A & PEGGY A RIGGS	4316 SCHENCK AVE	CINCINNATI	OH	45236-2636
060900050064	BURTON ROBIN L	4356 SCHENCK AVE	CINCINNATI	OH	45236-2622
060900030121; 060900030122; 060900030124; 060900030125; 060900030127; 060900060163; 060900030123; 060900030126	DEER PARK CITY OF THE	7777 BLUE ASH RD	CINCINNATI	OH	45236
060900050071; 060900050072; 060900050112; 060900050113	DEER PARK DELICATESSEN INC	7916 BLUE ASH RD	CINCINNATI	OH	45236-2602
060900050302; 060900050302	DEERPARK CITY OF	7777 BLUE ASH RD	CINCINNATI	OH	45236
060900050035	HAAS RANDALL TR	8100 BLUE ASH RD	CINCINNATI	OH	45236
60900050187	BOTOS STEPHEN	7610 BLUE ASH RD	CINCINNATI	OH	45236
060900040063; 060900040064	SABINO JENNIFER	3200 N WHITETREE CIR	CINCINNATI	OH	45236
060900040059	JETTER JERRY K	4348 BADER CT	CINCINNATI	OH	45236
060900050070	ROXMAR LLC	10409 LONDONRIDGE CT	CINCINNATI	OH	45242

Parcel Number	Owner Name	Mailing Address	City	State	Zip
060900050033	WERKOWITZ DOROTHY	2509 TEUTON CT	CINCINNATI	OH	45244
060900050009; 060900050005; 060900050009; 060900050005; 60900050004	INSURUS HOLDINGS LLC	5760 WHITE CHAPEL DR	CINCINNATI	OH	45236
060900020201; 060900040073	DEER PARK GROUP LLC	9916 CARVER DR	CINCINNATI	OH	45236
060900050116	D PLUS PROPERTIES LLC	10825 MEDALLION DR	CINCINNATI	OH	45241
060900020125; 060900020126	BOYER HERBERT	7331 OSCEOLA DR	CINCINNATI	OH	45243
060900040002; 060900040071; 060900040001	BUSAM STEPHANIE S TR	7728 AHWENASA LN	CINCINNATI	OH	45243
060900020170	OAKWOOD AVENUE LLC	7728 AHWENASA LN	CINCINNATI	OH	45243
060900050036	JKRH LTD	9672 COOPER LN	CINCINNATI	OH	45242
060900040039	4321 SCHENCK AVE LLC	9916 CARVER RD	CINCINNATI	OH	45242
060900050065; 060900050068; 060900050034; 060900050111; 060900050114; 060900050115	PENKLOR PROPERTIES LLC	9918 CARVER RD	CINCINNATI	OH	45242
060900050066	HOSBROOK DANIEL P TR	4720 COOPER RD	CINCINNATI	OH	45242
060900050299; 060900050299	DEER PARK REAL ESTATE HOLDINGS LLC	12 HERITAGE RD	CINCINNATI	OH	45241
060900050120	BOLGER JOHN P & MARY M	8340 PLAINFIELD RD	CINCINNATI	OH	45236
060900050069	OSTERKAMP ERIN M	9893 WINTON RD	CINCINNATI	OH	45231
060900050117	FIDELHOLTZ TIMOTHY J	10111 ZIG ZAG RD	CINCINNATI	OH	45242
060900050185	EMERY CHARLES S & THELMA L	9004 DECIMA ST	CINCINNATI	OH	45242
060900060148; 060900060148; 060900060148	SOUTHWEST OHIO REGIONAL TRANSIT AUTHORITY	414 WALNUT ST	CINCINNATI	OH	45202
060900050037; 060900050038; 060900050040; 060900050039	8028 BLUE ASH RD LLC	1329 E KEMPER RD	CINCINNATI	OH	45246
060900050012; 060900050013; 060900050014; 060900050286	GOC REALCO LLC	625 EDEN PARK DR	CINCINNATI	OH	45202
060900050119	D E M PROPERTIES OF CINCINNATI LLC	PO BOX 9493	CINCINNATI	OH	45209
060900020075; 060900020074	APPLY RITE ROOFING LLC	2545 RITCHIE ST	CRESCENT SPRINGS	KY	41017
060900020061	APPLY RITE ROOFING LLC	2745 RITCHIE ST	CRESCENT SPRINGS	KY	41017

Parcel Number	Owner Name	Mailing Address	City	State	Zip
60900020062	APPLY RITE ROOFING LLC	2745 RITCHIE ST	CRESCENT SPRINGS	KY	41017
060900040036; 060900040035; 060900040037; 060900040038; 060900040034	SULLIVAN JULIE A & THOMAS L	608 WAYSKIN DR	LATONIA	KY	41015
060900050292	G H ROBERTSON ENTERPRISES	9177 PINEWOOD DR	LOVELAND	OH	45140
060900020128; 060900020127; 060900020129; 060900020130	DIETZ CONRAD J	PO BOX 1427	WEST CHESTER	OH	45069
060900020058; 060900020059; 060900020060	INTROVERTS LLC	66 SENTRY DR	WILDER	KY	41076

Hamilton Co., Ohio

Legend

Proposed Transmission Line

Parcels

0 100 200 300 400 Feet

DUKE ENERGY.

Blue Ash To Duneden

DRAWN BY
KL

DATE
01/4/19

Attachment D

Electric and Magnetic Fields Report

PLS-CADD Version 15.01x64 9:01:21 AM Thursday, February 07, 2019
Duke Energy
Project Name: 'a:\projects\ham-cr251-0.64 blue ash road\2018_0420_pls cadd\model\f7481_v01.DON'
Line Title: 'As Surveyed - With Mitigation'

Criteria Notes:

This design criteria file is based on 2017 NESC and Duke Energy Midwest Design Criteria (2017-11-20 BLFlager update)

Weather and District Loading

NESC Heavy Combined Ice and Wind District Loading (Rule 250B)
90 MPH Extreme Wind Loading (Rule 250C)
1" Extreme Ice with 40 MPH Concurrent Wind Loading (Rule 250D)
Maximum Operating Temperature to be verified by the Engineer of Record
1.25" Extreme Ice (Non-NESC)
Grade B Construction

Structure Loading Cases to include the Following:
Case 1: Rule 250B Heavy District Grade B Loading
Case 1A: Rule 250B Heavy District Grade B Loading DE Back/Ahead
Case 2: Rule 250C Extreme Wind
Case 2A: Rule 250C Extreme Wind DE Back/Ahead
Case 3: Rule 250D Concurrent Ice and Wind
Case 3A: Rule 250D Concurrent Ice and Wind DE Back/Ahead
Case 4: Extreme Ice
Case 4A: Extreme Ice DE Back/Ahead
Case 5: Uplift
Case 6: Rule 250A2 Construction and Maintenance Load Criteria (Stringing, One Sided Load, Broken Wire, Arm Loading,etc...)(TBD by the Engineer of Record)
Case 7: Rule 261A

Note 1: Load factors per Table 253-1
Note 2: Strength factors per Table 261-1
Note 3: Project Engineer is responsible for verifying loading for engineered steel pole load trees.
Note 4: Case 7 includes longitudinal extreme wind check per Rule 261A1c(Page 214), Rule 261A2e(Page 215), and Rule 261A3d(Page215)

Clearance Analysis Reference
1. 2017 NESC
2. Duke Energy Midwest Design Criteria
3. Local, State, or Federal agencies
Note: Project Engineer should verify maximum operating temperatures.

Wire Tensions Reference
1. 2017 NESC, Rule 261H-1
2. Duke Energy Midwest Design Criteria

Insulator Loading Reference
1. 2017 NESC, Rule 277
2. Duke Energy Midwest Design Criteria .
Note: When specifying the insulator strength properties in Components/Insulators in TOWER and PLS-POLE,
the manufacturer`s recommended load capacities shall be used per NESC Table 277-1.
NESC Rule 277 specifically excludes Rule 253 Load Factors for checking the mechanical strength of insulators.
This Criteria checks Insulators for ALL cases using a Strength Factor of 1.0 applied to insulator working load properties.

Guying or Associated Hardware Reference
1. 2017 NESC, Rule 264B
2. Duke Energy Midwest Design Criteria

EMF Calculation Notes:
1) All calculations based on the EPRI Red Book methods (2nd Edition, 1982 - infinite straight wire with flat earth approximation).
2) These approximations are only valid for low frequency (50-60Hz) AC transmission lines.
3) Bundles are modeled with an equivalent conductor as per EPRI Red Book 8.3.1.
4) The effects of earth return currents (earth resistivity) are ignored when calculating the magnetic field.
5) Wire position is determined by the currently displayed weather case.
6) Wire height used is the height of the wire where the target point is projected upon it.
7) All calculations assume ground is flat with same elevation as that of centerline.

Meter height above centerline ground: 3.28 (ft)
Cross section offset for graph +/-: 38.00 (ft)
Result interval for graph: 5.00 (ft)
Electric field limit: 0.00 (kV/m)
Magnetic field limit: 0.00 (mG)

EMF calculation includes only wires going from structure U17-282 to structure U17-281

EMF Circuit Data:

Set #	Phase #	Conductors Per Phase	Voltage Ph-Ph (kV)	Current (Amps)	Phase Angle (deg)	Bundle Diameter (in)
1	1	1	0	0.000	0	0.000
2	1	1	138	1113.000	0	0.000
2	3	1	138	1113.000	120	0.000
2	2	1	138	1113.000	-120	0.000
4	1	1	0	0.000	0	0.000
34	1	1	34.5	0.000	0	0.000
34	2	1	34.5	0.000	120	0.000
34	3	1	34.5	0.000	-120	0.000
38	1	1	12.5	0.000	0	0.000
38	2	1	12.5	0.000	120	0.000
38	3	1	12.5	0.000	-120	0.000

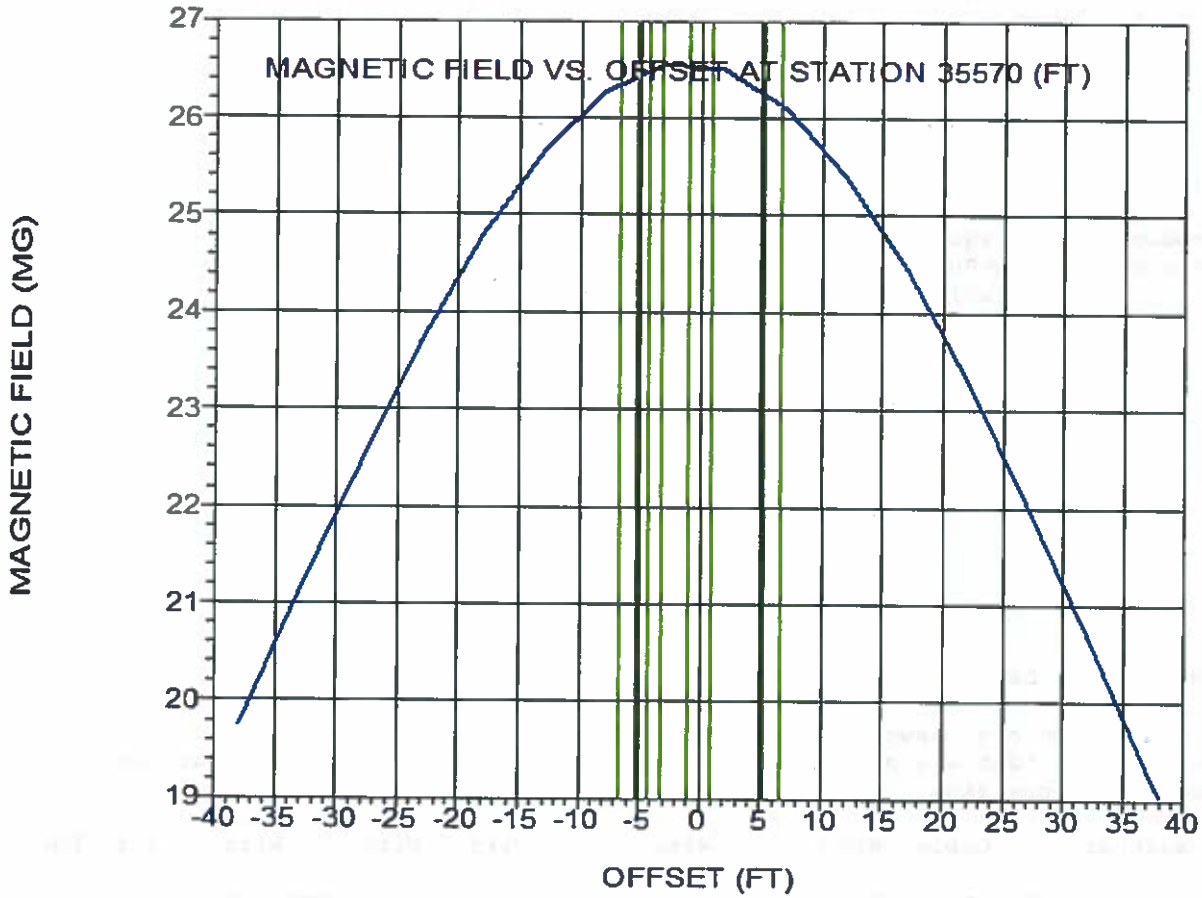
Calculated EMF Circuit Data For Last Point:

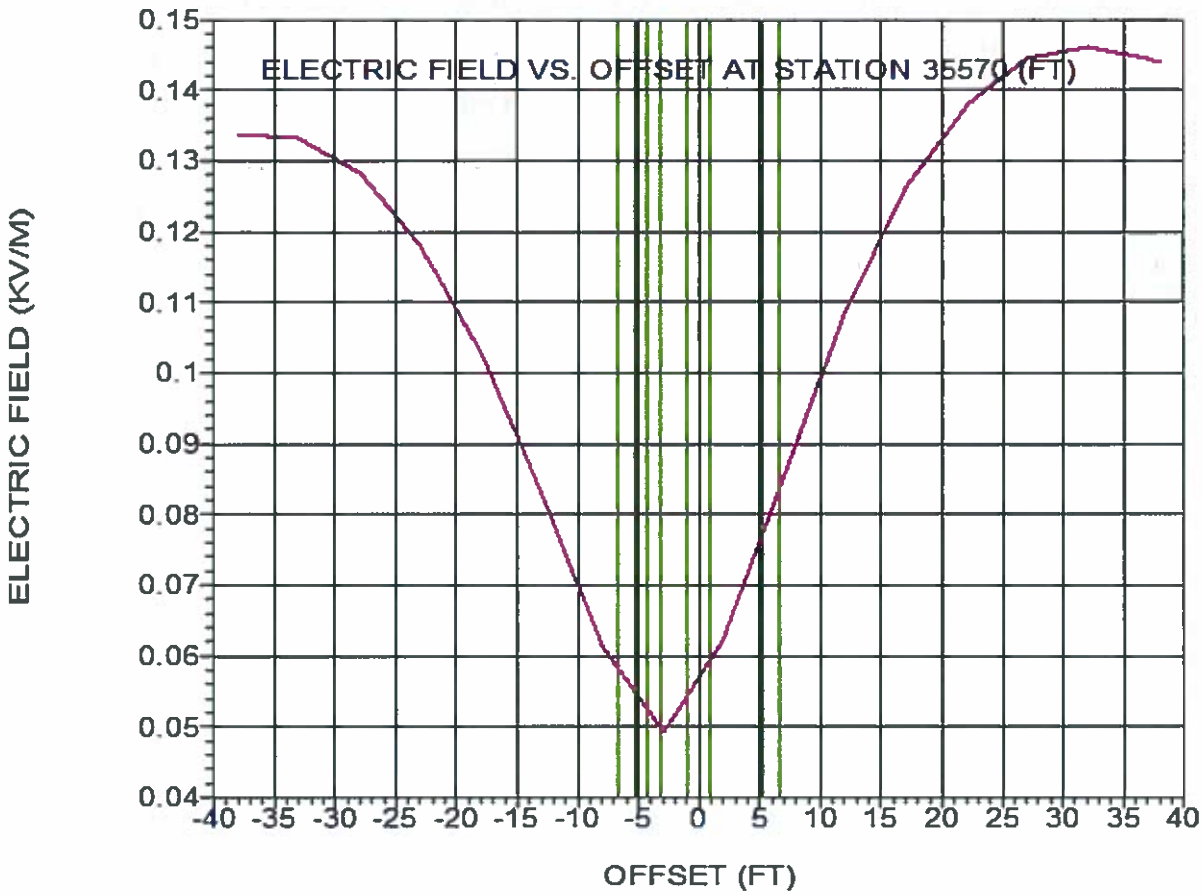
Wire station and offset are based on alignment closest to point on wire.
In the case of wires that are not parallel, this may result in different stations for the wires and centerline.

Set #	Phase #	Weather Case	Cable Condition	Wind From	Wire X (ft)	Wire Y (ft)	Wire Z (ft)	Wire Station (ft)	Wire Offset (ft)	Eqv. Wire Diameter (in)	Voltage To Gnd. (kV)
1	1	120 DEG F	Initial RS	Left	2379220.46	14248456.92	941.17	35570.41	-0.83	0.385	0
2	1	248 DEG F	Initial RS	Left	2379224.17	14248454.58	933.06	35570.41	-5.22	1.165	79.67
2	3	248 DEG F	Initial RS	Left	2379215.31	14248460.17	933.07	35570.43	5.26	1.165	79.67
2	2	248 DEG F	Initial RS	Left	2379223.60	14248455.58	925.01	35569.86	-4.21	1.165	79.67
4	1	120 DEG F	Initial RS	Left	2379218.86	14248457.93	896.44	35570.42	1.05	0.563	0
34	1	185 DEG F	Initial RS	Left	2379225.39	14248453.80	914.02	35570.42	-6.67	0.856	19.92

```
  34      2 185 DEG F Initial RS  Left 2379222.43 14248455.67 914.48 35570.42   -3.17
0.856   19.92
  34      3 185 DEG F Initial RS  Left 2379214.12 14248460.93 914.02 35570.42    6.67
0.856   19.92
  38      1 185 DEG F Initial RS  Left 2379225.39 14248453.80 906.65 35570.42   -6.67
0.856   7.217
  38      2 185 DEG F Initial RS  Left 2379222.43 14248455.67 907.12 35570.42   -3.17
0.856   7.217
  38      3 185 DEG F Initial RS  Left 2379214.12 14248460.93 906.66 35570.42    6.67
0.856   7.217

Maximum magnetic field of 26.55 (mG) found at station 35570.42, offset -3.00 (ft)
Maximum electric field of 0.146 (kV/m) found at station 35570.42, offset 32.00 (ft)
```





EMF Calculation Results:

Station Offset (ft)	X (ft)	Y (ft)	Z (ft)	B Real (mG)	B Img. (mG)	B Phase Angle (deg)	B rms Res. (mG)	E Real (kV/m)	E Img. (kV/m)	E Phase Angle (deg)	E Axis Angle (deg)	E rms Res. (kV/m)
35570.42	-38.00	2379251.86	14248437.03	865.29	10.637	16.63640	57.4	19.746	0.111	0.07518	34.2	89.6	0.134
35570.42	-33.00	2379247.63	14248439.71	865.29	11.298	17.83853	57.7	21.115	0.110	0.07507	34.3	90.7	0.133
35570.42	-28.00	2379243.41	14248442.38	865.29	11.918	19.02416	57.9	22.449	0.106	0.07310	34.7	92.2	0.128
35570.42	-23.00	2379239.18	14248445.06	865.29	12.469	20.14663	58.2	23.693	0.096	0.06933	35.8	94.1	0.118
35570.42	-18.00	2379234.96	14248447.73	865.29	12.921	21.15100	58.6	24.785	0.081	0.06423	38.5	96.7	0.103
35570.42	-13.00	2379230.74	14248450.41	865.29	13.246	21.97855	58.9	25.662	0.059	0.05860	44.6	100.1	0.083
35570.42	-8.00	2379226.51	14248453.08	865.29	13.424	22.57384	59.3	26.264	0.035	0.05333	56.9	102.4	0.061
35570.42	-3.00	2379222.29	14248455.76	865.29	13.443	22.89290	59.6	26.548	0.023	0.04892	64.5	90.3	0.049
35570.42	2.00	2379218.06	14248458.43	865.29	13.303	22.91085	59.9	26.493	0.046	0.04502	44.2	257.1	0.062
35570.42	7.00	2379213.84	14248461.11	865.29	13.017	22.62648	60.1	26.103	0.076	0.04050	27.9	259.4	0.085

35570.42	12.00	2379209.61	14248463.78	865.29	12.604	22.06229	60.3	25.409	0.103	0.03413	18.3	263.0	0.108
35570.42	17.00	2379205.39	14248466.46	865.29	12.091	21.26013	60.4	24.458	0.124	0.02544	11.6	265.8	0.126
35570.42	22.00	2379201.17	14248469.13	865.29	11.507	20.27392	60.4	23.312	0.138	0.01555	6.5	267.8	0.138
35570.42	27.00	2379196.94	14248471.81	865.29	10.877	19.16155	60.4	22.034	0.144	0.01028	4.1	269.2	0.144
35570.42	32.00	2379192.72	14248474.48	865.29	10.226	17.97800	60.4	20.683	0.145	0.01714	6.7	270.2	0.146
35570.42	37.00	2379188.49	14248477.16	865.29	9.574	16.77071	60.3	19.311	0.142	0.02718	10.8	270.9	0.145
35570.42	38.00	2379187.65	14248477.69	865.29	9.445	16.52990	60.3	19.038	0.141	0.02910	11.6	271.0	0.144

PLS-CADD Version 15.01x64 9:03:28 AM Thursday, February 07, 2019
Duke Energy
Project Name: 'a:\projects\ham-cr251-0.64 blue ash road\2018_0420_pls cadd\model\f7481_v01.DON'
Line Title: 'As Surveyed - With Mitigation'

Criteria Notes:

This design criteria file is based on 2017 NESC and Duke Energy Midwest Design Criteria (2017-11-20 BLFlager update)

Weather and District Loading

NESC Heavy Combined Ice and Wind District Loading (Rule 250B)
90 MPH Extreme Wind Loading (Rule 250C)
1" Extreme Ice with 40 MPH Concurrent Wind Loading (Rule 250D)
Maximum Operating Temperature to be verified by the Engineer of Record
1.25" Extreme Ice (Non-NESC)
Grade B Construction

Structure Loading Cases to include the Following:
Case 1: Rule 250B Heavy District Grade B Loading
Case 1A: Rule 250B Heavy District Grade B Loading DE Back/Ahead
Case 2: Rule 250C Extreme Wind
Case 2A: Rule 250C Extreme Wind DE Back/Ahead
Case 3: Rule 250D Concurrent Ice and Wind
Case 3A: Rule 250D Concurrent Ice and Wind DE Back/Ahead
Case 4: Extreme Ice
Case 4A: Extreme Ice DE Back/Ahead
Case 5: Uplift
Case 6: Rule 250A2 Construction and Maintenance Load Criteria (Stringing, One Sided Load, Broken Wire, Arm Loading,etc...)(TBD by the Engineer of Record)
Case 7: Rule 261A

Note 1: Load factors per Table 253-1
Note 2: Strength factors per Table 261-1
Note 3: Project Engineer is responsible for verifying loading for engineered steel pole load trees.
Note 4: Case 7 includes longitudinal extreme wind check per Rule 261A1c(Page 214), Rule 261A2e(Page 215), and Rule 261A3d(Page215)

Clearance Analysis Reference
1. 2017 NESC
2. Duke Energy Midwest Design Criteria
3. Local, State, or Federal agencies
Note: Project Engineer should verify maximum operating temperatures.

Wire Tensions Reference
1. 2017 NESC, Rule 261H-1
2. Duke Energy Midwest Design Criteria

Insulator Loading Reference
1. 2017 NESC, Rule 277
2. Duke Energy Midwest Design Criteria .
Note: When specifying the insulator strength properties in Components/Insulators in TOWER and PLS-POLE,
the manufacturer`s recommended load capacities shall be used per NESC Table 277-1.
NESC Rule 277 specifically excludes Rule 253 Load Factors for checking the mechanical strength of insulators.
This Criteria checks Insulators for ALL cases using a Strength Factor of 1.0 applied to insulator working load properties.

Guying or Associated Hardware Reference
1. 2017 NESC, Rule 264B
2. Duke Energy Midwest Design Criteria

EMF Calculation Notes:
1) All calculations based on the EPRI Red Book methods (2nd Edition, 1982 - infinite straight wire with flat earth approximation).
2) These approximations are only valid for low frequency (50-60Hz) AC transmission lines.
3) Bundles are modeled with an equivalent conductor as per EPRI Red Book 8.3.1.
4) The effects of earth return currents (earth resistivity) are ignored when calculating the magnetic field.
5) Wire position is determined by the currently displayed weather case.
6) Wire height used is the height of the wire where the target point is projected upon it.
7) All calculations assume ground is flat with same elevation as that of centerline.

Meter height above centerline ground:	3.28	(ft)
Cross section offset for graph +/-:	38.00	(ft)
Result interval for graph:	5.00	(ft)
Electric field limit:	0.00	(kV/m)
Magnetic field limit:	0.00	(mG)

EMF calculation includes only wires going from structure U17-282 to structure U17-281

EMF Circuit Data:

Set #	Phase #	Conductors Per Phase	Voltage Ph-Ph (kV)	Current (Amps)	Phase Angle (deg)	Bundle Diameter (in)
1	1	1	0	0.000	0	0.000
2	1	1	138	350.000	0	0.000
2	3	1	138	350.000	120	0.000
2	2	1	138	350.000	-120	0.000
4	1	1	0	0.000	0	0.000
34	1	1	34.5	0.000	0	0.000
34	2	1	34.5	0.000	120	0.000
34	3	1	34.5	0.000	-120	0.000
38	1	1	12.5	0.000	0	0.000
38	2	1	12.5	0.000	120	0.000
38	3	1	12.5	0.000	-120	0.000

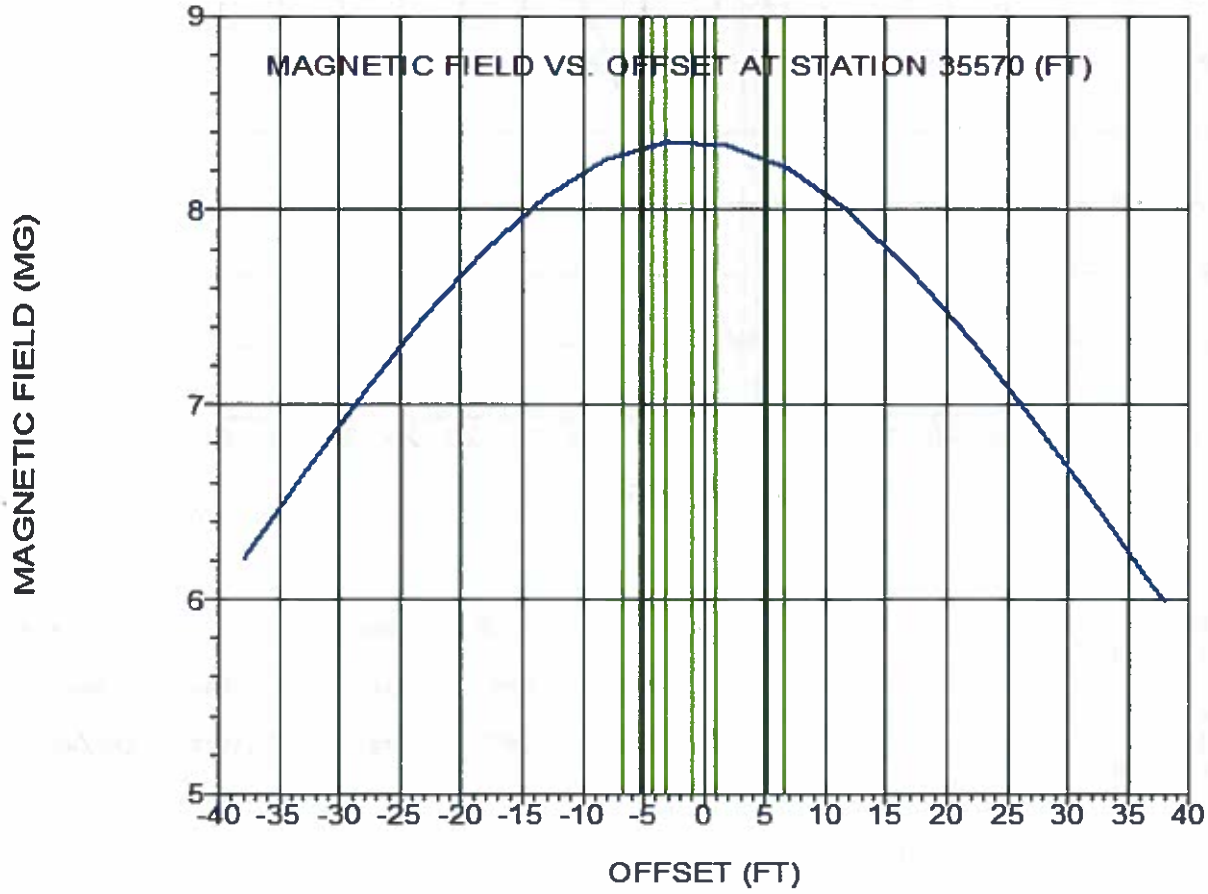
Calculated EMF Circuit Data For Last Point:

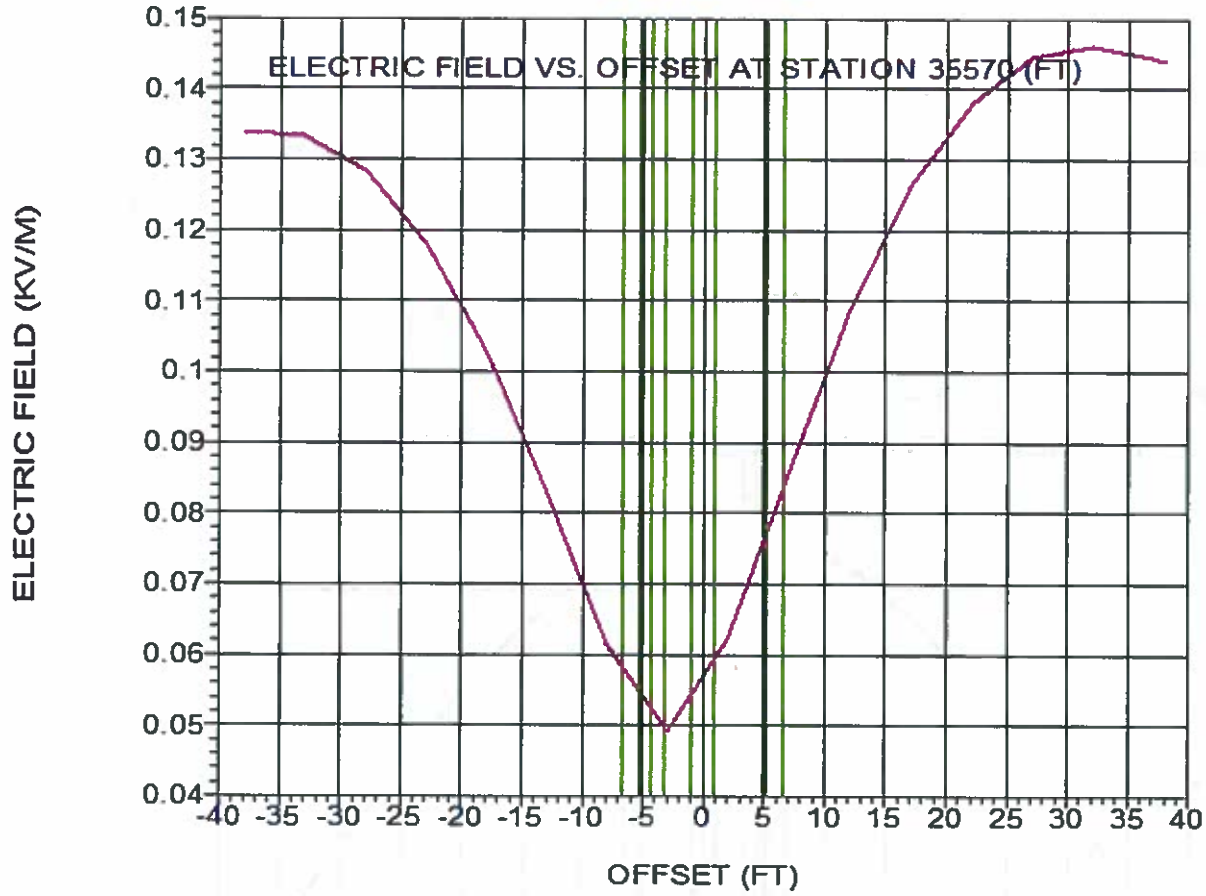
Wire station and offset are based on alignment closest to point on wire.
In the case of wires that are not parallel, this may result in different stations for the wires and centerline.

Set #	Phase #	Weather Case	Cable Condition	Wind From	Wire X (ft)	Wire Y (ft)	Wire Z (ft)	Wire Station (ft)	Wire Eqv. Offset (ft)	Wire Diameter (in)	Voltage To Gnd. (kV)
1	1	120 DEG F	Initial RS	Left	2379220.46	14248456.92	941.17	35570.41	-0.83	0.385	0
2	1	248 DEG F	Initial RS	Left	2379224.17	14248454.58	933.06	35570.41	-5.22	1.165	79.67
2	3	248 DEG F	Initial RS	Left	2379215.31	14248460.17	933.07	35570.43	5.26	1.165	79.67
2	2	248 DEG F	Initial RS	Left	2379223.60	14248455.58	925.01	35569.86	-4.21	1.165	79.67
4	1	120 DEG F	Initial RS	Left	2379218.86	14248457.93	896.44	35570.42	1.05	0.563	0
34	1	185 DEG F	Initial RS	Left	2379225.39	14248453.80	914.02	35570.42	-6.67	0.856	19.92

```
  34      2 185 DEG F Initial RS  Left 2379222.43 14248455.67 914.48 35570.42   -3.17
0.856   19.92
  34      3 185 DEG F Initial RS  Left 2379214.12 14248460.93 914.02 35570.42    6.67
0.856   19.92
  38      1 185 DEG F Initial RS  Left 2379225.39 14248453.80 906.65 35570.42   -6.67
0.856   7.217
  38      2 185 DEG F Initial RS  Left 2379222.43 14248455.67 907.12 35570.42   -3.17
0.856   7.217
  38      3 185 DEG F Initial RS  Left 2379214.12 14248460.93 906.66 35570.42    6.67
0.856   7.217
```

Maximum magnetic field of 8.35 (mG) found at station 35570.42, offset -3.00 (ft)
Maximum electric field of 0.146 (kV/m) found at station 35570.42, offset 32.00 (ft)





EMF Calculation Results:

Station (ft)	Offset (ft)	X (ft)	Y (ft)	Z (ft)	B Real (mG)	B Img. (mG)	B Phase Angle (deg)	B rms Res. (mG)	E Real (kV/m)	E Img. (kV/m)	E Phase Angle (deg)	E Axis Angle (deg)	E rms Res. (kV/m)
35570.42	-38.00	2379251.86	14248437.03	865.29	3.345	5.23157	57.4	6.210	0.111	0.07518	34.2	89.6	0.134
35570.42	-33.00	2379247.63	14248439.71	865.29	3.553	5.60960	57.7	6.640	0.110	0.07507	34.3	90.7	0.133
35570.42	-28.00	2379243.41	14248442.38	865.29	3.748	5.98244	57.9	7.059	0.106	0.07310	34.7	92.2	0.128
35570.42	-23.00	2379239.18	14248445.06	865.29	3.921	6.33542	58.2	7.451	0.096	0.06933	35.8	94.1	0.118
35570.42	-18.00	2379234.96	14248447.73	865.29	4.063	6.65126	58.6	7.794	0.081	0.06423	38.5	96.7	0.103
35570.42	-13.00	2379230.74	14248450.41	865.29	4.166	6.91150	58.9	8.070	0.059	0.05860	44.6	100.1	0.083
35570.42	-8.00	2379226.51	14248453.08	865.29	4.221	7.09869	59.3	8.259	0.035	0.05333	56.9	102.4	0.061
35570.42	-3.00	2379222.29	14248455.76	865.29	4.227	7.19902	59.6	8.348	0.023	0.04892	64.5	90.3	0.049
35570.42	2.00	2379218.06	14248458.43	865.29	4.183	7.20467	59.9	8.331	0.046	0.04502	44.2	257.1	0.062
35570.42	7.00	2379213.84	14248461.11	865.29	4.093	7.11525	60.1	8.209	0.076	0.04050	27.9	259.4	0.085

35570.42 12.00 2379209.61 14248463.78 865.29 3.963 6.93783 60.3 7.990 0.103 0.03413
18.3 263.0 0.108
35570.42 17.00 2379205.39 14248466.46 865.29 3.802 6.68558 60.4 7.691 0.124 0.02544
11.6 265.8 0.126
35570.42 22.00 2379201.17 14248469.13 865.29 3.618 6.37545 60.4 7.331 0.138 0.01555
6.5 267.8 0.138
35570.42 27.00 2379196.94 14248471.81 865.29 3.420 6.02565 60.4 6.929 0.144 0.01028
4.1 269.2 0.144
35570.42 32.00 2379192.72 14248474.48 865.29 3.216 5.65346 60.4 6.504 0.145 0.01714
6.7 270.2 0.146
35570.42 37.00 2379188.49 14248477.16 865.29 3.011 5.27381 60.3 6.073 0.142 0.02718
10.8 270.9 0.145
35570.42 38.00 2379187.65 14248477.69 865.29 2.970 5.19808 60.3 5.987 0.141 0.02910
11.6 271.0 0.144

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Duke Energy
Project Name: 'a:\projects\ham-cr251-0.64 blue ash road\2018_0420_pls cadd\model\f7481_v01.DON'
Line Title: 'As Surveyed - With Mitigation'

Criteria Notes:

This design criteria file is based on 2017 NESC and Duke Energy Midwest Design Criteria (2017-11-20 BLFlager update)

Weather and District Loading

NESC Heavy Combined Ice and Wind District Loading (Rule 250B)
90 MPH Extreme Wind Loading (Rule 250C)
1" Extreme Ice with 40 MPH Concurrent Wind Loading (Rule 250D)
Maximum Operating Temperature to be verified by the Engineer of Record
1.25" Extreme Ice (Non-NESC)
Grade B Construction

Structure Loading Cases to include the Following:
Case 1: Rule 250B Heavy District Grade B Loading
Case 1A: Rule 250B Heavy District Grade B Loading DE Back/Ahead
Case 2: Rule 250C Extreme Wind
Case 2A: Rule 250C Extreme Wind DE Back/Ahead
Case 3: Rule 250D Concurrent Ice and Wind
Case 3A: Rule 250D Concurrent Ice and Wind DE Back/Ahead
Case 4: Extreme Ice
Case 4A: Extreme Ice DE Back/Ahead
Case 5: Uplift
Case 6: Rule 250A2 Construction and Maintenance Load Criteria (Stringing, One Sided Load, Broken Wire, Arm Loading,etc...)(TBD by the Engineer of Record)
Case 7: Rule 261A

Note 1: Load factors per Table 253-1
Note 2: Strength factors per Table 261-1
Note 3: Project Engineer is responsible for verifying loading for engineered steel pole load trees.
Note 4: Case 7 includes longitudinal extreme wind check per Rule 261A1c(Page 214), Rule 261A2e(Page 215), and Rule 261A3d(Page215)

Clearance Analysis Reference
1. 2017 NESC
2. Duke Energy Midwest Design Criteria
3. Local, State, or Federal agencies
Note: Project Engineer should verify maximum operating temperatures.

Wire Tensions Reference
1. 2017 NESC, Rule 261H-1
2. Duke Energy Midwest Design Criteria

Insulator Loading Reference
1. 2017 NESC, Rule 277
2. Duke Energy Midwest Design Criteria .
Note: When specifying the insulator strength properties in Components/Insulators in TOWER and PLS-POLE,
the manufacturer`s recommended load capacities shall be used per NESC Table 277-1.
NESC Rule 277 specifically excludes Rule 253 Load Factors for checking the mechanical strength of insulators.
This Criteria checks Insulators for ALL cases using a Strength Factor of 1.0 applied to insulator working load properties.

Guying or Associated Hardware Reference
1. 2017 NESC, Rule 264B
2. Duke Energy Midwest Design Criteria

EMF Calculation Notes:
1) All calculations based on the EPRI Red Book methods (2nd Edition, 1982 - infinite straight wire with flat earth approximation).
2) These approximations are only valid for low frequency (50-60Hz) AC transmission lines.
3) Bundles are modeled with an equivalent conductor as per EPRI Red Book 8.3.1.
4) The effects of earth return currents (earth resistivity) are ignored when calculating the magnetic field.
5) Wire position is determined by the currently displayed weather case.
6) Wire height used is the height of the wire where the target point is projected upon it.
7) All calculations assume ground is flat with same elevation as that of centerline.

Meter height above centerline ground: 3.28 (ft)
Cross section offset for graph +/-: 38.00 (ft)
Result interval for graph: 5.00 (ft)
Electric field limit: 0.00 (kV/m)
Magnetic field limit: 0.00 (mG)

EMF calculation includes only wires going from structure U17-282 to structure U17-281

EMF Circuit Data:

Set #	Phase #	Conductors Per Phase	Voltage Ph-Ph (kV)	Current (Amps)	Phase Angle (deg)	Bundle Diameter (in)
1	1	1	0	0.000	0	0.000
2	1	1	138	1585.000	0	0.000
2	3	1	138	1585.000	120	0.000
2	2	1	138	1585.000	-120	0.000
4	1	1	0	0.000	0	0.000
34	1	1	34.5	0.000	0	0.000
34	2	1	34.5	0.000	120	0.000
34	3	1	34.5	0.000	-120	0.000
38	1	1	12.5	0.000	0	0.000
38	2	1	12.5	0.000	120	0.000
38	3	1	12.5	0.000	-120	0.000

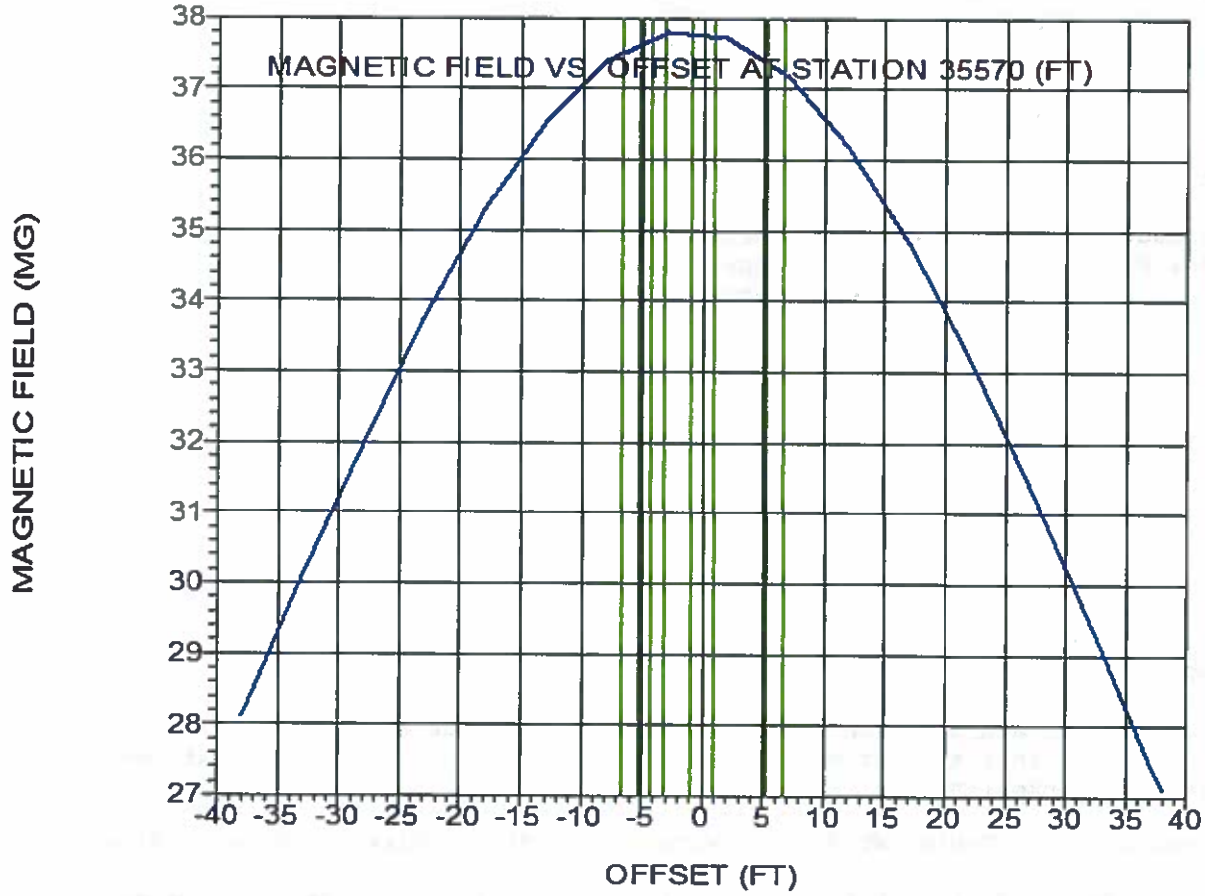
Calculated EMF Circuit Data For Last Point:

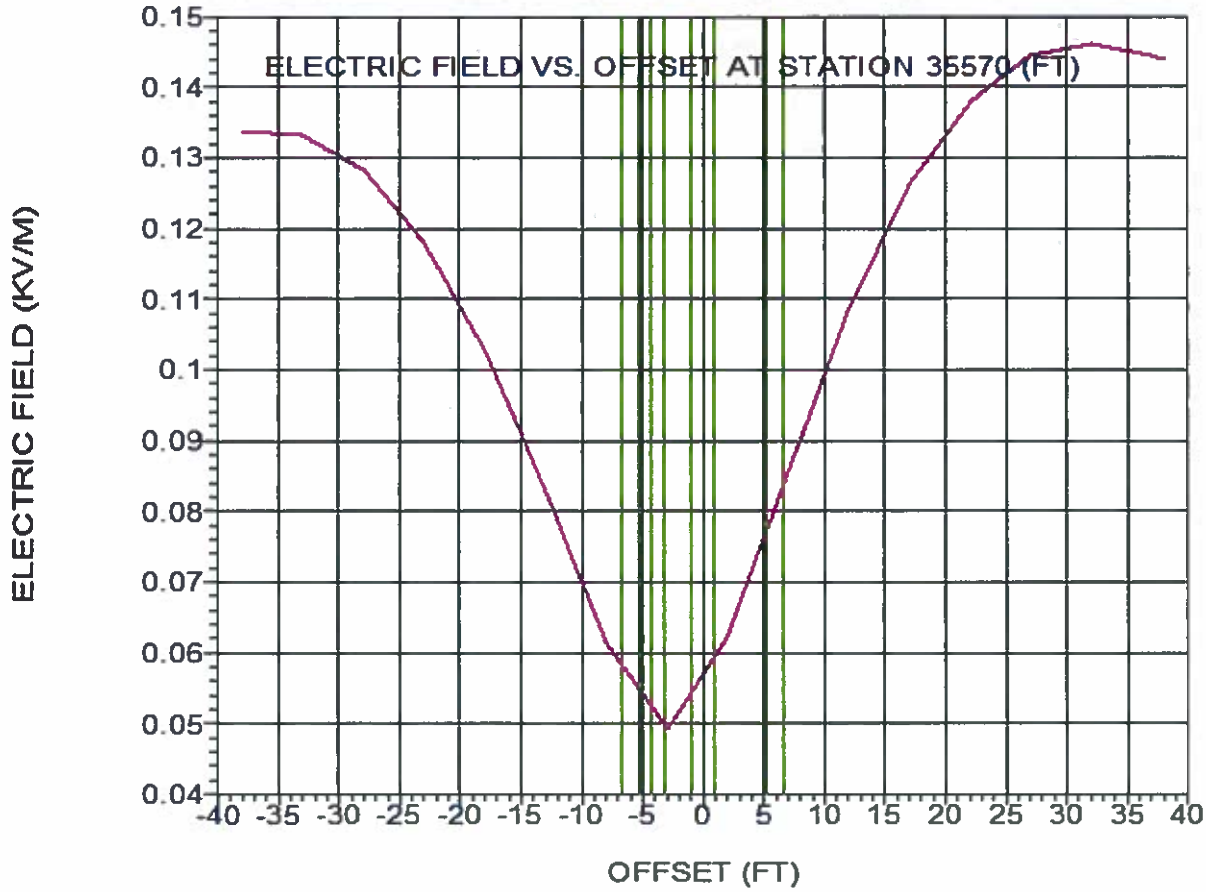
Wire station and offset are based on alignment closest to point on wire.
In the case of wires that are not parallel, this may result in different stations for the wires and centerline.

Set #	Phase #	Weather Case	Cable Condition	Wind From	Wire X (ft)	Wire Y (ft)	Wire Z (ft)	Wire Station (ft)	Wire Offset (ft)	Eqv. Wire Diameter (in)	Voltage To Gnd. (kV)
1	1	120 DEG F	Initial RS	Left	2379220.46	14248456.92	941.17	35570.41	-0.83	0.385	0
2	1	248 DEG F	Initial RS	Left	2379224.17	14248454.58	933.06	35570.41	-5.22	1.165	79.67
2	3	248 DEG F	Initial RS	Left	2379215.31	14248460.17	933.07	35570.43	5.26	1.165	79.67
2	2	248 DEG F	Initial RS	Left	2379223.60	14248455.58	925.01	35569.86	-4.21	1.165	79.67
4	1	120 DEG F	Initial RS	Left	2379218.86	14248457.93	896.44	35570.42	1.05	0.563	0
34	1	185 DEG F	Initial RS	Left	2379225.39	14248453.80	914.02	35570.42	-6.67	0.856	19.92

```
  34      2 185 DEG F Initial RS  Left 2379222.43 14248455.67 914.48 35570.42   -3.17
0.856   19.92
  34      3 185 DEG F Initial RS  Left 2379214.12 14248460.93 914.02 35570.42    6.67
0.856   19.92
  38      1 185 DEG F Initial RS  Left 2379225.39 14248453.80 906.65 35570.42   -6.67
0.856   7.217
  38      2 185 DEG F Initial RS  Left 2379222.43 14248455.67 907.12 35570.42   -3.17
0.856   7.217
  38      3 185 DEG F Initial RS  Left 2379214.12 14248460.93 906.66 35570.42    6.67
0.856   7.217
```

Maximum magnetic field of 37.81 (mG) found at station 35570.42, offset -3.00 (ft)
Maximum electric field of 0.146 (kV/m) found at station 35570.42, offset 32.00 (ft)





EMF Calculation Results:

Station (ft)	Offset (ft)	X (ft)	Y (ft)	Z (ft)	B Real (mG)	B Img. (mG)	B Phase Angle (deg)	B rms Res. (mG)	E Real (kV/m)	E Img. (kV/m)	E Phase Angle (deg)	E Axis Angle (deg)	E rms Res. (kV/m)
35570.42	-38.00	2379251.86	14248437.03	865.29	15.148	23.69155	57.4	28.121	0.111	0.07518	34.2	89.6	0.134
35570.42	-33.00	2379247.63	14248439.71	865.29	16.089	25.40348	57.7	30.070	0.110	0.07507	34.3	90.7	0.133
35570.42	-28.00	2379243.41	14248442.38	865.29	16.972	27.09191	57.9	31.969	0.106	0.07310	34.7	92.2	0.128
35570.42	-23.00	2379239.18	14248445.06	865.29	17.757	28.69040	58.2	33.741	0.096	0.06933	35.8	94.1	0.118
35570.42	-18.00	2379234.96	14248447.73	865.29	18.400	30.12069	58.6	35.296	0.081	0.06423	38.5	96.7	0.103
35570.42	-13.00	2379230.74	14248450.41	865.29	18.864	31.29920	58.9	36.544	0.059	0.05860	44.6	100.1	0.083
35570.42	-8.00	2379226.51	14248453.08	865.29	19.117	32.14693	59.3	37.402	0.035	0.05333	56.9	102.4	0.061
35570.42	-3.00	2379222.29	14248455.76	865.29	19.144	32.60130	59.6	37.806	0.023	0.04892	64.5	90.3	0.049
35570.42	2.00	2379218.06	14248458.43	865.29	18.945	32.62687	59.9	37.728	0.046	0.04502	44.2	257.1	0.062
35570.42	7.00	2379213.84	14248461.11	865.29	18.537	32.22190	60.1	37.173	0.076	0.04050	27.9	259.4	0.085

35570.42	12.00	2379209.61	14248463.78	865.29	17.949	31.41844	60.3	36.184	0.103	0.03413	18.3	263.0	0.108
35570.42	17.00	2379205.39	14248466.46	865.29	17.219	30.27611	60.4	34.830	0.124	0.02544	11.6	265.8	0.126
35570.42	22.00	2379201.17	14248469.13	865.29	16.386	28.87167	60.4	33.198	0.138	0.01555	6.5	267.8	0.138
35570.42	27.00	2379196.94	14248471.81	865.29	15.490	27.28757	60.4	31.378	0.144	0.01028	4.1	269.2	0.144
35570.42	32.00	2379192.72	14248474.48	865.29	14.563	25.60210	60.4	29.454	0.145	0.01714	6.7	270.2	0.146
35570.42	37.00	2379188.49	14248477.16	865.29	13.634	23.88282	60.3	27.501	0.142	0.02718	10.8	270.9	0.145
35570.42	38.00	2379187.65	14248477.69	865.29	13.450	23.53988	60.3	27.111	0.141	0.02910	11.6	271.0	0.144

Attachment E

Agency Coordination Letters

Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR | MARY MERTZ, DIRECTOR

Office of Real Estate
Paul R. Baldridge, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6649
Fax: (614) 267-4764

February 5, 2019

Kaitlin Hillier
Cardno
11121 Canal Road
Cincinnati, Ohio 45241

Re: 19-017; Duke Energy F7481- 138kV Blue Ash Improvement

Project: The proposed project involves the removal and replacement of approximately 0.71 miles of existing transmission line.

Location: The proposed project is located in the City of Blue Ash, Hamilton County, Ohio.

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

Natural Heritage Database: The Natural Heritage Database has the following records at or within a one-mile radius of the project area:

Wartyback (*Quadrula nodulata*), E
Fawnsfoot (*Truncilla donaciformis*), T
Little Miami State Scenic River

The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; A = species recently added to state inventory, status not yet determined; X = presumed extirpated in Ohio; FE = federal

endangered, FT = federal threatened, FSC = federal species of concern, FC = federal candidate species.

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

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

The project is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the sheepnose (*Plethobasus cyphyus*), a state endangered and federally endangered mussel, the fanshell (*Cyprogenia stegaria*), a state endangered and federally endangered mussel, the pink mucket (*Lampsilis orbiculata*), a state endangered and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel, the snuffbox (*Epioblasma triquetra*), a state endangered and federally endangered mussel, the ebonyshell (*Fusconaia ebena*), a state endangered mussel, the long-solid (*Fusconaia maculata maculata*), a state endangered mussel, the butterfly (*Ellipsaria lineolata*), a state endangered mussel, the washboard (*Megalonaias nervosa*), a state endangered mussel, the elephant-ear (*Elliptio crassidens crassidens*), a state endangered mussel, the Ohio pigtoe (*Pleurobema cordatum*), a state endangered mussel, the monkeyface (*Quadrula metanevra*), a state endangered mussel, the wartyback (*Quadrula nodulata*), a state endangered mussel, the black sandshell (*Ligumia recta*), a state threatened mussel, the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel, and the threehorn wartyback (*Obliquaria reflexa*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the shortnose gar (*Lepisosteus platostomus*), a state endangered fish, the shoal chub (*Macrhybopsis hyostoma*), a state endangered fish, the shovelnose sturgeon (*Scaphirhynchus platorynchus*), a state endangered fish, the lake sturgeon (*Acipenser fulvescens*), a state endangered fish, the northern madtom (*Noturus stigmosus*), a state endangered fish, the bigeye shiner (*Notropis boops*) a state threatened fish, the mountain madtom (*Noturus eleutherus*), a state threatened fish, the river darter (*Percina shumardi*) a state threatened fish, the channel darter (*Percina copelandi*), a state threatened fish, the blue sucker (*Cycleptus elongatus*), a state threatened fish, and the paddlefish (*Polyodon spathula*) a state threatened fish. Due to the

location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet meadows and other wetlands. Due to the location, the type of habitat present at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the cave salamander (*Eurycea lucifuga*), a state endangered species. Due to the location, the type of habitat present at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. Due to the location, the type of habitat present at the project site, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. In the Oak Openings area west of Toledo, lark sparrows occupy open grass and shrubby fields along sandy beach ridges. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. Due to the location, the type of habitat present at the project site, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Sloan's crayfish (*Orconectes sloanii*), a state threatened species. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

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

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

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or Sarah.Tebbe@dnr.state.oh.us if you have questions about these comments or need additional information.

John Kessler
Environmental Services Administrator

From:	susan_zimmermann@fws.gov on behalf of Ohio, FW3
To:	Kaitlin Hillier
Subject:	Duke Energy F7481, 138kV Blue Ash Improvement, Hamilton Co.
Date:	Friday, February 8, 2019 1:27:32 PM
Attachments:	Patrice Signature.jpg Letterhead for Emails 2.jpg

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994

TAILS# 03E15000-2019-TA-0625

Dear Ms. Hillier,

We have received your recent correspondence requesting information about the subject proposal. There are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area.

FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES COMMENTS: Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the U.S. Fish and Wildlife Service should be initiated to assess any potential impacts.

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

Sincerely,

Patrice Ashfield,
Ohio Field Office Supervisor

Attachment F

Regulated Waters Delineation Report

Regulated Waters Delineation Report

F7481– 138kV Blue Ash Road Improvement

Deer Park, Hamilton County, Ohio

February 12, 2019

Cardno

Document Information

Prepared for	Duke Energy
Client Contact	Dustin Geisler/ Kate Keck (Duke Energy Ohio)
Project Name	F7481 – 138kV Blue Ash Road Improvement
Project Number	Cardno #J156720M77
Project Manager	Cori Jansing
Date	February 12, 2019

Prepared for:

Duke Energy
139 E. 4th Street, Cincinnati, Ohio 45202

Prepared by:

Cardno
11121 Canal Road, Cincinnati, Ohio 45241

Table of Contents

1 Introduction 1

2 Regulatory Definitions 1

2.1 Waters of the United States 1
2.2 Waters of the State 3
2.3 Wetlands 3
2.4 Streams, Rivers, Watercourses & Jurisdictional Ditches 6
2.5 Endangered Species Act 6

3 Background Information 6

3.1 Existing Maps 6

4 Methodology and Description 7

4.1 Regulated Waters Investigation 7
4.2 Technical Descriptions 8
4.3 Rare, Threatened, and Endangered Species 8

5 Jurisdictional Analysis 9

5.1 U.S. Army Corps of Engineers 9
5.2 Ohio Environmental Protection Agency 9

6 Summary and Conclusion 9

6.1 Summary 9
6.2 Conclusion 10

7 References 11

Appendices

Appendix A Site Photographs
Appendix B Endangered, Threatened, and Rare Species

Tables

Table 1-1 PLSS within the F7481 Blue Ash Road Improvement Study Area 1
Table 3-2 Soil Map Units within the F7481 Blue Ash Road Improvement Study Area 7

Figures

Figure 1 Project Location and Water Resources
Figure 2 Soil Survey
Figure 3 Aerial Map

Acronyms

APA	Administrative Procedure Act
BF	Bank Full
CFR	Code of Federal Regulations
CWA	Clean Water Act
DBH	Diameter at Breast Height
DP	Data Point
EPA	U.S. Environmental Protection Agency
ETR	Endangered, Threatened, and Rare
FAC	Facultative Plant
FACU	Facultative Upland Plant
FACW	Facultative Wetland Plant
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GIS	Geographical Information System
MS4	Municipal Separate Storm Water Sewer Systems
NHD	National Hydrography Dataset
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
NWP	Nationwide Permit
NWPL	National Wetland Plant List
OBL	Obligate Wetland Plant

OEPA	Ohio Environmental Protection Agency
ODNR	Ohio Department of Natural Resources
OHWM	Ordinary High Water Mark
PEM	Palustrine Emergent Wetland
PFO	Palustrine Forested Wetland
PLSS	Public Land Survey Section
PSS	Palustrine Shrub Scrub Wetland
RGP	Regional General Permit
SNE	Significant Nexus
SWANCC	Solid Waste Agency of Northern Cook County
TNW	Traditional Navigable Water
TOB	Top of Bank
UPL	Upland Plant
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WOTUS	Waters of the United States
WQC	Water Quality Certification

1 Introduction

Cardno was contracted to perform a water resource inventory, including wetlands and streams, which are located at the F7481 – 138kV Blue Ash Road Improvements Project in the City of Deer Park, Hamilton County, Ohio. This task was performed on February 4, 2019. Table 1-1 summarizes the location of the project based on the Public Land Survey Section (PLSS) data.

Table 1-1 PLSS within the F7481 – 138kV Blue Ash Road Improvement Study Area

Township	Range	Section
4E	1N	13
4E	1N	14

The total size of the Study Area was approximately 5.33 acres. The Study Area consisted of residential and commercial development.

This report identifies the jurisdictional status of the Study Area based on Cardno's best professional understanding and interpretation of the *Corps of Engineers' Wetland Delineation Manual* (Environmental Laboratory, 1987) and U.S. Army Corps of Engineers' (USACE) guidance documents and regulations. Jurisdictional determinations for other "waters of the U.S." were made based on definitions and guidance found in 33 CFR 328.3, USACE Regulatory Guidance Letters, and the wetland delineation manual. The USACE administers Section 404 of the Clean Water Act (CWA), which regulates the discharge of fill or dredged material into all "waters of the U.S.," and is the regulatory authority that must make the final determination as to the jurisdictional status of the Study Area.

2 Regulatory Definitions

2.1 Waters of the United States

"Waters of the U.S." are within the jurisdiction of the USACE under the CWA. "Waters of the U.S." is a broad term, which includes waters that are used or could be used for interstate commerce. This includes wetlands, ponds, lakes, territorial seas, rivers, tributary streams including any definable intermittent waterways, and some ditches below the ordinary high water mark (OHWM). Also included are manmade water bodies such as quarries and ponds, which are no longer actively being mined or constructed and are connected to other "waters". Wetlands, mudflats, vegetated shallows, riffle and pool complexes, coral reefs, sanctuaries, and refuges are all considered special aquatic sites which involve more rigorous regulatory permitting requirements. A specific, detailed definition of "waters of the U.S." can be found in the Federal Register (33 CFR 328.3).

On January 9, 2001, the U.S. Supreme Court issued a decision, Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers (No. 99-1178). The decision reduced the regulation of isolated wetlands under Section 404 of the CWA, which assigned the USACE authority to issue permits for the discharge of dredge or fill material into "waters of the U.S.". Prior to the SWANCC decision, the USACE had adopted a regulatory definition of "waters of the U.S."

that afforded federal protection for almost all of the nation's wetlands. The Supreme Court decision interpreted that the USACE's jurisdiction was restricted to navigable waters, their tributaries, and wetlands that are adjacent to these navigable waterways and tributaries. The decision leaves the majority of "isolated" wetlands unregulated by the CWA. Therefore, most wetlands that are not adjacent to, or contiguous with, any other "waters of the U.S." via a surface drain such as a swale, ditch, or stream are considered isolated and thus no longer jurisdictional by the USACE.

On June 19, 2006, the U.S. Supreme Court issued decisions in regards to John A. Rapanos v. United States (No. 04-1034) and June Carabell v. United States (04-1384), et al. The plurality decision created two 'tests' for determining CWA jurisdiction: the permanent flow of water test (set out by Justice Scalia) and the "significant nexus" test (set out by Justice Kennedy). On June 5, 2007 the USACE and U.S. Environmental Protection Agency (EPA) issued joint guidance on how to interpret and apply the Court's ruling. According to this guidance, the USACE will assert jurisdiction over traditionally navigable waters, adjacent wetlands, and non-navigable tributaries of traditionally navigable waters that have "relatively permanent" flow, and wetlands that border these waters, regardless of whether or not they are separated by roads, berms, and similar barriers. In addition, the USACE will use a case-by-case "significant nexus" analysis to determine whether waters and their adjacent wetlands are jurisdictional. A "significant nexus" can be found where waters, including adjacent wetlands, alter the physical, biological, or chemical integrity of the traditionally navigable water based on consideration of several factors.

In January 2015 an EPA sponsored publication, *Connectivity of Streams & Wetlands to Downstream Waters: A Review & Synthesis of the Scientific Evidence* (EPA, 2015), emphasized how streams, nontidal wetlands, and open waters in and outside of riparian areas and floodplains effect downstream waters such as rivers, lakes, estuaries, and oceans.

On May 27, 2015 the EPA released a statement that a new Clean Water Rule typically referred to as, "The Waters of the United States (WOTUS) Rule" was finalized and that it would "not create any new permitting requirements and maintains all previous exemptions and exclusions" (epa.gov). The rule would only protect waters that have historically been covered by the Clean Water Act. The intent was to clearly define:

- Jurisdictional limits of tributaries of navigable waterways;
- Set boundaries on covering nearby waters;
- Identify specific national water treasures by name (prairie potholes, etc.);
- Clearly define when a ditch is jurisdictional, and when it is not;
- Maintain status that waters within Municipal Separate Storm Water Sewer Systems (MS4) are not jurisdictional; and
- Reduce the use of case-specific analysis of waters.

Also on May 27, 2015 a publication, *Technical Support Document for the Clean Water Rule: Definition of Waters of the United States* (EPA, 2105), was released discussing in detail why the significant nexus (SNE) between one water and another is important. It specifically ties distances to the various types of waters mentioned within the Code of Federal Regulations [33 CFR 328.3(a)(1) through (a)(8)]. For example, the document states "Waters located within the 100-year floodplain of a traditional navigable water, interstate water, or the territorial seas and waters located more than 1,500 feet and less than 4,000 feet from the lateral limit of an (a)(1) or (a)(3) water may still be determined to have a significant nexus on a case-specific basis under paragraph (a)(8) of the rule and, thus, be a "water of the United States" (EPA 2015).

On June 29, 2015 the new Clean Water Rule was entered into the Federal Register (40 CFR Parts 110, 112, 116, et al. Clean Water Rule: Definition of "waters of the United States"; Final Rule). This report will refer to this rule as "June 29, 2015 WOTUS Rule". This rule includes exact distances mentioned in the May 27, 2015 Technical Support Document as it relates to adjacent waters, including the following:

- Waters within 100 ft. of jurisdictional waters;
- Waters within the 100-year floodplain to a maximum of 1,500 feet from the ordinary high water mark (OHWM);
- Waters within the 100-year floodplain with a SNE to the Traditional Navigable Water (TNW); and
- Waters with a SNE within 4,000 ft. of jurisdictional waters.

On October 9, 2015 the U.S. Court of Appeals for the Sixth Circuit (Court) issued a nationwide stay against the enforcement of the June 29, 2015 WOTUS Rule. The Court stated, "...we conclude that...Justice Kennedy's opinion in *Rapanos* represents the best instruction on the permissible parameters of "waters of the United States" as used in the Clean Water Act, it is far from clear that the new Rule's distance limitations are harmonious with the instruction.

Moreover, the Court stated that the rulemaking process by which the distance limitations were adopted is facially suspect. Petitioners contend the proposed rule that was published, on which interested persons were invited to comment, did not include any proposed distance limitations in its use of terms like "adjacent waters" and "significant nexus." Consequently, petitioners contend, the Final Rule cannot be considered a "logical outgrowth" of the rule proposed, as required to satisfy the notice-and-comment requirements of the APA, 5 U.S.C. § 553. As a further consequence of this defect, petitioners contend, the record compiled by respondents is devoid of specific scientific support for the distance limitations that were included in the Final Rule. They contend the Rule is therefore not the product of reasoned decision-making and is vulnerable to attack as impermissibly "arbitrary or capricious" under the APA, 5 U.S.C. § 706(2)."

Until further notice, the June 29, 2015 WOTUS Rule is not in effect. Furthermore, this report does not attempt to include a professional opinion as it relates to the June 29, 2015 WOTUS Rule.

2.2 Waters of the State

"Waters of the State" are within the jurisdiction of the Ohio Environmental Protection Agency (OEPA). They are generally defined as surface and underground water bodies, which extend through or exist wholly in the State of Ohio, which includes, but is not limited to, streams and both isolated and non-isolated wetlands. Private ponds, or any pond, reservoir, or facility built for reduction of pollutants prior to discharge are not included in this definition. In addition to "waters of the U.S.", OEPA also regulates and issues permits for isolated wetland impacts.

OEPA relies on the USACE decision regarding wetland determinations and delineations including whether or not a wetland is isolated or non-isolated.

2.3 Wetlands

Wetlands are a category of "waters of the U.S." for which a specific identification methodology has been developed. As described in detail in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987), wetland boundaries are delineated using three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. In addition to the criteria defined in the 1987 Manual, the procedures described in the *Regional Supplement to the Corps of Engineers*

Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Environmental Laboratory, 2012) were used to evaluate the Study Area for the presence of wetlands.

2.3.1 Hydrophytic Vegetation

On June 1, 2012, the National Wetland Plant List (NWPL), formerly called the National List of Plant Species that Occur in Wetlands (Reed 1988), went into effect after being released by the USACE as part of an interagency effort with the U.S. Fish and Wildlife Service (USFWS), the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) (Lichvar and Kartesz, 2009). The NWPL, along with the information implied by its wetland plant species status ratings, provides general botanical information about wetland plants and is used extensively in wetland delineation, restoration, and mitigation efforts. The NWPL consists of a comprehensive list of wetland plant species that occur within the United States along with their respective wetland indicator statuses by region. An indicator status reflects the likelihood that a particular plant species occurs in a wetland or upland (Lichvar et al. 2012). Definitions of the five indicator categories are presented below.

> OBL (Obligate Wetland Plants): almost always occur in wetlands. With few exceptions, these plants (herbaceous or woody) are found in standing water or seasonally saturated soils (14 or more consecutive days) near the surface. These plants are of four types: submerged, floating, floating-leaved, and emergent.
>
> FACW (Facultative Wetland Plants): usually occur in wetlands, but may occur in non-wetlands. These plants predominately occur with hydric soils, often in geomorphic settings where water saturates the soils or floods the soil surface at least seasonally.
>
> FAC (Facultative Plants): occur in wetlands and non-wetlands. These plants can grow in hydric, mesic, or xeric habitats. The occurrence of these plants in different habitats represents responses to a variety of environmental variables other than just hydrology, such as shade tolerance, soil pH, and elevation, and they have a wide tolerance of soil moisture conditions.
>
> FACU (Facultative Upland Plants): usually occur in non-wetlands, but may occur in wetlands. These plants predominately occur on drier or more mesic sites in geomorphic settings where water rarely saturates the soils or floods the soil surface seasonally.
>
> UPL (Upland Plants): almost never occur in wetlands. These plants occupy mesic to xeric non-wetland habitats. They almost never occur in standing water or saturated soils. Typical growth forms include herbaceous, shrubs, woody vines, and trees.

According to the USACE's Eastern Mountains and Piedmont Regional Supplement, plants that are rated as FAC, FACW, or OBL are classified as wetland plant species. The percentage of dominant wetland species in each of the four vegetation strata (tree, shrub/sapling, herbaceous, and woody vine) in the sample area determines the hydrophytic (wetland) status of the plant community. Dominant species are chosen independently from each stratum of the community. In general, dominants are the most abundant species that individually or collectively account for more than 50 percent of the total coverage of vegetation in the stratum, plus any other species that, by itself, accounts for at least 20 percent of the total.

For the purposes of determining dominant plant species, the four vegetation strata are defined. Trees consist of woody species 3 inches or greater in diameter at breast height (DBH). Shrubs and saplings are woody species that are over 1 meter in height and less than 3 inches DBH. Herbaceous species consist of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants less than 1 meter tall. Woody vines consist of vine species greater than 1 meter in height, such as wild grapes.

2.3.2 Hydric Soils

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. In general, hydric soils are flooded, ponded, or saturated for a week or more during the growing season when soil temperatures are above 32 degrees Fahrenheit. The anaerobic conditions created by repeated or prolonged saturation or flooding result in permanent changes in soil color and chemistry, which are used to differentiate hydric from non-hydric soils.

In this report, soil colors are described using the Munsell notation system. This method of describing soil color consists of separate notations for hue, value, and chroma that are combined in that order to form the color designation. The hue notation of a color indicates its relation to red, yellow, green, blue, and purple; the value notation indicates its lightness, and the chroma notation indicates its strength or departure from a neutral of the same lightness.

The symbol for hue consists of a number from 1 to 10, followed by the letter abbreviation of the color. Within each letter range, the hue becomes more yellow and less red as the numbers increase. The notation for value consists of numbers from 0 for absolute black, to 10 for absolute white. The notation for chroma consists of numbers beginning with /0 for neutral grays and increasing at equal intervals. A soil described as 10YR 3/1 soil is more gray than a soil designated 10YR 3/6.

2.3.3 Wetland Hydrology

Wetland hydrology is defined as the presence of water for a significant period of time at or near the surface (within the root zone) during the growing season. Wetland hydrology is present only seasonally in many cases, and is often inferred by indirect evidence. Hydrology is controlled by such factors as seasonal and long-term rainfall patterns, local geology and topography, soil type, local water table conditions, and drainage. Primary indicators of hydrology are inundation, soil saturation in the upper 12 inches of the soil, watermarks, sediment deposits, and drainage patterns. Secondary indicators such as oxidized root channels in the upper 12 inches of the soil, water-stained leaves, local soil survey data, and the FAC-neutral vegetation test are sometimes used to identify hydrology. A primary indicator or two or more secondary indicators are required to establish a positive indication of hydrology.

2.3.4 Wetland Definition Summary

In general, an area must meet all three criteria to be classified as a wetland. In certain problem areas such as seasonal wetlands, which are not wet at all times, or in recently disturbed (atypical) situations, areas may be considered a wetland if only two criteria are met. In special situations, an area that meets the wetland definition may not be within the USACE's jurisdiction due to a specific regulatory exemption.

2.4 Streams, Rivers, Watercourses & Jurisdictional Ditches

With non-tidal waters, in the absence of adjacent wetlands, the extent of the USACE's jurisdiction is defined by the OHWM. USACE regulations define the term "ordinary high water mark" for purposes of the CWA lateral jurisdiction at 33 CFR 328.3(e), which states:

> The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Streams, rivers, watercourse, and ditches within the Study Area were evaluated using the above definition and documented. Waterways that did exhibit an OHWM were recorded and evaluated using the Ohio Environmental Protection Agency's Primary Headwater Habitat Evaluation (HHEI) or Qualitative Habitat Evaluation Index (QHEI) methodology. If applicable, the results of the HHEI and/or QHEI are presented in Section 3.2, Technical Descriptions and datasheets are provided in the Appendix B.

2.5 Endangered Species Act

Endangered, Threatened, and Rare (ETR) species are protected at both the state and federal level (ORC 1531.25 and 50 CFR 17.11 through 17.12, respectively). The Ohio Revised Code defines "Take" as to harass, hunt, capture, or kill; or attempt to harass, hunt, capture, or kill.

The USFWS, under authority of the Endangered Species Act of 1973 (16 U.S. Code 1531), as amended, has the responsibility for federally listed species. The Ohio Department of Natural Resources Department of Wildlife (ODNR-DOW) has the responsibility for state listed species.

3 Background Information

3.1 Existing Maps

Several sources of information were consulted to identify potential wetlands and wetland soil units in the Study Area. These include the USFWS's *National Wetland Inventory* (NWI), the USGS's *National Hydrography Dataset* (NHD), and the Natural Resources Conservation Service's (NRCS) *Soil Survey* for this county. These maps identify potential wetlands and wetland soil units in the Study Area. The NHD maps are used to portray surface water. The NWI maps were prepared from high altitude photography and in most cases were not field checked. Because of this, wetlands are sometimes erroneously identified, missed, or misidentified. Additionally, the criteria used in identifying these wetlands were different from those currently used by the USACE. The county soil maps, on the other hand, were developed from actual field investigations. However, they address only one of the three required wetland criteria and may reflect historical conditions rather than current site conditions. The resolution of the soil maps limits their accuracy as well. The mapping units are often generalized based on topography and many mapping units contain inclusions of other soil types for up to 15 percent of the area of the unit. The USACE does not accept the use of either of these maps to make wetland determinations.

3.1.1 National Wetland Inventory

The NWI map of the area (Figure 1) did not identify wetland complexes within the Study Area.

3.1.2 National Hydrography Dataset

The NHD dataset (Figure 4) did not identify surface waters within the Study Area.

3.1.3 Soil Survey

The NRCS Soil Survey identified three (3) soil series within the Study Area (Figure 3). The following table identifies the soil unit symbol, soil unit name, and whether or not the soil type contains components that meet the hydric soil criteria.

Table 3-2 Soil Map Units within the F7481 – 138kV Blue Ash Road Improvement Study Area

Symbol	Description	Hydric
Ur	Urban Land	N
UfAXC	Urban land-Alfic Udarents complex, fragipan substratum over till, 0 to 12 percent slopes	N
UrUXC	Urban land-Udorthents complex, 0 to 12 percent slopes	N

4 Methodology and Description

4.1 Regulated Waters Investigation

The delineation of regulated waters within the Study Area was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region* (Environmental Laboratory, 2012) as required by current USACE policy.

Prior to the fieldwork, the background information was reviewed to establish the probability and potential location of wetlands in the Study Area. Next, a general reconnaissance of the Study Area was conducted to determine site conditions. The Study Area was then walked with the specific intent of determining wetland boundaries. Data stations were established at locations within and near the wetland areas to document soil characteristics, evidence of hydrology and dominant vegetation. Note that no attempt was made to examine a full soil profile to confirm any soil series designations. However, when possible, soils were examined to a depth of at least 16 inches to assess soil characteristics and site hydrology. Complete descriptions of typical soil series can be found in the soil survey for these counties.

4.1.1 Delineation Data Sheets.

Where stations represent a wetland boundary point they are presented as paired data points (DP), one each documenting the wetland and upland sides of the wetland boundary. These forms are the written documentation of how representative sample stations met or did not meet each of the wetland criteria. For plant species included on the National Wetlands Plant List, nomenclature will follow their lead. For all other plants not listed in the NWPL, nomenclature will follow the USDA's Plants Database. Due to the Duke Energy Ohio F7481 – 138kV Blue Ash Road Improvement Project being located within residential and commercial development, no data points were necessary to determine that no wetlands were present within the Study Area.

4.2 Technical Descriptions

The project included the review of an approximate 5.33 acre Study Area, centered on existing overhead electric transmission line ROW located in the City of Deer Park, Hamilton County, Ohio (see Figure 1). The Duke Energy Ohio F7481 – 138kV Blue Ash Road Improvement initiates at Duke Energy Ohio Structure U17-235 (39.20344, -84.39474) located north of Redmont Road and west of Duneden Avenue and terminates at the Duke Energy Ohio Deer Park Substation (39.20822, -84.3509) located west of Blue Ash Road and north of East Galbraith Road. Land use within the Study Area consists of residential and commercial development. The Study Area is located entirely within Mill Creek below East Fork Mill Creek to above West Fork Mill Creek watershed (14-digit HUC 05090203-010-020).

4.2.1 Wetland and Stream Descriptions

No wetlands or streams were identified within the Study Area.

4.3 Endangered, Threatened and Rare Species

The potential for listed species known to occur within Hamilton County were evaluated based on the habitat observed within the Study Area. A walking survey of the Study Area was performed in which all observed Endangered, Threatened and Rare (ETR) species or specific known special habitats were noted. Coordination with the USFWS and Ohio Department of Natural Resources Division of Wildlife (ODNR-DOW) occurred as it related to the Natural Heritage Database search results for the Study Area.

Tables summarizing the results of ETR species as they relate to the habitat observed within the Study Area are included within Appendix B.

4.3.1 Bat Roost Habitat

The Indiana bat (*Myotis sodalis*, federally endangered) and Northern long-eared bat (*Myotis septentrionalis*, federally threatened) are protected under the Endangered Species Act, which is overseen by the USFWS. Typical guidance from USFWS regarding potential bat roost trees is avoidance of cutting trees from April through October. The Study Area was assessed for potential bat roosting habitat with respect to any indicated clearing activities. Potential bat roost trees include dead or dying trees (including live shagbark hickories) with at least 10-percent exfoliating bark, a diameter at breast height (DBH) of at least 3 inches, and solar exposure for maternity roost trees (the tree is on a wooded edge or in a canopy gap). Correspondence from USFWS regarding Indiana bat and Northern long-eared bat is included within Appendix B.

The entire Study Area was surveyed to identify potential Indiana bat and northern long-eared bat roost trees. Based on our field inspection and our best professional judgment, there was no suitable bat roost habitat observed within the Study Area.

5 Jurisdictional Analysis

5.1 U.S. Army Corps of Engineers

The USACE has authority over the discharge of fill or dredged material into "waters of the U.S.". This includes authority over any filling, mechanical land clearing, or construction activities that occur within the boundaries of any "waters of the U.S." A permit must be obtained from the USACE before any of these activities occur. Permits can be divided into two general categories: Individual Permits and Nationwide Permits.

Individual Permits are required for projects that do not fall into one of the specific Nationwide Permits (NWP) or are deemed to have significant environmental impacts. These permits are much more difficult to obtain and receive a much higher level of regulatory agency and public scrutiny and may require several months to more than a year for processing.

Nationwide Permits (NWP) have been developed for projects that meet specific criteria and are deemed to have minimal impact on the aquatic environment. There are currently 52 Nationwide Permits for qualifying activities with 31 Nationwide Permit General Conditions that must be satisfied in order to receive NWP consideration from the USACE.

5.2 Ohio Environmental Protection Agency

The OEPA is responsible for issuing Clean Water Act (CWA) Section (§) 401 permits known as Water Quality Certifications (WQC) for all impacts to "waters of the State of Ohio." This includes authority over any dredging, filling, mechanical land clearing, impoundments or construction activities that occur within the boundaries of any "waters of the State," including those isolated waters not otherwise regulated by the USACE.

The OEPA issues §401 WQC in conjunction with the USACE' Section 404 permits. A §401 Water Quality Certification must be received before the USACE can issue any §404 Department of the Army Permit. The OEPA must issue Individual §401 WQC for all Individual §404 Permits.

Water quality certification may be granted, without notification to the OEPA, if the project falls under the NWP limitations described above. In order to qualify for this granted certification, all prior-authorized and *de minimis* Ohio State Certification General Limitations and Conditions as published by the OEPA must be satisfied.

The OEPA also requires notification for all impacts to isolated wetlands, which includes a permit application and mitigation plan pursuant to Section 6111 of Ohio Revised Code (ORC).

6 Summary and Conclusion

6.1 Summary

Cardno inspected the F7481 – 138kV Blue Ash Road Improvement Study Area on February 4, 2019.

6.1.1 Wetlands and Waterways

No wetlands or waterways were identified within the F7481– 138kV Blue Ash Road Improvement Study Area.

6.1.2 Endangered, Threatened, and Rare Species

Several sources of information were consulted to further define the potential habitat of listed species that occur within the county of the Study Area. The table presented in Appendix B contains the list of ETR species known to occur within Hamilton County and their potential to occur within the Study Area based on their habitat requirements and field observations.

Correspondence with the ODNR-DOW and the USFWS regarding RTE species located within a ½-mile of the Study Area were sent January 4, 2019. The ODNR-DOW results were received on February 5, 2019. Copies of the ODNR-DOW response and USFWS correspondence letter receipt are located in Appendix B.

6.1.3 Indiana Bat and Northern Long-eared Bat Roost Habitat

Suitable bat roost habitat was not observed within the 5.33 acre Study Area which consisted of residential and commercial development.

However, based on our current project understanding and our best professional judgment, we do not recommend any further survey options for this site at this time if the USFWS recommendation that all tree clearing activities shall occur between October 1 and March 31 is adhered to. Additionally, it does not appear that a Federal Nexus requiring further coordination with the USFWS will occur, as there are no expected impacts to wetlands or streams.

The USFWS is the regulatory authority that makes the final determination as to the status of the Indiana Bat and Northern Long-eared Bat in the Study Area. Correspondence with the USFWS and ODNR-DOW regarding RTE located within a ½-mile of the Study Area were sent January 4, 2019. The ODNR-DOW results were received on February 5, 2019. Copies of the ODNR-DOW response and USFWS correspondence letter receipt are located in Appendix D.

6.2 Conclusion

There were no wetlands or streams within the Study Area.

While this report represents our best professional judgment based on our knowledge and experience, it is important to note that the Huntington District of the U.S. Army Corps of Engineers has final discretionary authority over all jurisdictional determinations of 'waters of the U.S.' including wetlands under Section 404 of the CWA in this region.

7 References

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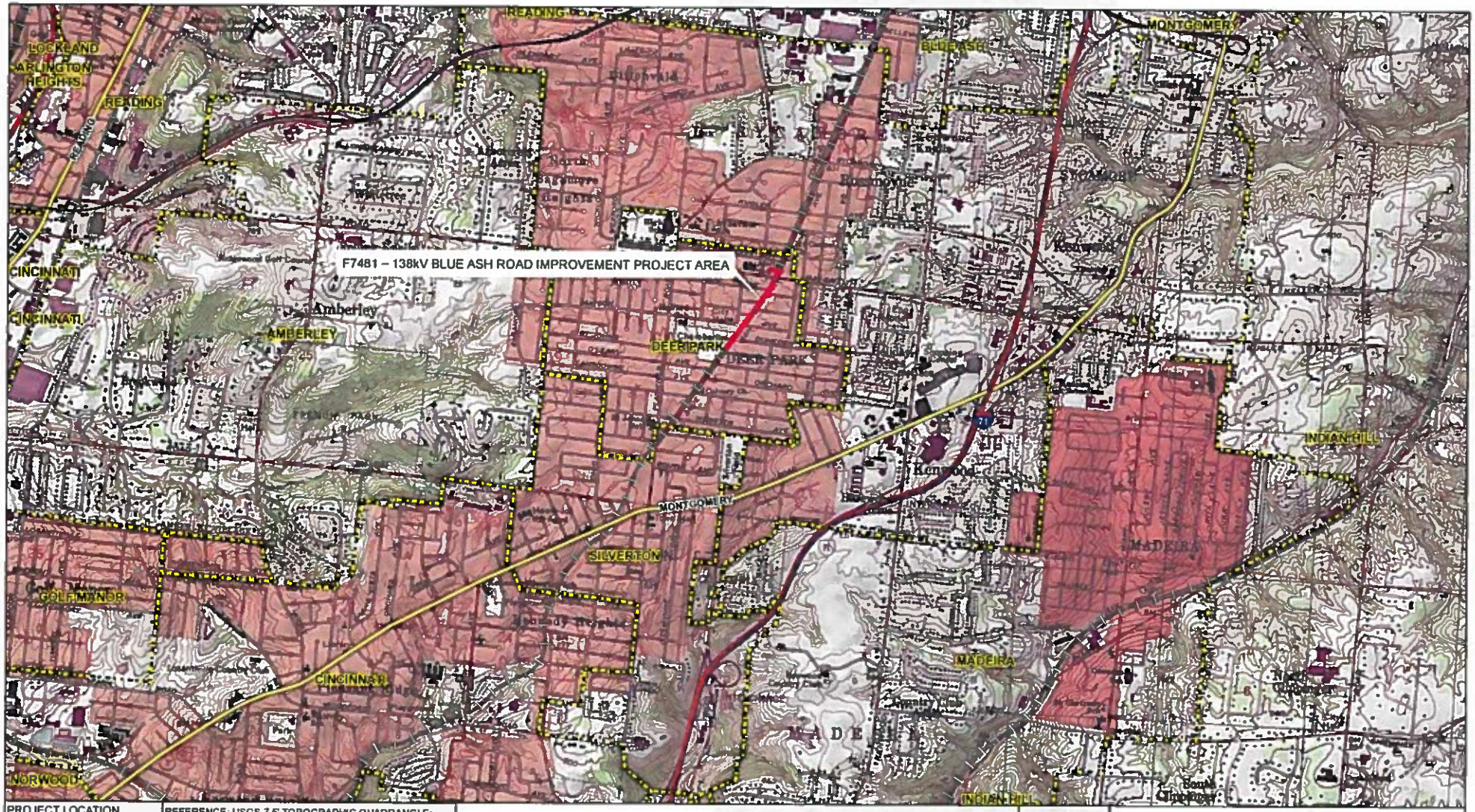
DUKE ENERGY OHIO
F7481 – 138kV Blue Ash Road Improvement

FIGURES



PROJECT LOCATION

HAMILTON COUNTY, OH

REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE: CINCINNATI EAST, OHIO. OBTAINED VIA ESRI USA TOPO, NATIONAL GEOGRAPHIC TOPO, AND USGS, ACCESSED 01/2017.

N

0 1,000 2,000 4,000 Feet

Project Centerline
Interstate
State Highway
US Highway
Railroad
County Boundary*
Municipal Boundary

*Indicates layer with no features visible in the map extent

DUKE ENERGY.

Cardno

FIGURE 1
REGULATED WATERS DELINEATION REPORT
F7481 – 138kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
PROJECT VICINITY MAP

DRAWN BY: COD
CHECKED: CJ
DATE: 2/13/2019
APPROVED: JT

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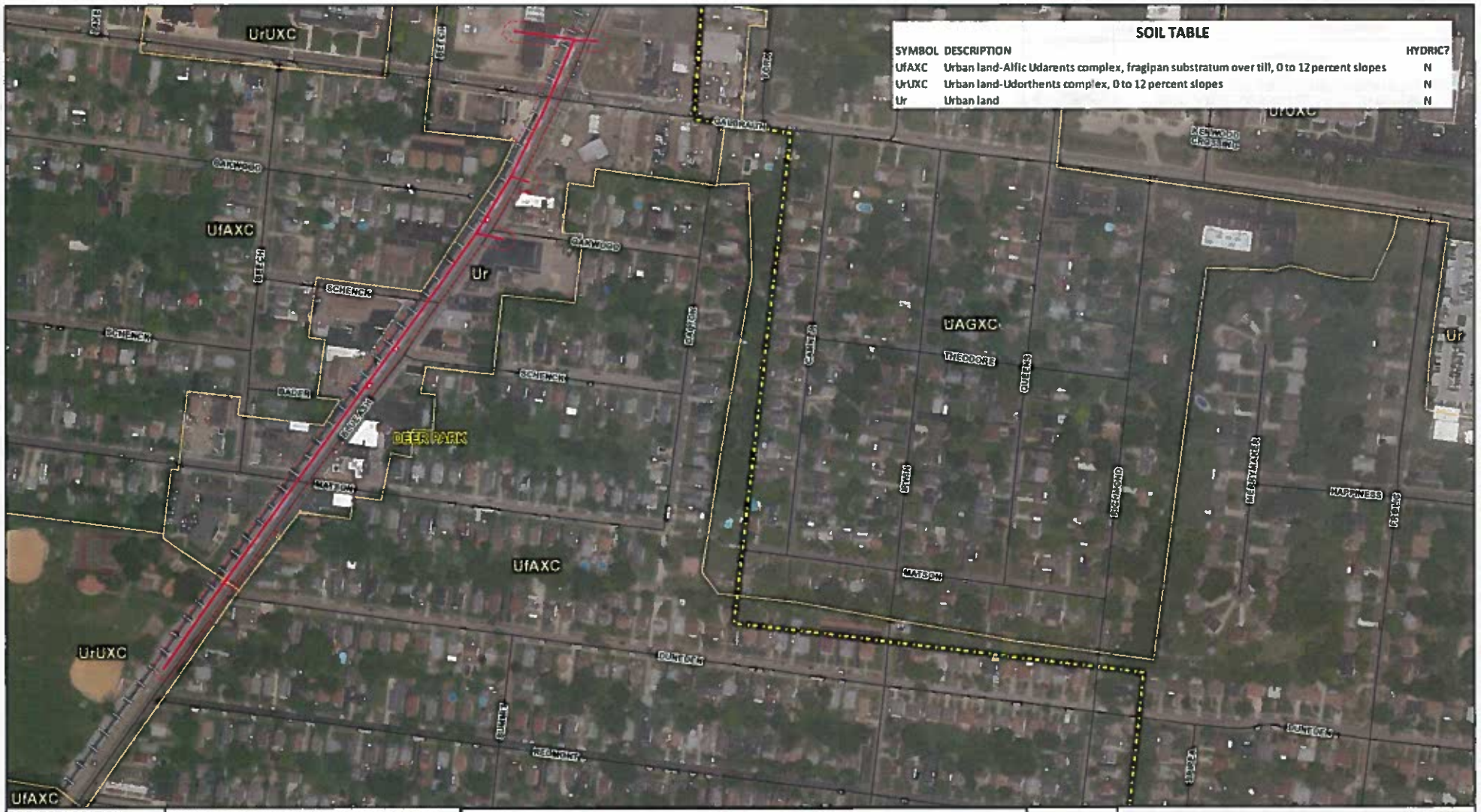

SOIL TABLE

SYMBOL	DESCRIPTION	HYDRIC?
UfAXC	Urban land-Alfic Udarents complex, fragipan substratum over till, 0 to 12 percent slopes	N
UrUXC	Urban land-Udorthents complex, 0 to 12 percent slopes	N
Ur	Urban land	N

PROJECT LOCATION

HAMILTON COUNTY, OH

REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE: CINCINNATI EAST, OHIO. OBTAINED VIA ESRI USA TOPO, NATIONAL GEOGRAPHIC TOPO, AND USGS, ACCESSED 01/2017.

N

0 200 400 Feet

Project Centerline
58-ft Right-of-Way
Soil Unit
Soil Unit - Hydric*
Interstate*
State Highway*
US Highway*
Railroad
Municipal Boundary

*Indicates layer with no features visible in the map extent

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FIGURE 2
REGULATED WATERS DELINEATION REPORT
F7481 139 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
SOIL CLASSIFICATIONS

DRAWN BY: COD
CHECKED: CJ
DATE: 2/13/2019
APPROVED: JT

R:\Projects\15\156\156720M_DukeEnergy\81834M77_SOW37_138kVBlueAshImprovement\GIS\MXD\Delineation\M77_BlueAsh_WDR_F2_Soils.mxd

SHEET INDEX

REFERENCE:
ESRI WORLD IMAGERY, OBTAINED THROUGH ESRI WORLD IMAGERY MICROSOFT CORPORATION, ACCESSED 01/2017

N

0 40 80 160 Feet

Stormwater Inlet	58-ft Right-of-Way	Railroad
Identified Feature	Parcels	NWI Wetland*
Proposed Structure	Interstate*	NHDFlowline*
Existing Structure	US Highway*	100Yr Floodplain*
Fence Line*	State Highway*	Municipal Boundary
Project Centerline	Local Road	1' Contour Line

*Indicates a layer with no features within the map extent

DUKE ENERGY.

Cardno

FIGURE 3.01
REGULATED WATERS DELINEATION REPORT
F7481 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
AERIAL MAP

DRAWN BY: COD
CHECKED: CJ
DATE: 2/13/2019
APPROVED: JT

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SHEET INDEX

REFERENCE:
ESRI WORLD IMAGERY, OBTAINED THROUGH ESRI WORLD IMAGERY MICROSOFT CORPORATION, ACCESSED 01/2017

N

0 40 80 160 Feet

Stormwater Inlet
Identified Feature
Proposed Structure
Existing Structure
Fence Line*
Project Centerline
58-ft Right-of-Way
Parcels
Interstate*
US Highway*
State Highway*
Local Road
Railroad
NWI Wetland*
NHDFlowline*
100Yr Floodplain*
Municipal Boundary
1' Contour Line

*Indicates a layer with no features within the map extent

DUKE ENERGY.

Cardno

FIGURE 3.02

REGULATED WATERS DELINEATION REPORT
F74B1 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
AERIAL MAP

DRAWN BY: COD
CHECKED: CJ
DATE: 2/13/2019
APPROVED: JT

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SHEET INDEX

REFERENCE:
ESRI WORLD IMAGERY, OBTAINED THROUGH ESRI WORLD IMAGERY MICROSOFT CORPORATION, ACCESSED 01/2017

N

0 40 80 160 Feet

Stormwater Inlet
Identified Feature
Proposed Structure
Existing Structure
Fence Line*
Project Centerline
58-ft Right-of-Way
Parcels
Interstate*
US Highway*
State Highway*
Local Road
Railroad
NWI Wetland*
NHDFlowline*
100Yr Floodplain*
Municipal Boundary
1' Contour Line

*Indicates a layer with no features within the map extent

DUKE ENERGY.

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FIGURE 3.03
REGULATED WATERS DELINEATION REPORT
F7481 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
AERIAL MAP

DRAWN BY: COD
CHECKED: CJ
DATE: 2/13/2019
APPROVED: JT

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DUKE ENERGY OHIO
F7481 – 138kV Blue Ash Road Improvement

APPENDIX

A

SITE PHOTOGRAPHS

Photo 1. Near Duke Structure U17-234, View Facing Southwest, 02/04/2019.

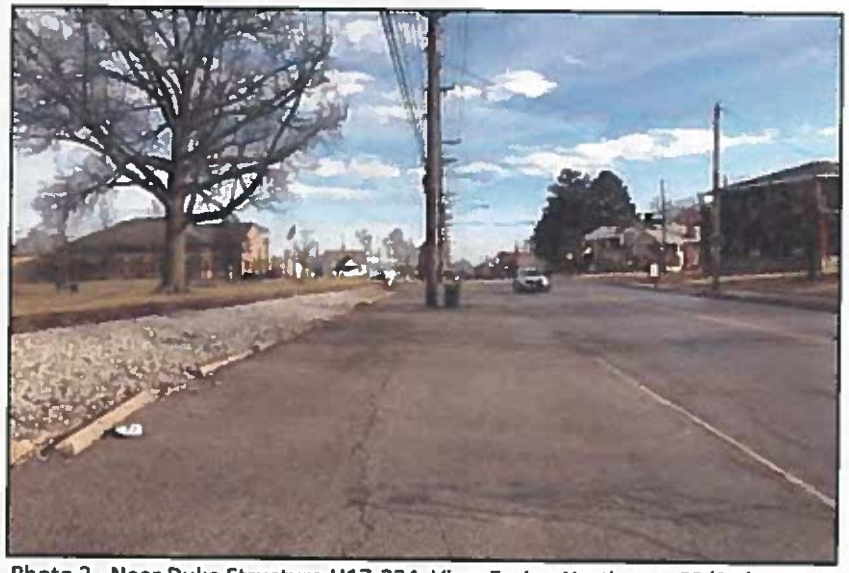


Photo 2. Near Duke Structure U17-234, View Facing Northeast, 02/04/2019.

Photo 3. Near Duke Structure U17-253, View Facing Southwest, 02/04/2019.

Photo 4. Near Duke Structure U17-253, View Facing Northeast, 02/04/2019.

Project Number
J156720177

Site Photographs

Regulated Waters Delineation
F7481—138kV Blue Ash Road Improvement
Duke Energy Ohio
Deer Park, Hamilton County, Ohio

Cardno

Photo 5. Near Duke Structure U17-292, View Facing Southwest, 02/04/2019.

Photo 6. Near Duke Structure U17-292, View Facing Northeast, 02/04/2019.

Photo 7. Deer Park Substa

DUKE ENERGY OHIO
F7481 – 138kV Blue Ash Road Improvement

APPENDIX B

ENDANGERED, THREATENED, AND RARE SPECIES

Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR | MARY MERTZ, DIRECTOR

Office of Real Estate
Paul R. Baldridge, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6649
Fax: (614) 267-4764

February 5, 2019

Kaitlin Hillier
Cardno
11121 Canal Road
Cincinnati, Ohio 45241

Re: 19-017; Duke Energy F7481- 138kV Blue Ash Improvement

Project: The proposed project involves the removal and replacement of approximately 0.71 miles of existing transmission line.

Location: The proposed project is located in the City of Blue Ash, Hamilton County, Ohio.

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

Natural Heritage Database: The Natural Heritage Database has the following records at or within a one-mile radius of the project area:

Wartyback (*Quadrula nodulata*), E
Fawnsfoot (*Truncilla donaciformis*), T
Little Miami State Scenic River

The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; A = species recently added to state inventory, status not yet determined; X = presumed extirpated in Ohio; FE = federal

endangered, FT = federal threatened, FSC = federal species of concern, FC = federal candidate species.

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

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

The project is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the sheepnose (*Plethobasus cyphyus*), a state endangered and federally endangered mussel, the fanshell (*Cyprogenia stegaria*), a state endangered and federally endangered mussel, the pink mucket (*Lampsilis orbiculata*), a state endangered and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel, the snuffbox (*Epioblasma triquetra*), a state endangered and federally endangered mussel, the ebonyshell (*Fusconaia ebena*), a state endangered mussel, the long-solid (*Fusconaia maculata maculata*), a state endangered mussel, the butterfly (*Ellipsaria lineolata*), a state endangered mussel, the washboard (*Megalonaias nervosa*), a state endangered mussel, the elephant-ear (*Elliptio crassidens crassidens*), a state endangered mussel, the Ohio pigtoe (*Pleurobema cordatum*), a state endangered mussel, the monkeyface (*Quadrula metanevra*), a state endangered mussel, the wartyback (*Quadrula nodulata*), a state endangered mussel, the black sandshell (*Ligumia recta*), a state threatened mussel, the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel, and the threehorn wartyback (*Obliquaria reflexa*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the shortnose gar (*Lepisosteus platostomus*), a state endangered fish, the shoal chub (*Macrhybopsis hyostoma*), a state endangered fish, the shovelnose sturgeon (*Scaphirhynchus platorynchus*), a state endangered fish, the lake sturgeon (*Acipenser fulvescens*), a state endangered fish, the northern madtom (*Noturus stigmosus*), a state endangered fish, the bigeye shiner (*Notropis boops*) a state threatened fish, the mountain madtom (*Noturus eleutherus*), a state threatened fish, the river darter (*Percina shumardi*) a state threatened fish, the channel darter (*Percina copelandi*), a state threatened fish, the blue sucker (*Cycleptus elongatus*), a state threatened fish, and the paddlefish (*Polyodon spathula*) a state threatened fish. Due to the

location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet meadows and other wetlands. Due to the location, the type of habitat present at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the cave salamander (*Eurycea lucifuga*), a state endangered species. Due to the location, the type of habitat present at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. Due to the location, the type of habitat present at the project site, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. In the Oak Openings area west of Toledo, lark sparrows occupy open grass and shrubby fields along sandy beach ridges. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. Due to the location, the type of habitat present at the project site, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Sloan's crayfish (*Orconectes sloanii*), a state threatened species. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

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

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

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or Sarah.Tebbe@dnr.state.oh.us if you have questions about these comments or need additional information.

John Kessler
Environmental Services Administrator

From:	susan_zimmermann@fws.gov on behalf of Ohio, FW3
To:	Kaitlin Hillier
Subject:	Duke Energy F7481, 138kV Blue Ash Improvement, Hamilton Co.
Date:	Friday, February 8, 2019 1:27:32 PM
Attachments:	Patrice Signature.jpg Letterhead for Emails 2.jpg

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994

TAILS# 03E15000-2019-TA-0625

Dear Ms. Hillier,

We have received your recent correspondence requesting information about the subject proposal. There are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area.

FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES COMMENTS: Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the U.S. Fish and Wildlife Service should be initiated to assess any potential impacts.

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

Sincerely,

Patrice Ashfield,
Ohio Field Office Supervisor

SPECIES	COMMON NAME	STATE STATUS[1]	FEDERAL STATUS[2]	HABITAT[3]	BREEDING PERIOD[3]	PROBABILITY OF OCCURENCE[4]
Hamilton County						
MAMMAL						
Eptesicus fuscus	Big Brown Bat	SSC	---	Wooded and Semi wooded areas, mainly along streams.	August-October	Low
Lasionycteris noctivagans	Silver-haired Bat	SSC	---	Wooded and Semi wooded areas, mainly along streams.	August-October	Low
Lasiurus borealis	Red Bat	SSC	---	Wooded area and wooded edges and hedgerows.	August-September	None
Lasiurus cinereus	Hoary Bat	SSC	---	Wooded, Semi wooded areas, and wooded edges.	August -October	None
Microtus ochrogaster	Prairie Vole	SSC	---	Dry, vegetated areas; pastures, fields, meadows and prairies	May-October	Low
Microtus pinetorum	Woodland Vole	SSC	---	Wooded areas with thick organic material on forest floor.	April-August	None
Myotis lucifugus	Little Brown Bat	SSC	---	Under rocks, wood piles and sometimes caves.	August-December	Low
Myotis sodalis	Indiana Myotis	E	E	Wooded and Semi wooded areas, mainly along streams. Maternity colonies are around hollow trees.	August-October	Low
Myotis septentrionalis	Northern long-eared Bat	SSC	T	Wooded and Semi wooded areas; live trees and in snags.	July-August	Low
Perimyotis subflavus	Tri-colored Bat	SSC	---	Edge habitats near areas of mixed agricultural use.	August-October	None
Peromyscus maniculatus	Deer Mouse	SCC	---	Grasslands, brushlands, and agricultural fields.	Year round; mostly during warmer months	Low
Reithrodontomys humulis	Eastern Harvest Mouse	T	---	Open grassy areas such as abandoned fields, marshes or wet meadows.	April and August	Low
Synaptomys cooperi	Southern Bog Lemming	SSC	---	Low, moist areas, glasslands, mixed deciduous forests, freshwater wetlands, marshes and meadows.	Year-round	None
Taxidea taxus	Badger	SSC	---	Open grasslands, agricultural areas and other treeless spaces.	July-August	None
BIRD						
Dendroica cerulean	Cerulean Warbler	SSC	---	Deciduous hardwood forests, uplands, wet bottomlands, moist slopes.	May-June	None
Regulus satrapa	Golden-crowned Kinglet	SI	---	Deciduous and mixed forests, wooded bogs, parks, bottomland hardwoods, swamps and riversides.	June-July(Migratory)	None
FISH						
Ammocrypta pellucida	Eastern Sand Darter	SSC	---	Rocky pools and runs of creeks and small to medium rivers, often near vegetation or other cover.	Late April-May	None
Cycleptus elongatus	Blue Sucker	T	---	Large river systems, in a heavy current.	April-June	None
Esox masquinongy	Muskellung	SSC	---	Lakes and large rivers; Prefer shallow water with a rocky bottom and heavy cover.	April	Low

Ictalurus furcatus	Blue Catfish	SSC	---	Large river systems.	May-August	None
Lepisosteus platostomus	Shortnose Gar	E	---	Calm waters of large rivers and their backwaters.	February-June	None
Macrhybopsis hyostoma	Shoal Chub	E	---	Small streams with various substrates.	April-June	None
Moxostoma carinatum	River Redhorse	SSC	---	Medium to large rocky rivers with moderate to strong currents. Usually found in long, deep run habitats.	Early June	None
Notropis boops	Bigeye Shiner	T	---	Small to medium sized streams with pools over substrates of gravel, rock, or sand.	April-August	None
Noturus eleutherus	Mountain Madtom	T	---	Fast flowing clear riffles that are shallow.	June-July	None
Noturus stigmosus	Northern Madtom	E	---	Large rivers in swift currents.	June-July	None
Percina copelandi	Channel Darter	T	---	Gravelly shallows of lakes, and in small and medium-sized rivers in riffles over sand, gravel or rock bottoms.	April-May	None
Percina shumardi	River Darter	T	---	Major rivers and mouths of tributaries with swift currents over sandy, gravelly or rocky substrates.	Year-round, depending on water temperatures.	None
Polyodon spathula	Paddlefish	T	---	Large, slow moving rivers with access to sand or gravel bars.	March-June	None
INVERTEBRATE						
Actinonaias ligamentina ligamentina	Mucket	X	---	Medium to large rivers, usually in areas with fairly good flow. The substrates it prefers include sand and/or gravel.	June-July	None
Alasmidonta marginata	Elktoe	SSC	---	Shallow to medium sized creeks or rives.	June-July	None
Catocala maestosa	---	SI	---	Riparian wooded areas.	July-October	None
Cumberlandia monodonta	Spectacelecase	X	E	Large rivers where they live in areas sheltered from the main force of the river current. This species often clusters in firm mud and in sheltered areas, such as beneath rock slabs, between boulders and even under tree roots.	May-August	None
Cyclonaias tuberculate	Purple Wartyback	SSC	---	Large to medium sized rivers with a gravel or mixed sand substrates.	May-August	None
Cyprogenia stegaria	Fanshell	E	E	Rivers and streams with abundant gravel and sand substrates.	April-August	None
Ellipsaria lineolata	Butterfly Mussel	E	---	Large rivers with swift currents in sand or gravel substrates.	July-August	None
Elliptio crassidens crassidens	Elephant-ear	E	---	Rivers and streams with muddy sand, sand, and rocky substrates in moderate currents.	April-May	None
Epioblasma obliquata obliquata	Purple Cat's Paw	E	E	Large rivers with gravel or mixed sand substrates.	April-May	None
Epioblasma torulosa rangiana	Northern Riffleshell	E	E	Large to small streams.	Breeding season occurs once a year, dependent upon water temperature	Low
Epioblasma triquetra	Snuffbox	E	E	Riffles areas of fast moving rivers and streams.	July-August	None

Fusconaia ebena	Ebonyshell	E	---	Rivers and streams with coarse sand and gravel substrates.	June-September	None
Fusconaia maculata maculata	Long-solid	E	---	Small to large rivers in gravel with strong currents.	May-July	None
Gomphus externus	Plains Clubtail	E	---	Found near large, slow, muddy streams and rivers.	May-Late July	None
Hemistena lata	Cracking Pearl Mussel	X	E	Prefers gravel riffles of medium-sized streams, and mud and sand bottoms in slower-moving water.	June-July	None
Lampsilis abrupta	Pink Mucket	E	E	Small to medium rivers with swift currents.	June-July	None
Lampsilis fasciola	Wavy-rayed Lampmussel	SSC	---	Medium streams with gravel or sand bottoms.	June-July	None
Lampsilis ovata	Sharp-ridged Pocketbook	E	---	Ponds, lakes and streams with slow moving water and plenty of cover.	June-July	None
Lampsilis teres	Yellow Sandshell	E	---	Large rivers with slow moving currents.	June-July	None
Lasmigona compressa	Creek Heelsplitter	SSC	---	Medium to large rives in pools over compact sand and gravel, or mud patches near shore.	June-July	None
Leptodea leptodon	Scaleshell	X	E	Medium-sized and large rivers with stable channels and good water quality.	June-July	None
Ligumia recta	Black Sandshell	T	---	Rivers, lakes and large streams in riffles over muddy to gravel substrates.	July-August	None
Lycaena helloides	Purplish Copper	E	---	Wet meadows, marshes and streamsides.	July-August	None
Megalonaias nervosa	Washboard	E	---	Slow moving rivers and streams with muddy to rocky substrates.	August-October	None
Nannothermis bella	Elfin Skimmer	E	---	Bogs and fens.	March-September	None
Obliquaria reflexa	Threehorn Wartyback	T	---	Large rivers with sand or gravel substrates.	July-August	None
Obovaria olivaria	Hickorynut	X	E	Shallow water over silt-free sand and gravel bottoms of large rivers.	June-July	None
Obovaria retusa	Ring Pink	X	E	Shallow water over silt-free sand and gravel bottoms of large rivers.	June-July	None
Orconectes sloanii	Sloan's Crayfish	T	---	Freshwater lakes and streams, under rocks and logs.	August-October	None
Plethobasus cicatricosus	White Wartyback	X	E	Clean, fast-flowing water in silt-free rubble, gravel and sand bottoms of large and rivers.	June-July	None
Plethobasus cooperianus	Orange-footed Pearly Mussel	X	E	Clean, fast-flowing water in silt-free rubble, gravel or sand of medium to large rivers.	June-July	None
Plethobasus cyphyus	Sheepnose	E	E	Large rivers in shallow areas with moderate to swift currents that flow over coarse sand and gravel substrates.	July-August	None
Pleurobema clava	Clubshell	E	E	Medium to large rivers with gravel or sandy substrates.	July-August	None
Pleurobema cordatum	Ohio Pigtoe	E	---	Large rivers in riffle areas with clear, swift moving water.	April-May	None
Pleurobema plenum	Rough Pigtoe	X	E	Wide variety of streams from large to small. It buries itself in bottoms of firmly packed sand or gravel.	June-July	None
Pleurobema rubrum	Pyramid Pigtoe	E	---	Medium to large rivers in sand or gravel.	May-July	None

Pleurobema sintoxia	Round Pigtoe	SSC	---	Small to large rivers with moderate to swift flowing water with gravel, cobble or boulder substrates.	June-July	None
Ptychobranchus fasciolaris	Kidneyshell	SSC	---	Small to medium sized rivers in riffle areas with clear, swift moving water.	April-August	None
Quadrula cylindrical cylindrical	Rabbitsfoot	E	T	Large, clean, fast-flowing waters.	April-August	None
Quadrula fragosa	Winged Mapleleaf	X	E	Found in riffles with clean gravel, sand, or rubble bottoms and in clear, high quality water.	June-July	None
Quadrula metanevra	Monkeyface	E	---	Large, clean, fast-flowing waters in silt-free rubble, gravel and sand bottoms.	March-July	None
Quadrula nodulata	Wartyback	E	---	Large, clean, fast-flowing waters in silt-free rubble, gravel and sand bottoms.	May	None
Speyeria idalia	Regal Fritillary	E	---	Tall-grass prairie and other open location including meadows, marshes and pastures.	June-July	None
Truncilla donaciformis	Fawnsfoot	T	---	Rivers and lakes in slower moving water. Usually in sand or gravel substrates.	April-May	None
Truncilla truncata	Deertoe	SSC	---	Lakes and medium to large rivers. Usually in mud, sand or gravel substrates.	August-July	None
Uniomerus tetralasmus	Pondhorn	T	---	Freshwater rivers, ponds and lakes.	Unknown	None
Villosa fabalis	Rayed Bean	E	E	Small headwater creeks, sometimes found in large rivers. Prefers gravel or sand substrates.	Unknown; Egg-bearing females have been found in May.	None
REPTILE						
Clonophis kirtlandii	Kirtland's Snake	T	---	Prairie fens, wet meadows, wet prairies and associated open and wooded wetlands	February-March, May, August-September	Low
Opheodrys aestivus aestivus	Northern Rough Greensnake	SSC	---	Moist meadows and woodlands, often near water.	April-May	Low
Terrapene Carolina	Eastern Box Turtle	SC	---	Forests, especially bottomland forests and edge habitats.	May-October	None
AMPHIBIAN						
Acris crepitans crepitans	Eastern Cricket Frog	SSC	---	The shores of sparsely vegetated permanent ponds and streams.	April-June	Low
Cryptobranchus alleganiensis alleganiensis	Eastern Hellbender	E	---	Medium to large, rocky streams that are not excessively silty and have an abundance of crayfish.	September	Low
Eurycea lucifuga	Cave Salamander	E	---	In and around caves, seeps, springs, and small forested limestone creeks associated with groundwater. Rock crevices or under rocks, logs, or other debris.	December-February	Low
PLANT						
Corallorhiza wisteriana	Spring Coral-Root	P	---	Broad array of coniferous to deciduous habitats in humus rich soils.	n/a	None

Cyperus acuminatus	Pale Umbrella-Sedge	P	---	Open, wet, sandy habitats. Sores, seepages, and fields.	n/a	None
Descurainia pinnata	Tansy Mustard	T	---	Anthropogenic (man-made or disturbed habitats), cliffs, or ledges, ridges or ledges, talus and rocky slopes.	n/a	Low
Echinodorus berteroi	Burhead	P	---	Muddy shores and shallow water of lakes, ponds, slow-moving streams, and ditches. Also in swamp woods and river bottoms.	n/a	None
Lipocarpha micrantha	Dwarf Bulrush	T	---	Sandy-peaty shore of soft water lakes associated with intermittent wetlands and coastal plain marshes.	n/a	None
Paspalum repens	Riverbank Paspalum	T	---	Frequently found submersed or floating, growing in the mud or shallow waters of rivers, ponds, streams and swamps.	n/a	None
Phacelia bipinnatifida	Fern-leaved Scorpion-weed	P	---	Moist areas of deciduous woodlands and rocky woodlands, rocky banks and low areas along woodland streams, moist depressions of bluffs, bottoms of sandstone canyons, and lower slopes of ravines.	n/a	None
Ribes missouriense	Missouri Gooseberry	T	---	Mesic to dry open woodlands, savannas, woodland borders, thickets, power line clearances and small meadows and wooded areas, abandoned fields, and partially shaded fence rows.	n/a	None
Sida hermaphrodita	Virginia-mallow	P	---	Anthropogenic (man-made or disturbed habitats), meadows and fields.	n/a	Low
Spermacoce glabra	Smooth Buttonweed	P	---	Wet meadows, banks of streams, and ditches.	n/a	None
Trifolium reflexum	Buffalo Clover	E	---	Rocky open woods, glades, old fields, prairies. Typically on acid soils.	n/a	None
Trifolium stoloniferum	Running Buffalo Clover	E	E	Disturbed bottomland meadows. Disturbed sites that have shade part of the day.	n/a	None
Trillium recurvatum	Prairie Wake-robin	P	---	Rich woodlands, open woodlands, and savannas, where deciduous trees are dominant. Sometimes this species survives degradation of woodland habitats, and it can be found along fence rows with woody vegetation, overgrown areas near railroads, and miscellaneous waste areas with partial or light shade.	n/a	None
Triphora trianthophora	Three-birds Orchid	P	---	Upland, hardwood forests, often with a well-developed humus layer.	n/a	None
Viburnum rufidulum	Southern Black-haw	P	---	Dry, rocky, wooded slopes and forest edges.	n/a	None

1. STATE STATUS - X = extirpated, E = endangered, T = threatened, P= potentially threatened R = rare, SSC = special concern, WL = watch list, SG = significant, SI = Special Interest ** = no status but rarity warrants concern
Ohio Department of Natural Resources, Division of Wildlife Website - http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/publications/information/pub356.pdf (March 2016).

2. FEDERAL STATUS - E = endangered, T = threatened, R = rare, LELT = different listing for specific ranges or species, PE = proposed endangered , PT = proposed threatened, e/sa – appearance similar to a listed endanger species, **= not listed
United States Fish and Wildlife Service, County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species - http://www.fws.gov/midwest/endangered/lists/ohio-cty.html (January 2017).

3. Habitats and Breeding Periods described by:
   a. NatureServe: An online encyclopedia of life [web application].2000. Version 1.1 Arlington, Virginia, USA: Association for Biodiversity information. Available: http://www.natureserve.org/ (Accessed January 6, 2017).
   b. United States Fish and Wildlife Service Rayed Bean Fact Sheet - http://www.fws.gov/midwest/endangered/clams/rayedbean/RayedBeanFactSheet.html (January 6, 2017).
   c. United States Fish and Wildlife Service Indiana Bat Fact Sheet - http://www.fws.gov/midwest/endangered/mammals/inba/index.html (January 6, 2017).
   d. United States Fish and Wildlife Service Northern Long-eared Bat Fact Sheet - http://www.fws.gov/midwest/endangered/mammals/nleb/index.html (January 6, 2017).
   e. United States Fish and Wildlife Service Eastern Massasauga Fact Sheet - http://www.fws.gov/midwest/endangered/mammals/inba/index.html (January 6, 2017).
   f. United States Fish and Wildlife Service Running buffalo clover Fact Sheet - http://www.fws.gov/midwest/endangered/mammals/nleb/index.html (January 6, 2017).

4. Likelihood of occurrence: None, Low, Moderate, or High based on best available data and selective field observations.

Attachment G

Stormwater Pollution Prevention Plan

Storm Water Pollution Prevention Plan

F7481—138kV Blue Ash Road Improvement

Hamilton County, Ohio

Cardno Project J156720M77

February 4, 2019

Prepared for: **Duke Energy**
139 E. 4th Street
Cincinnati, Ohio 45202

Prepared by: **Cardno**
11121 Canal Road
Cincinnati, Ohio 45241

Storm Water Pollution Prevention Plan

F7481—138Kv Blue Ash Road Improvement

Hamilton County, Ohio

February 4, 2019

Document Information

Project Site Owner	Duke Energy
Duke Energy Contact	Dustin Geisler/ Kate Keck, Duke Energy
Project(s) Name	F7481—138Kv Blue Ash Road Improvement
Project(s) Number	Cardno J156702M77
Cardno Contact	Cori Jansing, Cardno

This plan was prepared in accordance with the Rainwater and Land Development: Ohio's Standards for Stormwater Management, Land Development and Urban Stream Protection published December 2006 by the Ohio Department of Natural Resources Division of Soil and Water Conservation and in compliance with ORC Chapter 1511, ORC Chapter 6111, and OAC Chapter 3745-38. In Ohio, responsibility for regulating storm water is held by both local and state authorities. Locally, municipalities, townships, and counties have the authority to regulate storm water. Ohio EPA administers the National Pollutant Discharge Elimination System (NPDES) program, which regulates stormwater discharges that are associated with construction and/or land disturbing activities by limiting the quantities of pollutants to be discharged and imposing monitoring requirements and other conditions. A NPDES permit is not required for disturbance that is under an acre.

Certification Requirements per Ohio EPA Permit No. OHC000005 Part V.G.

Corporate Certification (Duke Energy- Owner or Owner Representative)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manages the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name _____
Title _____
Date _____

Contractor Certification (_____ Utility Line General Contractor)

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Name _____
Title _____
Date _____

Contractor Certification (_____ Erosion Control Subcontractor)

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Name _____
Title _____
Date _____

Contractor Certification (_____ Grading and Excavation Subcontractor)

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Name _____
Title _____
Date _____

TABLE OF CONTENTS

SECTION A – Basic Plan Elements 3
A1 Plan Index showing locations of required items 3
A2 11 X 17 inch plat showing building lot numbers/boundaries and roadlayout/names 3
A3 Narrative describing Project nature and purpose 3
A4 Vicinity map showing Project location 3
A5 Legal description of the Project site 3
A6 Location of all lots and proposed site improvements 4
A7 Hydrologic Unit Code (HUC) 4
A8 Notation of any State or Federal water quality permits 4
A9 Specific points where storm water discharge will leave the site 4
A10 Location and names of all wetlands, lakes, and watercourses on and adjacent to the site 4
A11 Identification of all receiving waters 4
A12 Identification of potential discharges to groundwater 4
A13 100 year floodplains, floodways, and floodway fringes 4
A14 Pre-construction and post-construction estimate of peak discharge 4
A15 Adjacent land use, including upstream watershed 4
A16 Locations and approximate boundaries of all disturbed areas 4
A17 Identification of existing vegetative cover 5
A18 Soils map including descriptions and limitations 5
A19 Locations, size, and dimensions of proposed storm water systems 5
A20 Plan for any off-site construction activities associated with the Project 5
A21 Locations of proposed soil stockpiles, borrow and/or disposal areas 5
A22 Existing site topography at an interval appropriate to show detailed drainage patterns 5
A23 Proposed final topography at an interval appropriate to show detailed drainage patterns 5

SECTION B – Active Construction Component 6
B1 Description of potential pollutant sources associated with the construction activities 6
B2 Sequence describing storm water quality measure implementation relative to land disturbing activities 6
B3 Stable construction entrance locations and specifications 7
B4 Sediment control measures for sheet flow areas 8
B5 Sediment control measures for concentrated flow areas 8
B6 Storm sewer inlet protection measure locations and specifications 8
B7 Runoff control measures 8
B8 Storm water outlet protection specifications 8
B9 Grade stabilization structure locations and specifications 8
B10 Location, dimensions, specifications and construction details of each storm water quality measure 8
B11 Temporary surface stabilization methods appropriate for each season 8
B12 Permanent surface stabilization specifications 9
B13 Material handling and spill prevention plan 10
B14 Monitoring and maintenance guidelines for each proposed pollution preventionmeasure 11
B15 Erosion & sediment control specifications for individual building lots 11

SECTION C – Post Construction Component 12
C1 Description of pollutants and their sources associated with the proposed land use 12
C2 Sequence describing storm water quality measure implementation 12

C3 Description of proposed post construction storm water quality measures 12
C4 Location, dimensions, specifications and construction details of each storm water quality measure 12
C5 Description of maintenance guidelines for proposed post construction water quality measures 12

Appendices

Appendix A Figures
Appendix B Storm Water Pollution Prevention Plan Typical Details
Appendix C Storm Water Evaluation Form for Construction
Appendix D SWPPP Amendment Log
Appendix E Local Reviewing Agency Approval

Figures

Figure 1 Project Vicinity
Figure 2 Project Area Watersheds (14-Digit HUC)
Figure 3 Soils Classification
Figure 4 Environmental Access and Erosion Control Plan

Acronyms

SWPPP	Storm Water Pollution Prevention Plan
NOI	Notice of Intent
NOT	Notice of Termination
NWP	Nationwide Permit
OEPA	Ohio Environmental Protection Agency
USACE	United States Army Corps of Engineers

SECTION A – Basic Plan Elements

A1 Plan Index showing locations of required items

See Table of Contents.

A2 11 X 17 inch plat showing building lot numbers/boundaries and road layout/names

Please refer to Appendix A, Figure 4, Environmental Access and Erosion Control Plan.

A3 Narrative describing project nature and purpose

The Project involves the replacement and relocation of approximately 0.42-mile (2,218 feet) of 138kV transmission line in the City of Deer Park, Hamilton County, Ohio. The Project will be conducted in conjunction with the Ohio Department of Transportation (ODOT) Blue Ash Road Improvement Project (HAM-CR251-0.75) and will involve the in-kind replacement and relocation of seventeen (17) wood 138kV structures with updated steel structures located within existing 58-foot wide Duke Energy Ohio transmission line corridor Right-of-Way (ROW). The Project initiates at Duke Energy Ohio Structure U17-235 (39.20344, -84.39474) located north of Redmont Road and west of Duneden Avenue and terminates at the Duke Energy Ohio Deer Park Substation (39.20822, -84.3509) located west of Blue Ash Road and north of East Galbraith Road. A field investigation of the corridor was conducted on February 4, 2019.

The proposed F7481– 138kV Blue Ash Road Improvement Project will facilitate the ODOT Blue Ash Road Improvement Project (HAM-CR251-0.75) at the behest of the City of Deer Park, which aims to improve the region's transportation system and pedestrian accessibility and security in the City of Deer Park, Hamilton County, Ohio. Furthermore, the F7481– 138kV Blue Ash Road Improvement Project will maintain and improve the quality of the electric service and reliability to the service area. This area includes, but is not limited to the City of Deer Park, Hamilton County, Ohio.

The existing line provides 138kV electric transmission service to residential and commercial/industrial facilities, and serves as a pathway in the transmission grid to surrounding areas. The replaced transmission line will continue to provide the service area with 138 kV transmission service, but will be rebuilt with upgraded conductor capacity to enable a more efficient future voltage conversion and allow support for future load growth in the area.

Construction will be accomplished largely through the use of bucket trucks with truck-mounted augers for structure installation and other construction vehicles transporting cable spools to install the transmission cable along the route. Excavation will be restricted to the locations where the installation of new structures will occur. Earth moving activities are anticipated to be minimal, if any. The extent of access disturbance can vary widely dependent upon many factors, including density and type of surface, vegetative cover, weather conditions, and the type of vehicles moving over the area. The existing vegetation will be preserved to the maximum extent practicable.

Project construction is expected to begin in April 2019.

A4 Vicinity map showing Project location

Please refer to Appendix A, Figure 1, Project Vicinity map, which provides a simplified layout of Project activities and adjacent land features and information.

A5 Legal description of the Project site

The Project crosses the following section:

Cincinnati East Quad

Section 13, Township 4E, Range 1N, Municipality: City of Deer Park

Section 14, Township 4E, Range 1N, Municipality: City of Deer Park

A6 Location of all lots and proposed site improvements

The proposed Project is linear in scope and will take place within existing transmission line ROW. Only approved areas beyond the ROW will be used for equipment storage, temporary access routing, and laydown areas. Where feasible, construction activities at structure locations will be performed from roadways to minimize soil disturbance. Maps of the Project including structure locations, parcel boundaries, and water resources can be found in Appendix A, Figure 4, Environmental Access and Erosion Control Plan.

A7 Hydrologic Unit Code (HUC)

The Project lies within the boundaries of the following 14-Digit USGS Hydrologic Unit Code watersheds:

Mill Creek below East Fork Mill Creek to above West Fork Mill Creek watershed (14-digit HUC 05090203-010-020)

A8 Notation of any State or Federal water quality permits

If there are proposed impacts to regulated waters which will require a permit from either the U.S. Army Corps of Engineers (USACE) or the Ohio Environmental Protection Agency (OEPA). The Notice of Intent (NOI) for storm water discharges will be submitted contingent on the local reviewing agency approval(s).

A9 Specific points where storm water discharge will leave the site

All discharges are planned to consist solely of storm water runoff through sheet flow leading to existing water courses. There are no planned non-storm water discharges associated with the proposed Project.

A10 Location and names of all wetlands, lakes, and watercourses on and adjacent to the site

No wetlands, watercourses, and other waters are within or adjacent to the proposed Project.

A11 Identification of all receiving waters

The storm water runoff from the Project will ultimately discharge into the Ohio River via Mill Creek.

A12 Identification of potential discharges to groundwater

The proposed site does not contain any known sinkholes, active or abandoned wells, or any other direct groundwater recharge points. Any recharging of the groundwater supply by water from the proposed site will be by natural means of infiltration through the soil.

A13 100 year floodplains, floodways, and floodway fringes

None of the structures associated with the F7481—138kV Blue Ash Road Improvement Project will be within the FEMA-defined floodplains. See Appendix A, Figures 4.01 to 4.04, for the location of 100 year floodplains.

A14 Pre-construction and post-construction estimate of peak discharge

Based on the nature of this Project, there will be no impounded storm water. There is no anticipated significant change in peak discharge from this Project site between pre-construction and post-construction site conditions or new or impervious surfaces.

A15 Adjacent land use, including upstream watershed

Adjacent land use consists of a mix between commercial, residential, and maintained turf.

A16 Locations and approximate boundaries of all disturbed areas

The majority of ground disturbance will occur within the structure installation locations. The expected disturbance for this Project is conservatively estimated at 0.9-acre.

A17 Identification of existing vegetative cover
The existing vegetative cover is maintained turf within the projected transmission line ROW.

A18 Soils map including descriptions and limitations
According to the NRCS Soil Survey Geodatabase data collected for Hamilton County, three (3) mapped soil units are present within the Project Area. None of these soils are listed as hydric. See Appendix A, Figure 3, Soils Classifications for soil types and hydric classification by line segment.

A19 Locations, size, and dimensions of proposed storm water systems
There is no proposed construction of any permanent storm water systems.

A20 Plan for any off-site construction activities associated with this Project
No off-site construction activities are planned for this Project.

Any temporary staging and laydown areas for both new and used structures and other equipment will be identified near the time of construction. Typically, Duke Energy substations are utilized for storage, and used structures are taken off-site. Storm water protection will be integrated as necessary at laydown areas and amended into the plan and routine inspections by the Construction Supervisor.

A21 Locations of proposed soil stockpiles, borrow and/or disposal areas
It is anticipated that no soil fill will be brought in. However, gravel backfill will be used at structure locations. Where wetland or stream impacts may occur, spoils management protocol will be followed during structure installation. Where appropriate, any excavated soil, gravel backfill, or other construction material will be stored on construction matting within a wetland area and erosion control measures will be implemented. Excess soil from boring or auguring operations will be permanently relocated to an upland location away from surface drainage ways and wetland areas adjacent to structure replacement locations.

A22 Existing site topography at an interval appropriate to show detailed drainage patterns
The existing drainage patterns are best depicted and evaluated with 1 foot contours shown in Appendix A, Figure 4, Environmental Access and Erosion Control Plan.

A23 Proposed final topography at an interval appropriate to show detailed drainage patterns
Final post-construction contours will match pre-construction condition to the extent practicable. The construction scope is limited to the replacement of utility structures and overhead facilities.

SECTION B – Active Construction Component

B1 Description of potential pollutant sources associated with the construction activities

The anticipated pollutants to be generated by this type of construction include the following:

- Sediment carried off-site by storm water runoff
- Vegetation debris generated during onsite vegetation removal
- Concrete washout and dewatering operations for projects with foundations
- Domestic garbage from construction workers
- Potential for petroleum spills from heavy equipment operation and refueling

Clearing and/or maintenance trimming will involve mowing and limb cutting with standard forestry equipment and hand cutting where required. In instances where tree or large limbs are removed entirely for access or maintenance they will be cut into appropriate lengths for use by the landowner, or otherwise chipped within the ROW. Digging, grubbing, and any other disturbance will be restricted to locations where the installation of new structures will occur. All excavated materials will be distributed in approved upland locations away from surface drainage ways. Wood chippings and other low-height vegetation will be distributed within the ROW to the maximum extent possible to assist in soil stabilization and sediment runoff control.

Any and all domestic garbage generated onsite such as disposable food and drink containers and other items shall be either carried off-site and properly disposed or deposited into a construction dumpster provided onsite. The Project site shall be monitored on a daily basis for the proper disposal of such waste.

The erosion of exposed soils by storm water runoff shall be controlled through the installation of best management practices (BMPs) such as silt fence, fiber rolls, or similar barriers, followed by seeding and mulching. All such practices shall be installed and maintained in accordance with Appendix B, Storm Water Pollution Prevention Plan Typical Details.

Equipment cleaning will be limited to water washing in sediment and erosion controlled areas as required to insure reliable equipment operations while preventing the tracking of excessive dirt and mud from the Project site. Soil materials that may need to be removed from the Project ROW will be taken to an upland area or other designated disposal area.

Concrete washout will be completed on projects with foundations at designated concrete washout stations for containment of this waste in accordance with Appendix B, Storm Water Pollution Prevention Plan Typical Details. Any dewatering associated with the excavation for the placement foundations will be conducted through an approved dewatering bag or other upland means of filtering dewatering point discharges.

B2 Sequence describing storm water quality measure implementation relative to land disturbing activities

Due to the nature of the Project, multiple construction stages may take place simultaneously within the Project area. Below is the general sequence of construction activities and storm water quality measures implementation:

The general sequence of construction activities includes the following:

1) Installation of temporary construction entrances
2) Installation of temporary erosion and sediment control measures
3) Construction equipment access
4) Removal of existing poles and conductors
5) Installation of new poles and conductors

6) Final restoration (final grading, seeding, and stabilization)
7) Removal of temporary erosion and sediment control measures
8) Removal of temporary construction entrances

The storm water pollution prevention measures described within this SWPPP will be installed and inspected before soil disturbing activities commence. Structural erosion controls may also need to be installed along equipment access routes dependent upon site condition. These needs will be assessed as the Project progresses. Any erosion controls that need to be moved for equipment transfers will be restored, to the extent practical, before significant rainfalls occur. All storm water quality control measures shall be inspected regularly. At the completion of the Project all disturbed areas will be stabilized with vegetation and straw mulch. All measures will be in accordance with guidelines provided in the *Rainwater and Land Development* and this Plan.

As conditions may vary from pre-project condition during construction, sediment control measures may be altered and additional locations for such measures may be needed depending upon changing field conditions. Additional measures may be required and implemented as they become warranted and should be documented in Appendix D, SWPPP Amendment Log. SWPPP revisions or altercations require review and/or approval by a trained individual experienced in the principles of storm water, erosion and sediment control, treatment, and monitoring for Duke Energy Projects.

Recognizing the increased potential for erosion special care will be taken to seed and mulch construction travel ways in highly erodible or steep slope areas. Additional measures such as water bars, erosion matting, or other appropriate measures may be employed as necessary to protect the land surface from erosion until termination of the permit is verified and the Notice of Termination (NOT) is filed with OEPA (Blank copy of NOT is provided in Appendix F).

Stabilized construction entrances or other means of limiting the tracking of sediment and debris off-site will be used at roadway intersections whenever possible. All debris or sediment tracked onto road ways will be removed at the end of the day to the minimum extent practicable. Large equipment movement to each structure associated with, but not limited to, disassembly, framing, and clipping-in of line will be limited to the minimum extent practicable to further reduce ground disturbance.

Temporary or permanent seeding stabilization will adhere to specifications in Subsections B11 and B12. Vegetated areas with a density of less than seventy percent (70%) shall be re-stabilized using appropriate methods to minimize the erosion potential. No structural erosion controls will be removed until construction has permanently stopped and reseeding and mulching has occurred. After the entire Project is complete and vegetated coverage is at least 70% any accumulated sediment, fiber rolls, silt fence, or other specified erosion and sediment control measures will be removed.

Wherever equipment crossing drainage ways in steeply sloping areas will result in soil disturbances a combination of temporary timber matting bridges and water bars to divert runoff to the installed sediment controls or vegetative filter areas will help reduce impacts from concentrated flows to receiving streams.

B3 Stable construction entrance locations and specifications

Stabilized construction entrances will be installed when warranted based on Project duration or varying site conditions impacted by wet weather patterns. Special consideration shall be given for installation of a stable construction entrance in the event of wet weather or high ingress and egress traffic. Stable construction entrances and other means of limiting the tracking of sediment and debris off-site will be used. Additional construction entrances, other than the ones indicated in the Plans, may be required and implemented as they become warranted based on variable site conditions. All debris or sediment tracked onto roadways will be removed at the end of the day to the maximum extent possible. The existing construction entrances will be evaluated and modified to be in accordance with *Rainwater and Land Development* and this Plan as deemed necessary.

B4 Sediment control measures for sheet flow areas

Runoff and sediment control practices will include a combination of compost filter sock (or other plant fiber-based barrier) and/or silt fencing. These sedimentation and erosion control measures will be located at specific locations along the construction route to prevent sediment runoff into streams, wetlands, and other open waters. The placement and use of erosion control structures indicated in Appendix A, Figure 4.01 through 4.03 Environmental Access and Erosion Control Plan will be installed in accordance with Appendix B, SWPPP Typical Details and be in compliance with the *Rainwater and Land Development* manual. If required, additional appropriate structural controls will be implemented as the Project progresses. Plan changes require approval of Duke Energy.

B5 Sediment control measures for concentrated flow areas

No areas of concentrated flow are expected for this Project. If conditions dictate compost filter sock or rock check dams will be used, as appropriate, within the ephemeral drainages along the route to limit sedimentation within the drainage and off-site. At locations where equipment crosses drainage ways in steeply-sloping areas, which could result in soil disturbance, a combination of temporary timber matting bridges and water bars to divert runoff to sediment controls or vegetative filter areas can help reduce impacts from concentrated flows to receiving streams.

B6 Storm sewer inlet protection measure locations and specifications

Where applicable, BMPs (compost filter sock or other catch basin protection) will be installed to prevent erosion from storm water runoff from areas of construction to enter directly into the storm sewer.

B7 Runoff control measures

Water bars can be used to prevent runoff flows from occurring in wheel rutting on steep slopes which will impact receiving streams.

B8 Storm water outlet protection specifications

Not applicable for this Project.

B9 Grade stabilization structure locations and specifications

Not applicable for this Project.

B10 Location, dimensions, specifications and construction details of each storm water quality measure

The locations of the sediment control structures are indicated in Appendix A, Figure 4, Environmental Access and Erosion Control Plan. The general specifications for each practice are located in Appendix B, SWPPP Typical Details. As construction, progresses Duke Energy will consider modification to or addition of erosion control structures depending on changing site conditions with respect to slope and proximity to adjacent water bodies.

B11 Temporary surface stabilization methods appropriate for each season

In the event temporary stabilization is required (when construction activity has ceased but will resume in fourteen (14) days or more), either seeding or mulch application or other stabilization measure will be implemented within seven (7) days of the most recent disturbance. Areas within 50 feet of a stream (including intermittent streams) will be stabilized within 2 days of the most recent disturbance. Mulch alone is acceptable temporary cover and may be use in lieu of temporary seeding, provided that it is appropriately anchored. A high potential for fertilizer, seed, and mulch to wash exists on steep banks, cuts, and in channels and areas of concentrated flow.

Table 1. Temporary Seed Mixture

Species	Application Rate
Annual Ryegrass	40 lbs./acre
Oats	128 lbs./acre
Tall Fescue	40 lbs./acre

Straw mulch should be used at a rate of 2 tons/acre or 90 lbs./1,000 sq. ft. for seed protection and additional erosion control. It should be spread by hand or machine and be crimped or anchored, as appropriate. If slopes necessitate the use of a mulch cover, then erosion control blanketing shall be substituted. No hay should be used as it may introduce invasive non-native species to adjacent undisturbed habitats (such as hardwood forests or wetland areas).

B12 Permanent surface stabilization specifications

Areas within fifty (50) feet of a stream will require permanent surface stabilization within two (2) days of the last disturbance. Stream bank and riparian floodplain areas shall be mulched and seeded with the Stream Bank and Riparian Areas Restoration Seed Mix as recommended by Ohio DNR staff as follows.

Table 2. Stream Bank and Riparian Areas Restoration Seed Mix

Grass and Sedge Species	Application Rate
Andropogon gerardii (Big Bluestem)	24 oz./acre
Bouteloua curtipendula (Sideoats Grama)	1 oz./acre
Carex bicknellii (Prairie Oval Sedge)	2 oz./acre
Elymus canadensis (Canada Wild Rye)	2 oz./acre
Dactylis glomerata (Orchard grass)	24 oz./acre
Panicum virgatum, Switchgrass)	4 oz./acre
Schizachyrium scoparium (Little Bluestem)	3 oz./acre
Sorgastrum nutans (Indian Grass)	0.5 oz./acre
Cover Crop Species	Application Rate
Avena sativa (Seed Oats)	800 oz./acre
Lolium multiflorum (Annual Ryegrass)	160 oz./acre

All other areas of soil disturbance will be seeded and mulched for permanent surface stabilization within seven (7) days in areas where construction has ceased and the site is at final grade or will lay dormant for more than one (1) year. Any permanent seeding should consist of a seed mixture appropriate for the area that has been disturbed and conducted during the season appropriate for its installation.

Non-agricultural areas including access and other vegetated ROW areas shall be permanently mulched and seeded with a general use permanent seed mix consisting of the following:

Table 3. General Use Permanent Seed Mixture

Species	Application Rate
Kentucky Bluegrass	20-40 lb/acre
Perennial Ryegrass	10-20 lb/acre
Creeping Red Fescue	20-40 lb/acre

Site Preparations for installing both seed mixes are as follows:

Site Preparation: Use appropriate equipment to level disturbed areas and return to original grades focusing on reinforcing positive drainage. Avoid compaction during construction by placing equipment on mats to access wet or saturated areas. Soil amendments are acceptable in non-native seeding areas.

Seed Preparation: Thoroughly mix the seed prior to planting as many of the heavier seeds may have settled during shipping. The seed mix will contain a temporary cover of Common Spring Oat and Annual Ryegrass to accelerate re-vegetation.

Planting: Seed will be worked into the soil no greater than a ¼ inch in depth. For smaller areas a hand broadcaster and rake can be used. For larger areas the seed can be installed mechanically with a seed box no-till drill (Truax™ Trillion Broadcast Seeder or equivalent). Areas that are too wet for mechanical seeding will be installed via the hand broadcasting method.

Mulching: Straw mulch should be used at a rate of 2 tons/acre for all natural areas, non-maintained areas, for seed protection and additional erosion control. Swales and other areas of concentrated flow should be stabilized with erosion control blanketing.

B13 Material handling and spill prevention plan

Unlikely incidents involving spills or releases of other non-sediment pollutants are expected to be limited to small quantities of petroleum products from construction vehicles, including but not limited to motor oil, transmission fluids, and hydraulic oils. Spill clean-up kits and personnel trained in their use will be at each construction location. No vehicle maintenance activities that could result in storm water contamination (oil changes or engine repairs) will be permitted outside of stabilized construction areas. Appropriate spill control measures (oil absorbent pads or booms) must be in place before maintenance activities occur.

Spills of any amount of petroleum product or polluting materials are to be prevented. The following list details general requirements necessary to avoid spills and minimize the impact of accidental spills:

- No bulk quantities of diesel fuel and gasoline will be stored on the site. No bulk quantities of hazardous materials including solvents and lubricants will be stored on the site.
- Vehicles and equipment are expected to be re-fueled off-site. Fuel carriers (if applicable) and transported equipment will be inspected on a daily basis for leaks prior to entering the site and will not be allowed on site until leaks are repaired.
- The equipment staging area will be located away from surface waters and any private and municipal water wells.
- All construction equipment will be inspected daily for leaks prior to start of work. Any leaking equipment will be repaired, as necessary.
- If any soil is contaminated with hydrocarbons or other objectionable material, it will be segregated and properly disposed of off-site.
- If concrete materials are used on-site, concrete washouts should be used. No washout of concrete materials should occur within wetland areas or other drainage ways.

Project related solid wastes will be collected regularly and transferred to a licensed solid waste disposal site. No construction waste materials will be buried onsite. Portable sanitary waste units will be utilized and available for the Project. A licensed sanitary waste management contractor will collect sanitary waste from the portable units as necessary. It will be the responsibility of the Construction Supervisor to ensure that all construction personnel are instructed regarding the correct procedure for waste disposal and that these practices are followed.

Contractors shall provide all necessary labor, materials, equipment, and response capabilities to prevent oil releases. Contractors causing an oil release must take appropriate actions to minimize the environmental impacts of the release.

If a hazardous substance release or oil spill requiring attention shall occur during construction, the responsible party shall immediately contact the Duke Energy Construction Supervisor, who will then contact Duke Energy Health and Safety or Environmental Services to report the spill as necessary and ensure that the spill is cleaned up properly by the responsible party or an approved remediation contractor.

In an emergency, immediately report all spills to the appropriate Duke Energy Coordinator. All spill notifications shall follow Duke Energy procedures.

Duke Energy Spill Hotline 1-800-527-3853

B14 Monitoring and maintenance guidelines for each proposed pollution prevention measure

To maintain the storm water management system in effective operating condition, erosion and sedimentation control structures will be inspected daily if construction personnel are actively working in the area. In addition, each installed erosion and sedimentation control structure, and areas contributing to storm water discharges at the locations of these structures, will also be regularly inspected at least weekly and again after each rainfall/precipitation event exceeding ½ inch in 24 hours by qualified personnel under the direction of Duke Energy.

Any damage or deficiency noted during routine or regular inspections will be recorded on a Storm Water Evaluation Form for Construction (Appendix C) and corrected as directed by the Construction Supervisor. The written inspection records will be kept on file and will include notes on any corrective actions taken. If requested, these records will be made available for review by the 'inspecting authority within 48 hours' per OAC Chapter 3745-38 (NPDES). Inspection records will be kept onsite with the SWPPP to the greatest extent possible.

Any deficiencies will be corrected by repair of damaged or deteriorated controls or by modifying structural or operational practices to achieve the desired results. If needed, the SWPPP shall be revised following such modifications.

Maintenance of stabilization and erosion control measures will include the following:

- "Qualified Inspection Personnel" under the direction and designation of the Construction Supervisor will be responsible for inspections of the erosion controls and completion of the Storm Water Evaluation Form for Construction.
- It is the responsibility of the Construction Supervisor that all personnel selected for maintenance responsibilities are trained in repairs as necessary to keep the erosion and sedimentation controls in good working order.
- Fiber rolls, silt fence, or other specified erosion control measure will be inspected for proper installation and function to include the following: proper anchoring of all controls, depth of sediment, separation from adjacent structures, and to see that stakes are firmly in the ground. Built up sediment will be removed when it has reached one-half (1/2) the height of the control and placed in previously stabilized and upland area.
- Seeded areas shall be checked regularly for bare spots, washouts, and healthy growth to assure that a good stand of grass is being maintained. Areas that fail to establish vegetation cover will be re-seeded as soon as such areas are identified.
- Sediment tracking from temporary construction entrances onto roadways should be minimized and will be the responsibility of the Construction Supervisor. When sediment is observed on roadways it shall be removed at the end of each workday.

B15 Erosion & sediment control specifications for individual building lots

Not applicable for this Project.

SECTION C – Post Construction Component

C1 Description of pollutants and their sources associated with the proposed land use

The proposed Project is an existing transmission line and Duke Energy transmission ROW. No post construction pollutants are expected.

C2 Sequence describing storm water quality measure implementation

Seeding and vegetation establishment are the only long-term storm water quality measures proposed for the Project. See Subsection B11 and B12 for a description of seeding implementation.

C3 Description of proposed post construction storm water quality measures

The site will be returned to its previous use and condition. Post-construction pollutant controls are addressed by establishment of permanent vegetative cover in all areas, except those that will be returned to agricultural crops. Cover crop, or nurse crop seed mix, may be used in agricultural areas that are not to be immediately cultivated.

C4 Location, dimensions, specifications and construction details of each storm water quality measure

See Subsection C3.

C5 Description of maintenance guidelines for proposed post construction water quality measures

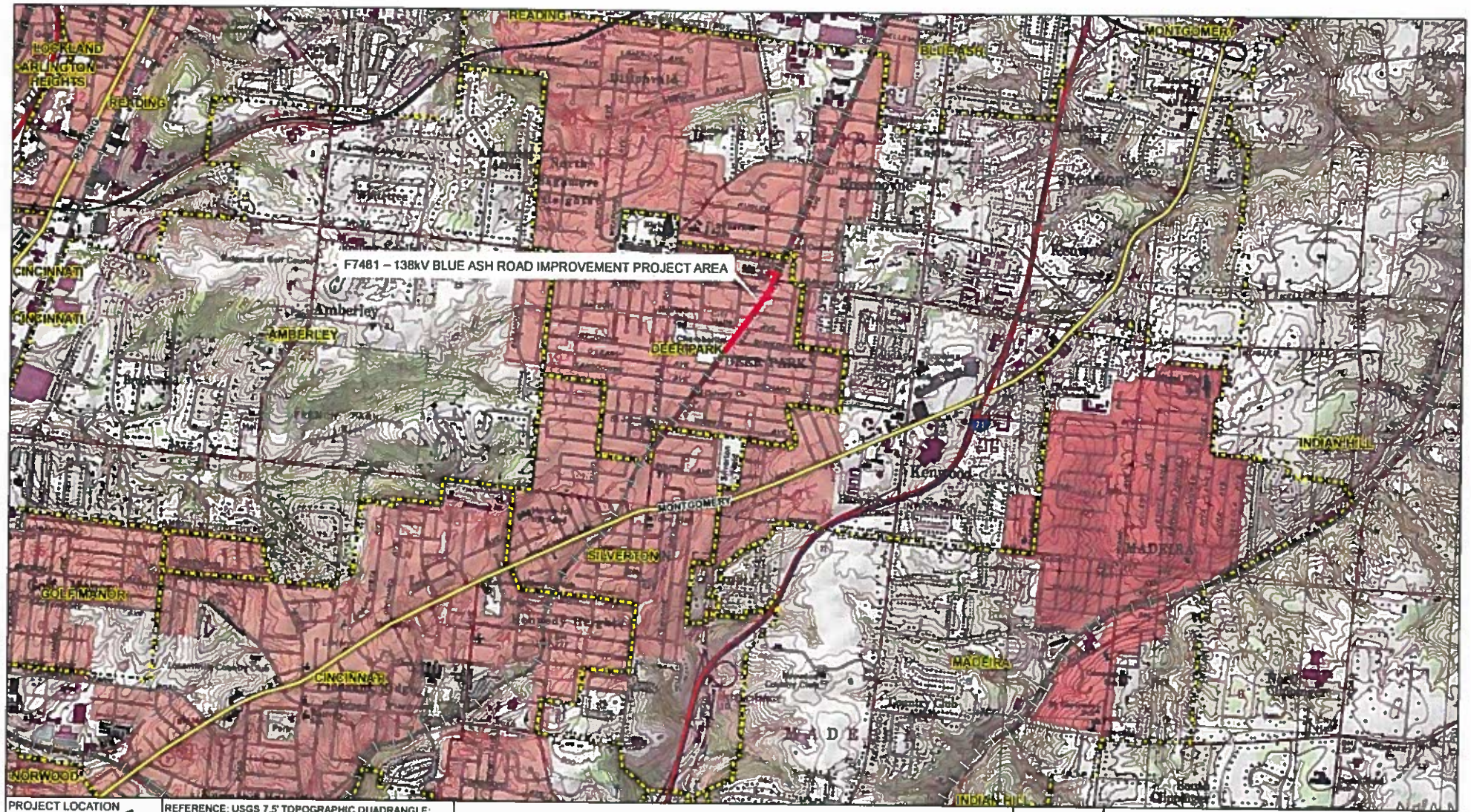
Seeded areas will be inspected to ensure adequate vegetative establishment and coverage. Adequate coverage shall be defined as greater than or equal to 70% areal coverage by visual estimation. Reseeding, watering or fertilization shall be utilized to meet this goal. Fertilizer should not be used in areas requiring native seeding. The ROW will be maintained in accordance with easement guidelines and consist of vegetative mowing and/or woody removal. All temporary erosion and sediment control measures will be removed prior to the NOT being approved.

Routine inspections and monitoring of erosion control structures will end and structures removed, once the disturbed soil areas are permanently re-established with a vegetative cover of at least 70% or greater density (final stabilization). Final stabilization in agricultural areas is defined as returning the disturbed land to it pre-construction agricultural use.

When all construction and ground disturbance activities have ceased, final stabilization has been documented, and all temporary erosion measures are removed, if required the NOT shall be submitted to the OEPA within 45 days. The NOT shall be also submitted to any other Local agencies that required review of the Project.

Appendix A

Figures



PROJECT LOCATION

HAMILTON COUNTY, OH

REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE: CINCINNATI EAST, OHIO. OBTAINED VIA ESRI USA TOPO, NATIONAL GEOGRAPHIC TOPO, AND USGS, ACCESSED 01/2017.

N

0 1,000 2,000 4,000 Feet

Project Centerline
Interstate
State Highway
US Highway
Railroad
County Boundary
Municipal Boundary

DUKE ENERGY.

Cardno

FIGURE 1
STORMWATER POLLUTION PREVENTION PLAN
F7481 – 138kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
PROJECT VICINITY MAP

DRAWN BY: COD
CHECKED: CJ
DATE: 2/13/2019
APPROVED: JT

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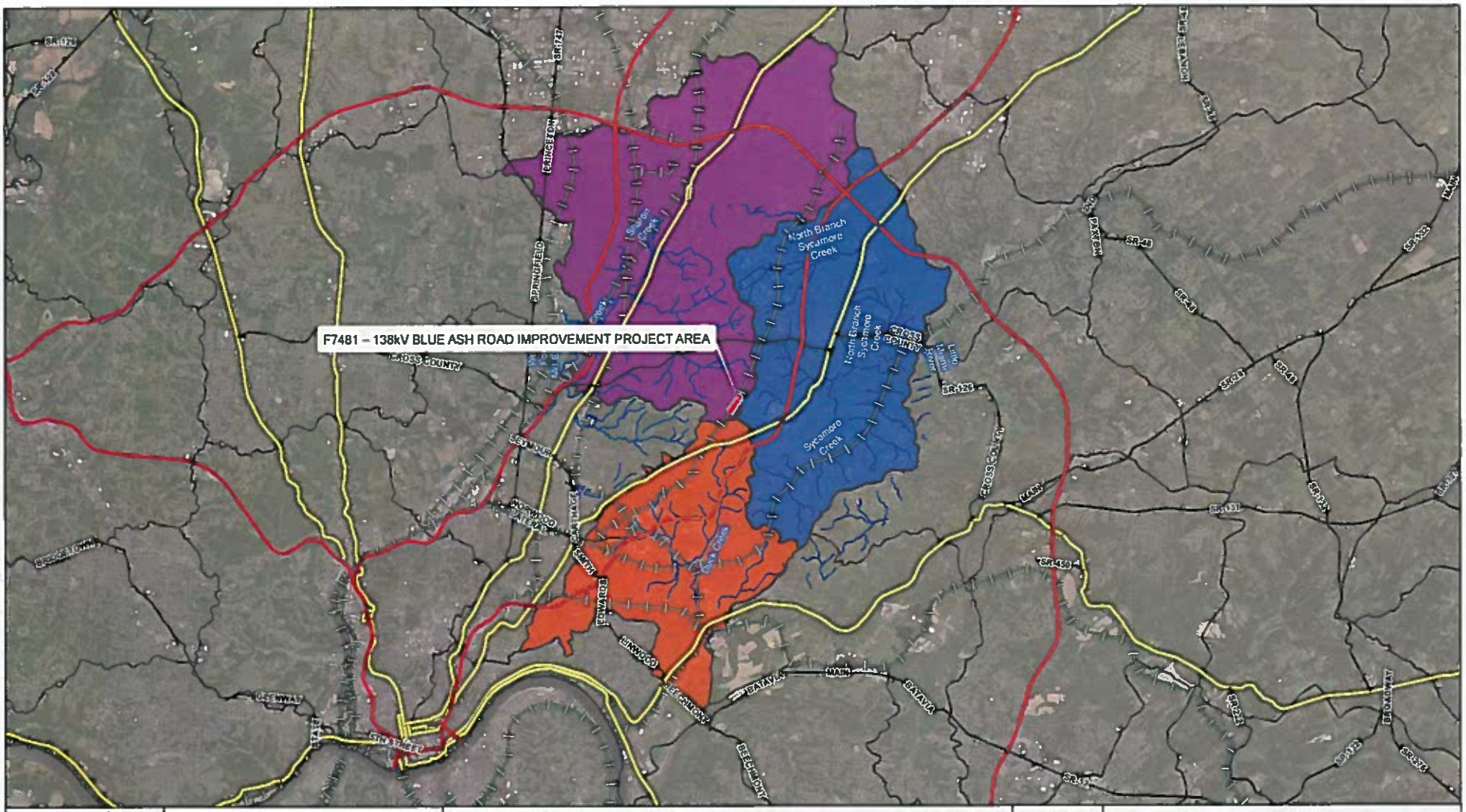

PROJECT LOCATION

HAMILTON COUNTY, OH

REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE: CINCINNATI EAST, OHIO, OBTAINED VIA ESRI USA TOPO, NATIONAL GEOGRAPHIC TOPO, AND USGS, ACCESSED 01/2017.

N

0 5,000 10,000 20,000 Feet

- Project Centerline
- Interstate
- State Highway
- US Highway
- Railroad
- NHD Flowline
- Adjacent Watersheds
- Sycamore Creek
- Mill Creek below E. Fk. Mill Cr. to above W. Fk. Mill Cr.
- Duck Creek

DUKE ENERGY.

Cardno

FIGURE 2

STORMWATER POLLUTION PREVENTION PLAN
F7481 – 138kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
PROJECT AREA WATERSHEDS

DRAWN BY: COD DATE: 2/13/2018
CHECKED: CJ APPROVED: JT

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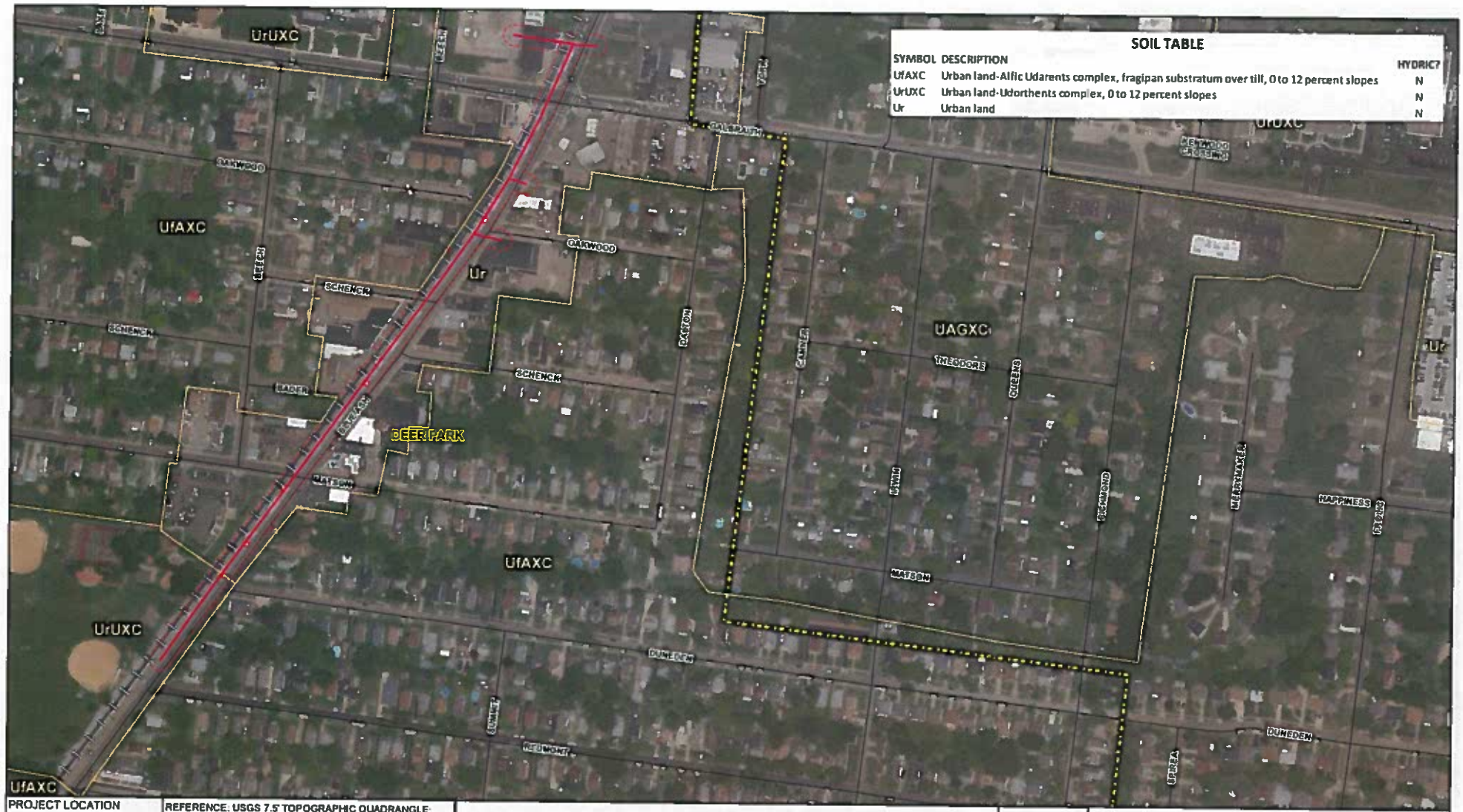

SOIL TABLE

SYMBOL	DESCRIPTION	HYDRIC?
UfAXC	Urban land-Alfic Udarents complex, fragipan substratum over till, 0 to 12 percent slopes	N
UrUXC	Urban land-Udorthents complex, 0 to 12 percent slopes	N
Ur	Urban land	N

PROJECT LOCATION

HAMILTON COUNTY, OH

REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE: CINCINNATI EAST, OHIO. OBTAINED VIA ESRI USA TOPO, NATIONAL GEOGRAPHIC TOPO, AND USGS, ACCESSED 01/2017.

N

0 200 400 Feet

Project Centerline
58-ft Right-of-Way
Soil Unit
Soil Unit - Hydric*
Interstate
State Highway
US Highway
Railroad
Municipal Boundary

*Indicates layer with no features visible in the map extent

DUKE ENERGY.

Cardno

FIGURE 3

STORMWATER POLLUTION PREVENTION PLAN
F7481 139 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
SOIL CLASSIFICATIONS

DRAWN BY: COD DATE: 2/13/2019
CHECKED: CJ APPROVED: JT

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Erosion & Sediment Controls *	Project Totals
Inlet Protection	3 EA

* Unless shown otherwise or confirmed by Duke Energy, quantities are minimum estimates required to meet terms and conditions of applicable environmental permits. Additional Quantities may be necessary for purposes of construction and varying field conditions but shall be approved by Duke Energy.

GENERAL NOTES:

01. UTILITY LINE INFORMATION SHOWN ON THIS DRAWING IS FOR GRAPHIC REPRESENTATION ONLY AND DOES NOT SUBSTITUTE THE ENGINEERING PLANS.
02. ENVIRONMENTAL ASSESSMENT IS LIMITED TO THE RIGHT-OF-WAY CORRIDOR UNLESS NOTED OTHERWISE. STREAM, WETLAND, AND POND BOUNDARIES MAY EXTEND BEYOND STUDY AREA.
03. SEE EROSION AND SEDIMENT CONTROL DETAILS FOR MORE INFORMATION AND INSTALLATION REQUIREMENTS.
04. THE SWPPP MAY BE AMENDED AS NECESSARY BY THE DUKE ENERGY CONSTRUCTION SUPERVISOR AND INSPECTING AUTHORITY DEPENDENT ON SITE CONDITIONS.
05. PROPOSED ACCESS INDICATES RECOMMENDED APPROXIMATE CONSTRUCTION ROUTE IN THE RIGHT-OF-WAY AND OFFSITE AREAS TO MINIMIZE ENVIRONMENTAL DISTURBANCE AND PERMITTING. CONSTRUCTION ROUTE SHALL BE RESTRICTED TO 20-FOOT WIDE PATH. ANY ROUTES OTHER THAN THOSE RECOMMENDED MAY REQUIRE ADDITIONAL PERMITTING AND CAUSE DELAYS IN PROJECT.
06. ADEQUATE CONSTRUCTION ENTRANCES SHALL BE PROVIDED OFF ALL PUBLIC ROADWAYS. SITE CONDITIONS AT EACH ENTRANCE SHALL BE EVALUATED BY THE CONSTRUCTION SUPERVISOR TO DETERMINE AMOUNT OF STONE AND TYPE OF GEOTEXTILE FABRIC UNDERLINER.
07. OUTSIDE OF AGRICULTURAL FIELD BOUNDARIES, TEMPORARY OR PERMANENT SEEDING SHALL BE APPLIED IN ALL AREAS LEFT DISTURBED 15 DAYS OR MORE PER SWPPP SPECIFICATIONS.
08. EROSION CONTROL BLANKET OR HYDROMULCH SHALL BE SUBSTITUTED FOR STRAW MULCH ON ALL SLOPES GREATER THAN 3:1 AND ADJACENT TO STREAM CHANNELS.
09. EROSION CONTROL MEASURES ARE ESTIMATED. THE LOCATION AND QUANTITY MUST BE FIELD VERIFIED BY QUALIFIED INDIVIDUAL.
10. TEMPORARY MATTING SHALL BE UTILIZED AS NEEDED FOR ACCESS AND CONSTRUCTION IN WETLAND AREAS.
11. VEGETATIVE MAINTENANCE MAY PRECEDE CONSTRUCTION ACTIVITY BUT EROSION AND SEDIMENT CONTROL PLACEMENT SHALL BE REQUIRED PRIOR TO CONSTRUCTION ACTIVITIES.
12. DISTURBANCE FROM MECHANIZED EQUIPMENT IS NOT PERMITTED IN REGULATED WETLANDS AND STREAMS. HAND CUTTING OR WORK OFF OF CONSTRUCTION MATTING REQUIRED IN THESE AREAS.
13. ALL FORESTRY CLEARING DEBRIS MUST BE REMOVED FROM REGULATED WETLANDS AND STREAMS. CHIPPING OR STOCKPILING PERMISSIBLE IN UPLAND AREAS ONLY.
14. NHD FLOWLINES ARE SHOWN FOR REFERENCE ONLY AND DO NOT NECESSARILY DEFINE THE PRESENCE OF A STREAM. INCREASED WATER FLOW AND/OR EROSION MAY OCCUR IN THESE AREAS, ESPECIALLY WHEN VEGETATION IS REMOVED.

Project Location

REFERENCE:
ESRI WORLD IMAGERY, OBTAINED THROUGH ESRI WORLD IMAGERY MICROSOFT CORPORATION, ACCESSED 01/2017

N

0 200 400 800 Feet

Project Centerline
58-ft Right-of-Way
Sheet Index
Potential Access*
NWI Wetland*
NHDFlowline*
100Yr Floodplain*
Interstate*
State Highway*
US Highway*
Railroad
County Boundary*
Municipal Boundary

*Indicates a layer with no features within the map extent

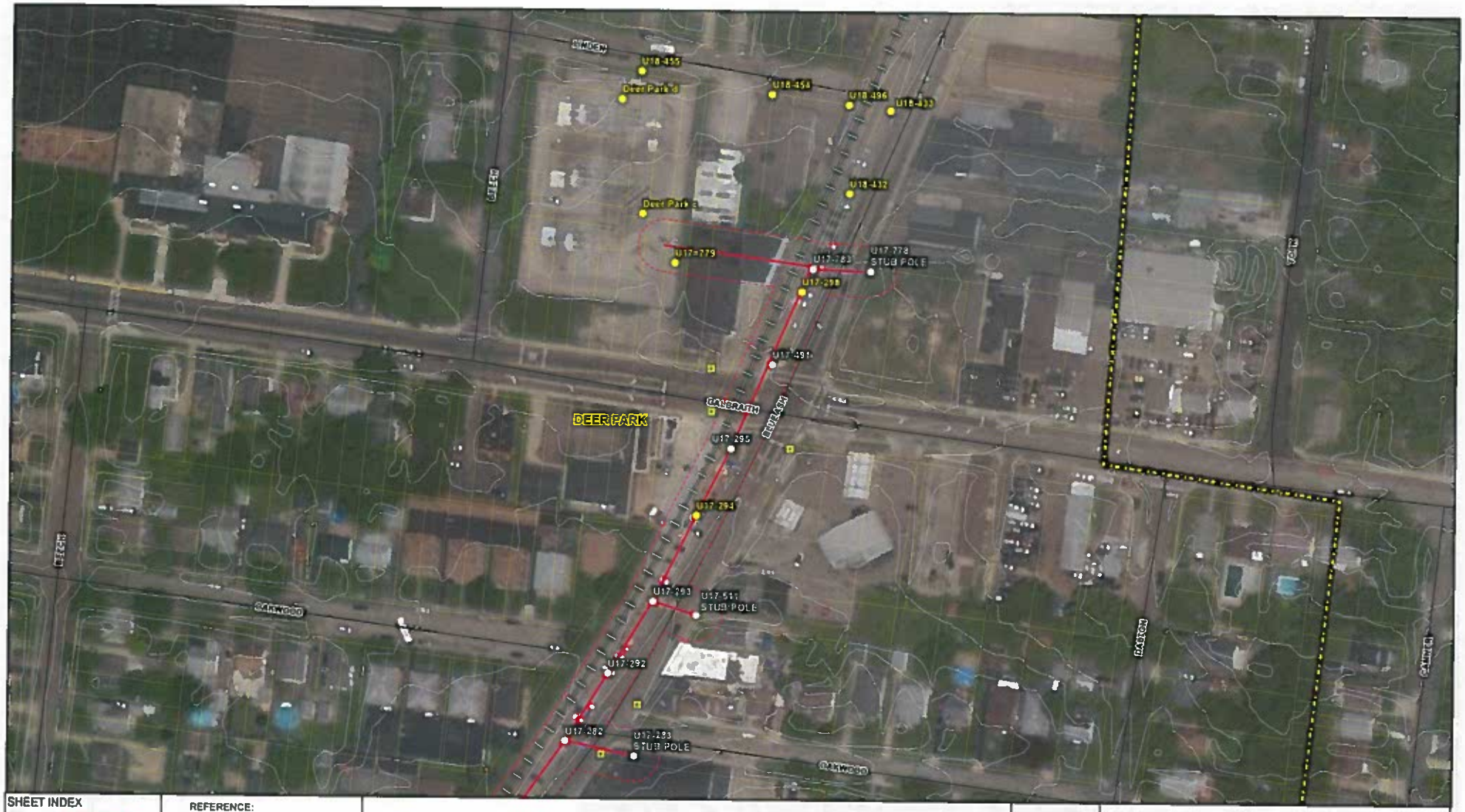
DUKE ENERGY.

Cardno

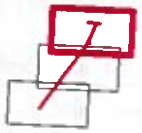
FIGURE: 4
STORMWATER POLLUTION PREVENTION PLAN
F7481 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
INDEX SHEET

DRAWN BY: COD DATE: 2/13/2019
CHECKED: CJ APPROVED: JT

R:\Projects\15\156\156720M_DukeEnergy9193\M77_SOW37_138kVBlueAshImprovement\GIS\MXD\SWPPP Blue Ash\SWPPP_M77_BlueAsh_4_SWPPP_KeyMap.mxd



SHEET INDEX



REFERENCE:
ESRI WORLD IMAGERY, OBTAINED THROUGH ESRI WORLD IMAGERY MICROSOFT CORPORATION, ACCESSED 01/2017

N

0 40 80 160 Feet

- Stormwater Inlet
- Identified Feature
- Proposed Structure
- Existing Structure
- Fence Line*
- Project Centerline
- 58-ft Right-of-Way
- Parcels
- Interstate*
- US Highway*
- State Highway*
- Local Road
- Railroad
- NWI Wetland*
- NHDFlowline*
- 100Yr Floodplain*
- Municipal Boundary
- 1' Contour Line

*Indicates a layer with no features within the map extent

DUKE ENERGY.

Cardno

FIGURE 4.01
STORMWATER POLLUTION PREVENTION PLAN
F7481 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
ENVIRONMENTAL ACCESS/ EROSION CONTROL PLAN

DRAWN BY: COD
CHECKED: CJ
DATE: 2/13/2019
APPROVED: JT

R:\Projects\15\156\156720M_DukeEnergy9193\M77_SOW37_138kVBlueAshImprovement\GIS\MXD\SWPPP Blue Ash\SWPPP_M77_BlueAsh_4plus_SWPPPPPP_set.mxd

SHEET INDEX

REFERENCE:
ESRI WORLD IMAGERY, OBTAINED THROUGH ESRI WORLD IMAGERY MICROSOFT CORPORATION, ACCESSED 01/2017

N

0 40 80 160 Feet

Stormwater Inlet
Identified Feature
Proposed Structure
Existing Structure
Fence Line*
Project Centerline
58-ft Right-of-Way
Parcels
Interstate*
US Highway*
State Highway*
Local Road
Railroad
NWI Wetland*
NHDFlowline*
100Yr Floodplain*
Municipal Boundary
1' Contour Line

*Indicates a layer with no features within the map extent

DUKE ENERGY.

Cardno

FIGURE 4.02
STORMWATER POLLUTION PREVENTION PLAN
F7481 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
ENVIRONMENTAL ACCESS/ EROSION CONTROL PLAN

DRAWN BY: COD
CHECKED: CJ
DATE: 2/13/2019
APPROVED: JT

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SHEET INDEX

REFERENCE:
ESRI WORLD IMAGERY, OBTAINED THROUGH ESRI WORLD IMAGERY MICROSOFT CORPORATION, ACCESSED 01/2017

N

0 40 80 160 Feet

Stormwater Inlet
Identified Feature
Proposed Structure
Existing Structure
Fence Line*
Project Centerline
58-ft Right-of-Way
Parcels
Interstate*
US Highway*
State Highway*
Local Road
Railroad
NWI Wetland*
NHDFlowline*
100Yr Floodplain*
Municipal Boundary
1' Contour Line
*Indicates a layer with no features within the map extent

DUKE ENERGY.
Cardno

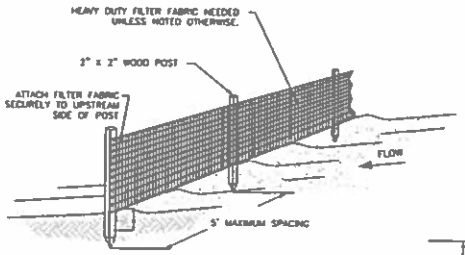
FIGURE 4.03
STORMWATER POLLUTION PREVENTION PLAN
F7481 138 kV BLUE ASH ROAD IMPROVEMENT PROJECT
DUKE ENERGY
ENVIRONMENTAL ACCESS/ EROSION CONTROL PLAN

DRAWN BY: COD
CHECKED: CJ
DATE: 2/13/2019
APPROVED: JT

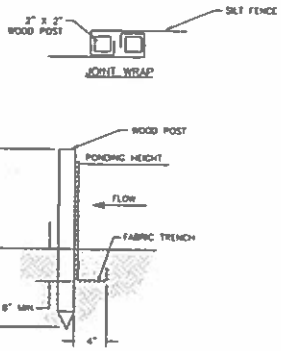
R:\Projects\15\156\156720M_DukeEnergy9193\M77_SOW37_138kVBlueAshImprovement\GIS\MXD\SWPPP Blue Ash\SWPPP_M77_BlueAsh_4plus_SWPPPPPP_set.mxd

Appendix B

Storm Water Pollution Prevention Plan Typical Details



ISOMETRIC VIEW



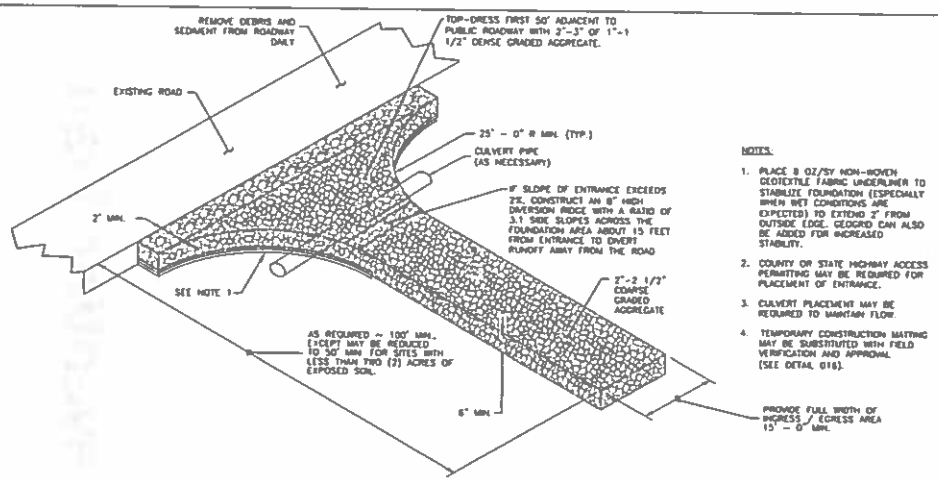
TYPICAL SECTION

NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN IT REACHES ONE-HALF HEIGHT OF FENCE OR FABRIC STARTS TO BULGE.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
4. TURN END OF SILT FENCE UP SLOPE TO PREVENT BYPASS FLOW AND ALLOW FOR PONDING.

SILT FENCE

001

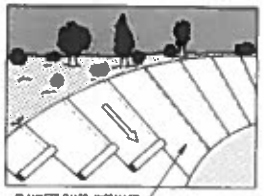


NOTES:

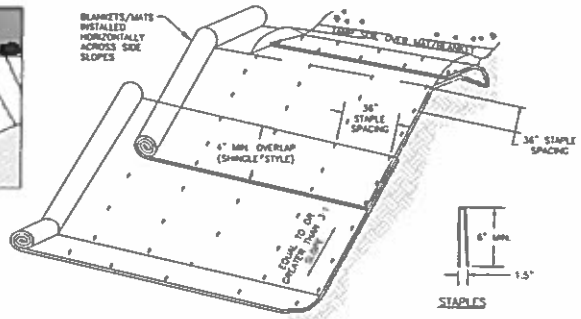
1. PLACE 8 OZ/SY NON-WOVEN GEOTEXTILE FABRIC UNDERLINER TO STABILIZE FOUNDATION (ESPECIALLY WHEN WET CONDITIONS ARE EXPECTED) TO EXTEND 2' FROM OUTSIDE EDGE. GEOGRID CAN ALSO BE ADDED FOR INCREASED STABILITY.
2. COUNTY OR STATE HIGHWAY ACCESS PERMITTING MAY BE REQUIRED FOR PLACEMENT OF ENTRANCE.
3. CULVERT PLACEMENT MAY BE REQUIRED TO MAINTAIN FLOW.
4. TEMPORARY CONSTRUCTION MATTING MAY BE SUBSTITUTED WITH FIELD VERIFICATION AND APPROVAL (SEE DETAIL 018).

TEMPORARY CONSTRUCTION ENTRANCE

002



BLANKETS/MATS INSTALLED VERTICALLY ON SEVERE OR LONGER SLOPES



STAPLES

BERM

NOTES:

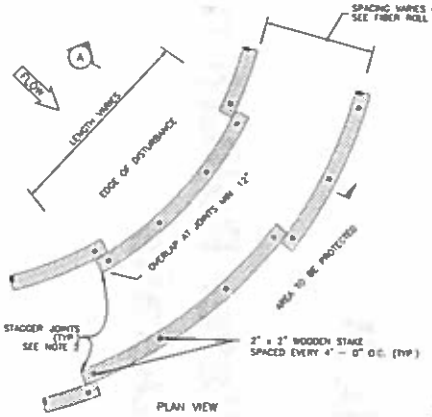
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH
4. USE ON SIDE SLOPES EXCEEDING A 3:1 SLOPE AND DISTURBED STREAMBANKS.
5. THE FOLLOWING BLANKET TYPES SHALL BE UTILIZED:
   A. LONG-TERM BIODEGRADABLE DOUBLE-NET COCONUT BLANKET ON STREAMBANKS.
   B. SHORT-TERM BIODEGRADABLE DOUBLE-NET STRAW BLANKET ON 3:1 SLOPES OR GREATER
   C. SHORT-TERM BIODEGRADABLE SINGLE-NET STRAW ON LESSER SLOPES, FLAT FLOODPLAIN, AND WORKSPACE AREAS.
6. FOR STREAMBANK STABILIZATION:
   A. TUCK/UNDERLAP BASE OF BLANKET TO PREVENT HIGH WATER FROM REMOVING BLANKET AND SEED.
   B. STAPLE SPACING MAY NEED TO BE DECREASED
   C. PREPARE SUBGRADE PRIOR TO INSTALLING BLANKET BY REMOVING DISPLACED ROCKS AND WOODY DEBRIS.

EROSION CONTROL BLANKET

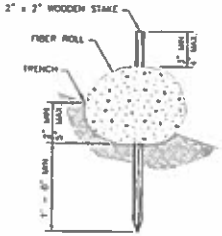
003

INTENTIONALLY LEFT BLANK

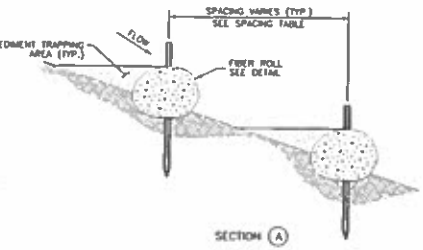
004



PLAN VIEW



TYPICAL SECTION



SPACING TABLE	
SLOPE	MAXIMUM SPACING
1:1	10' - 0"
2:1	20' - 0"
3:1	30' - 0"
4:1	40' - 0"

* INSTALL FIRST ROW AT TOP OF BANK. INSTALL LAST ROW 10' FROM TOE OF SLOPE.

NOTES:

1. INSTALL FIBER ROLLS ALONG CONTOURS DURING FINAL RESTORATION TO CHECK FLOW TO ALLOW ADEQUATE REVEGETATION
2. ABUT ADJACENT FIBER ROLLS TIGHTLY WHILE OVERLAPPING THE ENDS. STAGGER JOINTS WITH THE NEXT PARALLEL ROW
3. PILOT HOLES MAY BE DRIVEN THROUGH THE FIBER ROLLS AND INTO THE SOIL WHEN SOIL CONDITIONS REQUIRE.
4. FIBER ROLLS SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
5. A SINGLE ROW MAY BE INSTALLED ON FLAT SLOPES.

FIBER ROLL

005

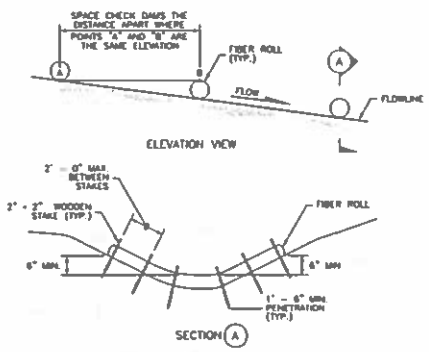
REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED BY

DESIGN BY CAM/MRW	DATE 12/18/2015
DRAWN BY KTH	JOB NO. - -
CHECKED BY MRW	APPROVED CAM

DUKE ENERGY.

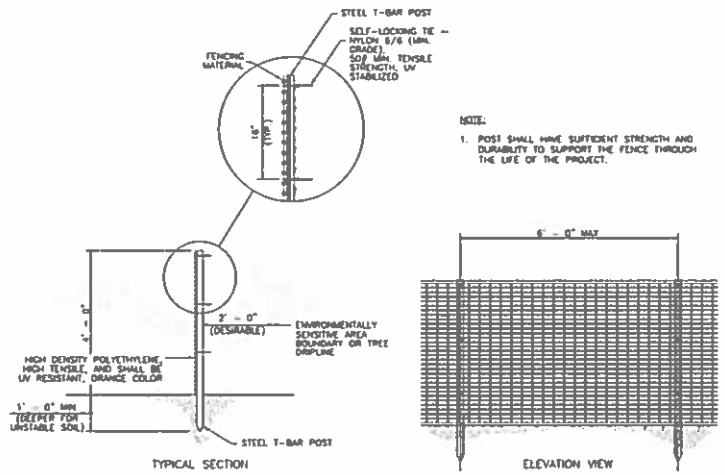
STORM WATER POLLUTION PREVENTION PLAN
TYPICAL DETAILS

SCALE	N.T.S.
DRAWING NO.	
SHEET 1	OF 5



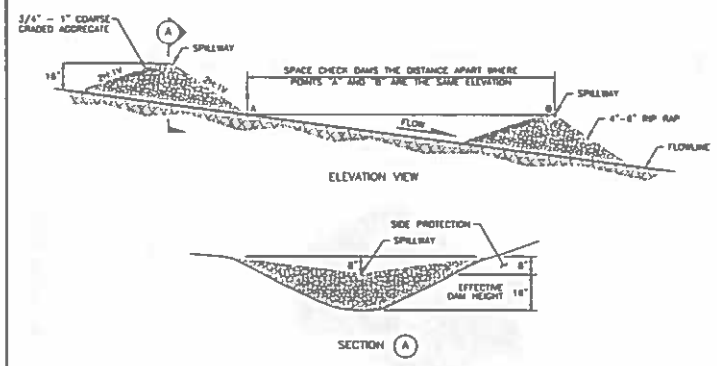
NOTE:
1. STRAW WATTLE SHALL NOT BE USED IN A CHECK DAM APPLICATION.

FIBER ROLL CHECK DAM 006

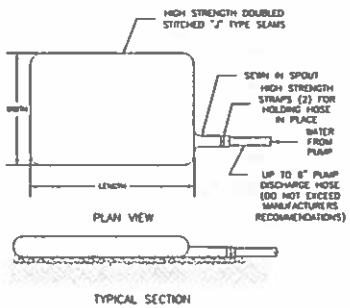


NOTE:
1. POST SHALL HAVE SUFFICIENT STRENGTH AND DURABILITY TO SUPPORT THE FENCE THROUGH THE LIFE OF THE PROJECT.

CONSTRUCTION BARRIER FENCING 007



ROCK CHECK DAM 008



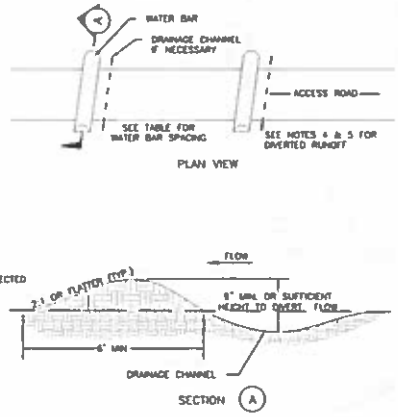
NOTES:

1. THE NECK OF THE FILTER BAG SHALL BE TIGHTLY STRAPPED (MINIMUM TWO STRAPS) TO THE DISCHARGE HOSE.
2. THE FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR PASS WATER AT A REASONABLE RATE.
3. FLOW RATES VARY DEPENDING ON THE SIZE OF THE DEWATERING DEVICE, AMOUNT OF SEDIMENT DISCHARGED INTO THE DEWATERING DEVICE, THE TYPE OF GROUND, ROCK, OR OTHER SUBSTANCE UNDER THE BAG AND THE DEGREE OF THE SLOPE ON WHICH THE BAG LIES. THE FILTER BAG SHOULD BE SIZED TO ACCOMMODATE THE ANTICIPATED FLOW RATES FROM THE TYPE OF PUMP USED. TYPICALLY FILTER BAGS CAN HANDLE FLOW RATES OF UP TO 1000 GALLONS PER MINUTE, BUT IN ALL CASES FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR FLOW RATES.
4. USE OF EXCESSIVE FLOW RATES OR OVERFILLING THE DEWATERING DEVICE WITH SEDIMENT WILL CAUSE RUPTURES OF THE BAG OR FAILURE OF THE HOSE ATTACHMENT STRAPS.
5. THE FILTER BAG SHALL BE REMOVED AND DISPOSED OF OFFSITE..
6. EACH STANDARD DEWATERING DEVICE SHALL HAVE A FILL SPOUT LARGE ENOUGH TO ACCOMMODATE THE DISCHARGE HOSE. USE TWO STAINLESS STEEL STRAPS TO SECURE THE HOSE AND PREVENT PUMPED WATER FROM ESCAPING WITHOUT BEING FILTERED.
7. THE DEWATERING DEVICE SHALL BE A NONWOVEN BAG, WHICH IS SEWN WITH A DOUBLE NEEDLE STITCHING USING A HIGH STRENGTH THREAD
8. THE DEWATERING DEVICE SEAMS SHALL HAVE AN AVERAGE WIDE WITH STRENGTH PER ASTM D 4884 OF 100 LB/IN.
9. THE GEOTEXTILE FABRIC SHALL BE A NONWOVEN FABRIC WITH THE FOLLOWING PROPERTIES:

PROPERTIES	TEST METHOD	ENGLISH	METRIC
GRAB TENSILE	ASTM D - 4632	250 LBS.	113 KG
PUNCTURE	ASTM D - 4833	165 LBS.	75 KG
FLOW RATE	ASTM D - 4491	70 GAL/MIN/SQ FT	25 LITERS/MIN/SQ METER
PERMITIVITY	ASTM D - 4491	1.3 SEC. - 1	1.3 SEC. - 1
MULLEN BURST	ASTM D - 3786	550 LBS./SQ INCH	3.79 MPa
UV RESISTANT	ASTM D - 4355	70%	70%
AOS % RETAINED	ASTM D - 4751	100%	100%

*ALL PROPERTIES ARE MINIMUM AVERAGE ROLL VALUE

DEWATERING BAG 009



NOTES:

1. SIDE SLOPES OF WATER BAR SHALL BE CONSTRUCTED SUFFICIENTLY FLAT TO ACCOMMODATE THE EXPECTED TRAFFIC.
2. THE SPACING BETWEEN WATER BARS SHALL BE AS NOTED (SEE SPACING TABLE):

WATER BAR SPACING TABLE

ROAD GRADE (%)	DISTANCE (FT.)
1	400
2	250
5	135
10	80
15	60
20	45

3. THE FIELD LOCATION SHALL BE ADJUSTED AS NEEDED TO PROVIDE A STABILIZED SAFE OUTLET.
4. DRAINAGE CHANNELS SHALL BE DIRECTED ONTO STABLE VEGETATIVE AREA OR A SEDIMENT TRAP OR A BASIN IF CONTRIBUTING AREA IS NOT STABLE.
5. DRAINAGE CHANNELS SHALL BE CONSTRUCTED WITH ≤2% WITH POSITIVE OUTLET TO STABLE AREA
6. DIVERSIONS/WATER BARS SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT DURING CONSTRUCTION.
7. THE WATER BARS SHALL BE ANGLED SLIGHTLY DOWNSLOPE ACROSS THE CENTERLINE OF THE TRAVEL LANE.

WATER BAR 010

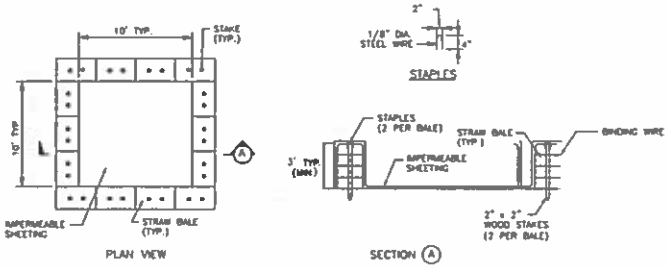
REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED BY

DESIGN BY CAM/MRW	DATE 2/18/2015
DRAWN BY KTH	JOB NO. - -
CHECKED BY MRW	APPROVED CAM

DUKE ENERGY.

STORM WATER POLLUTION PREVENTION PLAN
TYPICAL DETAILS

SCALE N.T.S.
DRAWING NO.
SHEET 2 OF 5

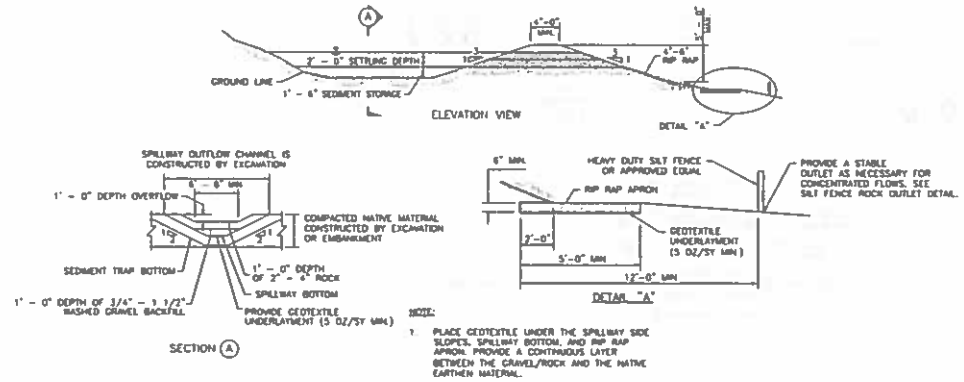


NOTES:

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.
6. BALES CAN BE TWO STACKED OR PARTIALLY EXCAVATED TO REACH 3FT DEPTH (MIN).
7. PREFABRICATED UNITS MAY BE USED WITH APPROVAL.

CONCRETE WASHOUT

011

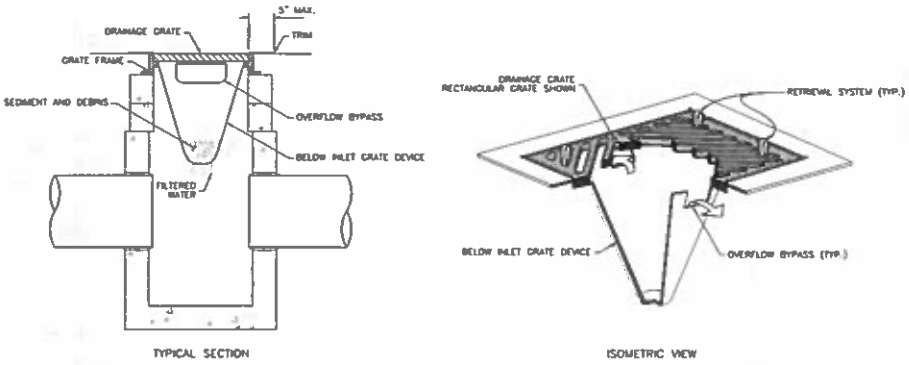


NOTE:

1. PLACE GEOTEXTILE UNDER THE SPILLWAY SIDE SLOPES, SPILLWAY BOTTOM, AND RIP RAP APRON. PROVIDE A CONTINUOUS LAYER BETWEEN THE GRAVEL/ROCK AND THE NATIVE EARTHEN MATERIAL.

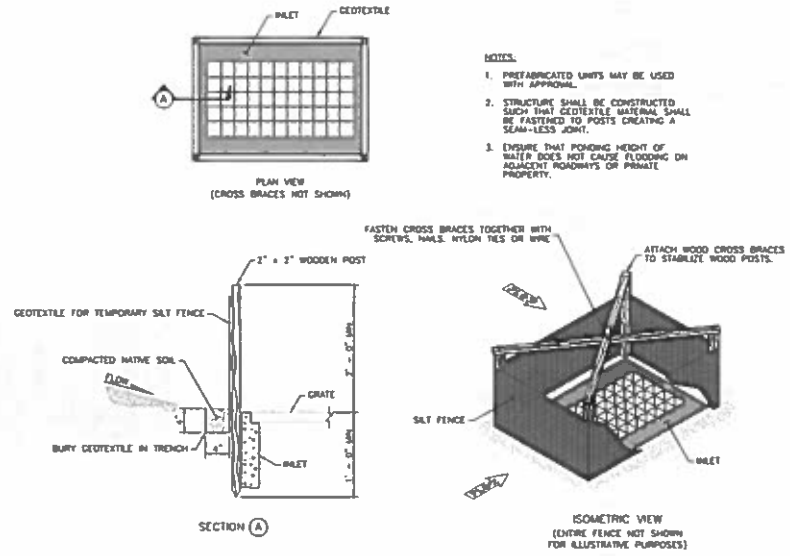
TEMPORARY SEDIMENT TRAP

012



PAVED AREA INLET PROTECTION

013



NOTES:

1. PREFABRICATED UNITS MAY BE USED WITH APPROVAL.
2. STRUCTURE SHALL BE CONSTRUCTED SUCH THAT GEOTEXTILE MATERIAL SHALL BE FASTENED TO POSTS CREATING A SEAM-LESS JOINT.
3. ENSURE THAT PONDING HEIGHT OF WATER DOES NOT CAUSE FLOODING ON ADJACENT ROADWAYS OR PRIVATE PROPERTY.

NON-PAVED AREA INLET PROTECTION

014

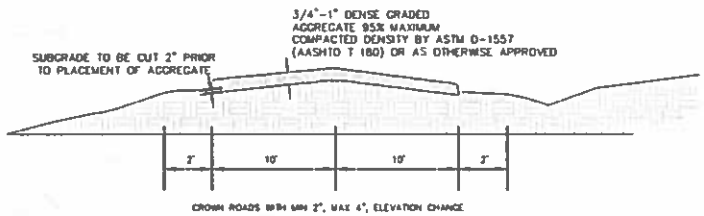
REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED BY

DESIGN BY CAM/MRW	DATE 12/18/2013
DRAWN BY KTH	JOB NO. -- --
CHECKED BY MRW	APPROVED CAM

DUKE ENERGY.

STORM WATER POLLUTION PREVENTION PLAN
TYPICAL DETAILS

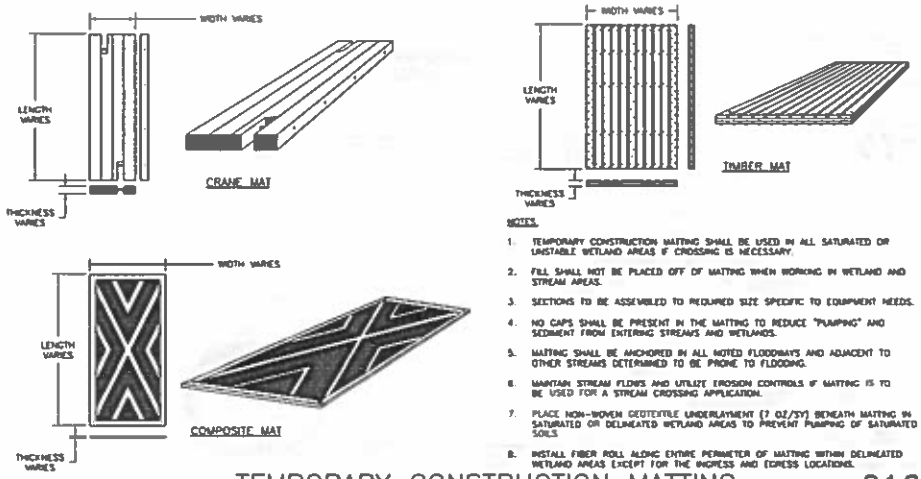
SCALE N.T.S.
DRAWING NO
SHEET 3 OF 5



NOTE:

1. VARYING FIELD CONDITIONS MAY WARRANT ALTERNATE AGGREGATE GRADATIONS

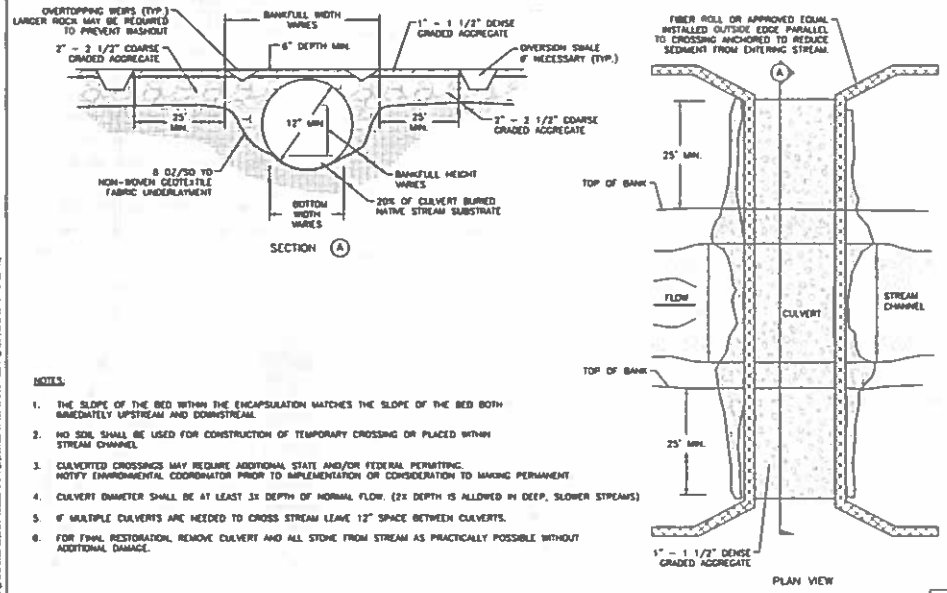
TEMPORARY ACCESS DRIVE 015



NOTES:

1. TEMPORARY CONSTRUCTION MATTING SHALL BE USED IN ALL SATURATED OR UNSTABLE WETLAND AREAS IF CROSSING IS NECESSARY.
2. FILL SHALL NOT BE PLACED OFF OF MATTING WHEN WORKING IN WETLAND AND STREAM AREAS.
3. SECTIONS TO BE ASSEMBLED TO REQUIRED SIZE SPECIFIC TO EQUIPMENT NEEDS.
4. NO GAPS SHALL BE PRESENT IN THE MATTING TO REDUCE "PUMPING" AND SEDIMENT FROM ENTERING STREAMS AND WETLANDS.
5. MATTING SHALL BE ANCHORED IN ALL NOTED FLOODWAYS AND ADJACENT TO OTHER STREAMS DETERMINED TO BE PRONE TO FLOODING.
6. MAINTAIN STREAM FLOWS AND UTILIZE EROSION CONTROLS IF MATTING IS TO BE USED FOR A STREAM CROSSING APPLICATION.
7. PLACE NON-WOVEN GEOTEXTILE UNDERLAYMENT (7 OZ/SY) BENEATH MATTING IN SATURATED OR DELINEATED WETLAND AREAS TO PREVENT PUMPING OF SATURATED SOILS
8. INSTALL FIBER ROLL ALONG ENTIRE PERIMETER OF MATTING WITHIN DELINEATED WETLAND AREAS EXCEPT FOR THE INGRESS AND EGRESS LOCATIONS.

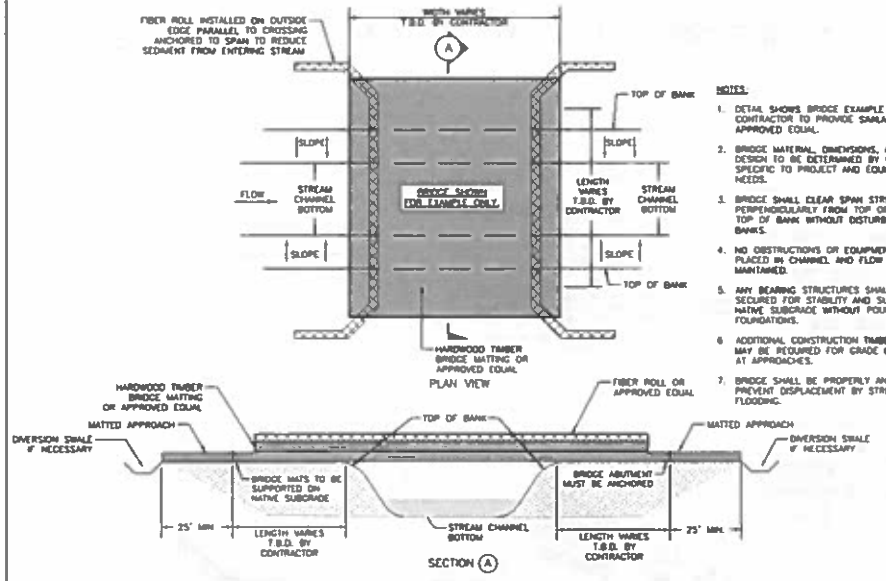
TEMPORARY CONSTRUCTION MATTING 016



NOTES:

1. THE SLOPE OF THE BED WITHIN THE ENCAPSULATION MATCHES THE SLOPE OF THE BED BOTH IMMEDIATELY UPSTREAM AND DOWNSTREAM.
2. NO SOIL SHALL BE USED FOR CONSTRUCTION OF TEMPORARY CROSSING OR PLACED WITHIN STREAM CHANNEL.
3. CULVERTED CROSSINGS MAY REQUIRE ADDITIONAL STATE AND/OR FEDERAL PERMITTING. NOTIFY ENVIRONMENTAL COORDINATOR PRIOR TO IMPLEMENTATION OR CONSIDERATION TO MAKING PERMANENT
4. CULVERT DIAMETER SHALL BE AT LEAST 3X DEPTH OF NORMAL FLOW. (2X DEPTH IS ALLOWED IN DEEP, SLOWER STREAMS)
5. IF MULTIPLE CULVERTS ARE NEEDED TO CROSS STREAM LEAVE 12" SPACE BETWEEN CULVERTS.
6. FOR FINAL RESTORATION, REMOVE CULVERT AND ALL STONE FROM STREAM AS PRACTICALLY POSSIBLE WITHOUT ADDITIONAL DAMAGE.

TEMPORARY CULVERT STREAM CROSSING 017



NOTES:

1. DETAIL SHOWS BRIDGE EXAMPLE ONLY. CONTRACTOR TO PROVIDE SIMILAR OR APPROVED EQUAL.
2. BRIDGE MATERIAL, DIMENSIONS, AND LOAD DESIGN TO BE DETERMINED BY CONTRACTOR SPECIFIC TO PROJECT AND EQUIPMENT NEEDS.
3. BRIDGE SHALL CLEAR SPAN STREAM PERPENDICULARLY FROM TOP OF BANK TO TOP OF BANK WITHOUT DISTURBING STREAM BANKS.
4. NO OBSTRUCTIONS OR EQUIPMENT SHALL BE PLACED IN CHANNEL AND FLOW MUST BE MAINTAINED.
5. ANY BEARING STRUCTURES SHALL BE SECURED FOR STABILITY AND SUPPORTED ON NATIVE SUBGRADE WITHOUT POURED FOUNDATIONS.
6. ADDITIONAL CONSTRUCTION TIMBER MATTING MAY BE REQUIRED FOR GRADE COMPENSATION AT APPROACHES.
7. BRIDGE SHALL BE PROPERLY ANCHORED TO PREVENT DISPLACEMENT BY STREAM FLOODING.

TEMPORARY CLEAR SPAN BRIDGE CROSSING 018

REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED BY

DESIGN BY	CAM/MRW
DATE	12/18/2015
DRAWN BY	KTH
JOB NO.	--
CHECKED BY	MRW
APPROVED	CAM

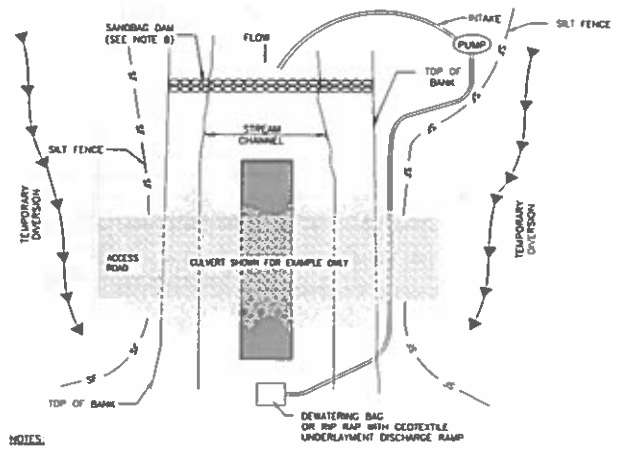
DUKE ENERGY.

STORM WATER POLLUTION PREVENTION PLAN
TYPICAL DETAILS

SCALE: N.T.S.

DRAWING NO.

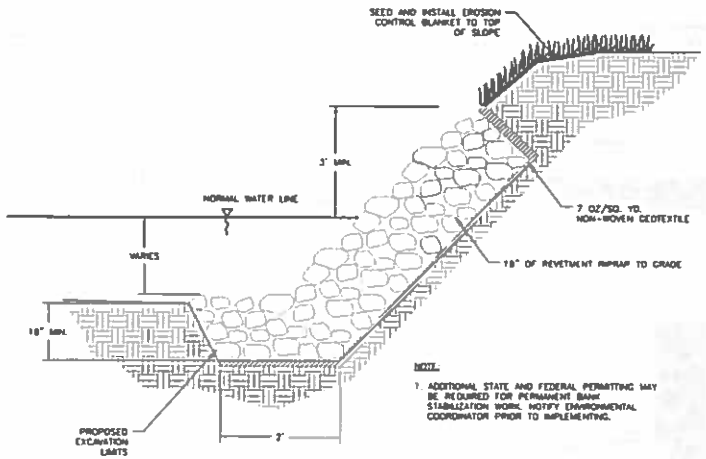
SHEET 4 OF 5



NOTES:

1. INSTALL SILT FENCE, PUMP, DEWATERING BAG, AND SANDBAG DAM BEFORE TRENCHING STREAM.
2. PUMP MUST BE OF SUFFICIENT CAPACITY TO CONVEY NORMAL AND/OR EXISTING STREAM FLOW OVER SANDBAG DAM. A BACK-UP PUMP OF EQUAL CAPACITY MUST BE AVAILABLE ON-SITE DURING CONSTRUCTION OF THE CROSSING.
3. ANY SOIL PILES TO BE PLACED A MINIMUM OF 10 FEET FROM TOP OF BANK.
4. INSTALL DIVERSIONS AT APPROACHES TO STREAM CROSSING AND SILT FENCE (AS INDICATED ON PLAN SHEETS).
5. MAINTAIN SURFACE OF TEMPORARY EQUIPMENT CROSSING TO PREVENT SOIL DISCHARGES TO STREAM.
6. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 6 INCHES ABOVE ORIGINAL GRADE.
7. RESTORE AREA TO APPROXIMATE ORIGINAL CONTOURS.
8. ADJUST HEIGHT AS NEEDED BASED ON FLOW CONDITIONS AND PUMP INTAKE.

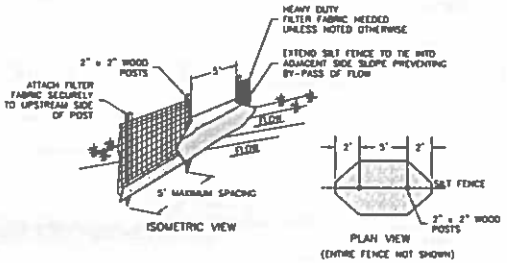
TEMPORARY STREAM CROSSING PUMP DIVERSION 019



NOTE:

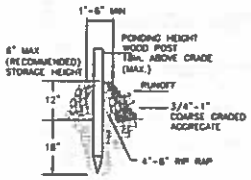
1. ADDITIONAL STATE AND FEDERAL PERMITTING MAY BE REQUIRED FOR PERMANENT BANK STABILIZATION WORK. NOTIFY ENVIRONMENTAL COORDINATOR PRIOR TO IMPLEMENTING.

HARD ARMAMENT BANK STABILIZATION 020

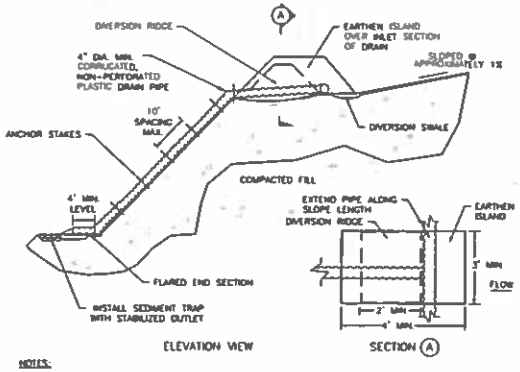


NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN IT REACHES ONE-HALF HEIGHT OF FENCE OR FABRIC STARTS TO BULGE.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
4. TURN END OF SILT FENCE UP SLOPE TO PREVENT BYPASS FLOW AND ALLOW FOR PONDING.
5. SEE TYPICAL SILT FENCE DETAIL FOR ADDITIONAL INFORMATION.



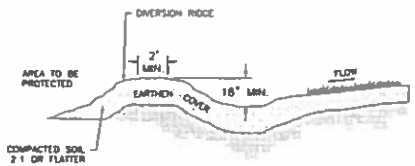
SILT FENCE ROCK OUTLET 021



NOTES:

1. THE SLOPE DRAIN SHALL BE CONSTRUCTED/LENGTHENED WITH THE CONSTRUCTION OF THE FILL SLOPE. AS A RESULT, INLET ELEVATIONS WILL VARY ACCORDING TO GRADE ELEVATIONS AT THE TIME OF CONSTRUCTION.
2. INSPECT SLOPE DRAIN AND SUPPORTING DIVERSIONS AFTER EVERY RAINFALL EVENT AND MAKE NECESSARY REPAIRS FOR PROPER OPERATION OF THE SYSTEM.
3. UPON PROJECT COMPLETION, REMOVE THE SLOPE DRAIN AND PROPERLY STABILIZE ALL DISTURBED AREAS.

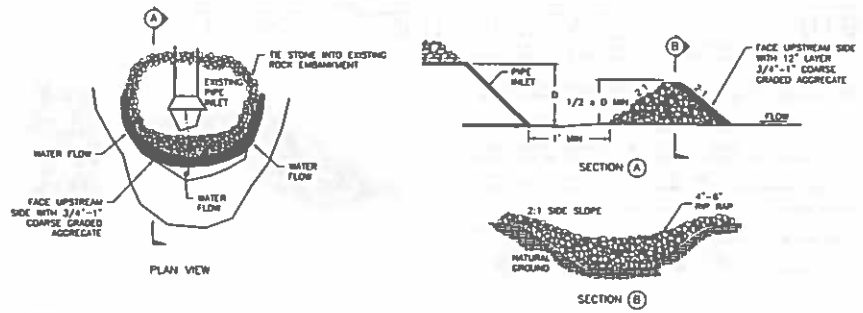
TEMPORARY SLOPE DRAIN 022



NOTE:

1. SWALE SHALL BE CONSTRUCTED WITH POSITIVE SLOPE ≤ 1% AND OUTLET TO A STABLE VEGETATED AREA OR SEDIMENT TRAP OR BASIN.

DIVERSION SWALE 023



ROCK PIPE INLET PROTECTION 024

REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED BY

DESIGN BY	CAM/MRW
DATE	2/18/2015
DRAWN BY	KTH
JOB NO.	--
CHECKED BY	MRW
APPROVED	CAM

DUKE ENERGY.

STORM WATER POLLUTION PREVENTION PLAN
TYPICAL DETAILS

SCALE: N.T.S.
DRAWING NO.
SHEET 5 OF 5

Appendix C

Storm Water Evaluation Form for Construction

Storm Water Evaluation Form for Construction

(Complete at least once per week and after each storm event of 0.5 inches or more.)

DUKE ENERGY.

Project Name: F7481 – 138kV Blue Ash Road Improvement	**Evaluation Date:**
Construction Supervisor:	**Evaluated By:**
Reason for Evaluation: ☐ Routine ☐ Post Rain Event ☐ Non-Routine	
Location and Phase of Construction:	**Conditions at time of evaluation?** ☐ Dry ☐ Wet ☐ Frozen

OBSERVATIONS	INSTALLED	CORRECTIVE ACTION NEEDED
Silt Fence	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Comment/Action:		
Fiber Rolls/Filter Socks	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Comment/Action:		
Check Dams	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Comment/Action:		
Seeding/Mulching	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Comment/Action:		
Erosion Control Blanket	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Comment/Action:		
Construction Entrances	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Comment/Action:		
Stream Crossings	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Comment/Action:		
Wetland Crossings	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Comment/Action:		
Concrete Washout Areas	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Comment/Action:		

Is sediment or other pollutants leaving the site?	☐ Yes ☐ No	If yes, corrective action is needed.
Is sediment being tracked onto public roadways?	☐ Yes ☐ No	If yes, corrective action is needed.
Have any areas been left disturbed for 21 days or more?	☐ Yes ☐ No	If yes, corrective action is needed.

See Reverse Side for More Information and Additional Space for Comments

Storm Water Evaluation Form for Construction
(Complete at least once per week and after each storm event of 0.5 inches or more.)

DUKE ENERGY.

General Information:

- This storm water evaluation program is intended to comply with self-monitoring requirements and the project specific Storm Water Pollution Prevention Plan (SWPPP).
- A Storm Water Evaluation is required by a trained individual at a minimum of one (1) time per week and by the end of the next business day following each measurable storm event (total rainfall accumulation equal to one-half (0.5) inches or greater.
- Observed erosion and sediment control deficiencies shall be corrected within 7 days. Modifications to erosion and sediment control structures and/or locations shall be recorded in the SWPPP Amendment Log within 10 days.
- Areas that are scheduled to be inactive for 21 days or more must be temporarily or permanently stabilized with appropriate measures within 7 days of last disturbance.
- Erosion and sediment control structures shall be maintained until a vegetative cover of 70% or greater density in all disturbed, non-agricultural areas is achieved. At which time, all temporary erosion and sediment control structures shall be removed and Notice of Termination (NOT) will be filed with Ohio Environmental Protection Agency (OEPA).
- Completed Evaluation Forms to be submitted to Amanda Sheehe at 1000 East Main Street, Plainfield, IN 46168, (317) 838-2447, Jessica.Callaway@Duke-Energy.com
- Upon request, Evaluation Forms must be provided to inspecting authorities within 48 hours and must be retained for 3 years after project completion.

Additional Comments/Actions (attach photographs and additional pages as necessary):

Appendix D

SWPPP Amendment Log

SWPPP Amendment Log

Project: F7481 – 138 kV Blue Ash Road Improvement

Date	Description/Location	Initials

Appendix E

Agency Coordination

Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR | MARY MERTZ, DIRECTOR

Office of Real Estate
Paul R. Baldridge, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6649
Fax: (614) 267-4764

February 5, 2019

Kaitlin Hillier
Cardno
11121 Canal Road
Cincinnati, Ohio 45241

Re: 19-017; Duke Energy F7481- 138kV Blue Ash Improvement

Project: The proposed project involves the removal and replacement of approximately 0.71 miles of existing transmission line.

Location: The proposed project is located in the City of Blue Ash, Hamilton County, Ohio.

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

Natural Heritage Database: The Natural Heritage Database has the following records at or within a one-mile radius of the project area:

Wartyback (*Quadrula nodulata*), E
Fawnsfoot (*Truncilla donaciformis*), T
Little Miami State Scenic River

The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; A = species recently added to state inventory, status not yet determined; X = presumed extirpated in Ohio; FE = federal

endangered, FT = federal threatened, FSC = federal species of concern, FC = federal candidate species.

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

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

The project is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the sheepnose (*Plethobasus cyphyus*), a state endangered and federally endangered mussel, the fanshell (*Cyprogenia stegaria*), a state endangered and federally endangered mussel, the pink mucket (*Lampsilis orbiculata*), a state endangered and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel, the snuffbox (*Epioblasma triquetra*), a state endangered and federally endangered mussel, the ebonyshell (*Fusconaia ebena*), a state endangered mussel, the long-solid (*Fusconaia maculata maculata*), a state endangered mussel, the butterfly (*Ellipsaria lineolata*), a state endangered mussel, the washboard (*Megalonaias nervosa*), a state endangered mussel, the elephant-ear (*Elliptio crassidens crassidens*), a state endangered mussel, the Ohio pigtoe (*Pleurobema cordatum*), a state endangered mussel, the monkeyface (*Quadrula metanevra*), a state endangered mussel, the wartyback (*Quadrula nodulata*), a state endangered mussel, the black sandshell (*Ligumia recta*), a state threatened mussel, the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel, and the threehorn wartyback (*Obliquaria reflexa*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the shortnose gar (*Lepisosteus platostomus*), a state endangered fish, the shoal chub (*Macrhybopsis hyostoma*), a state endangered fish, the shovelnose sturgeon (*Scaphirhynchus platorynchus*), a state endangered fish, the lake sturgeon (*Acipenser fulvescens*), a state endangered fish, the northern madtom (*Noturus stigmosus*), a state endangered fish, the bigeye shiner (*Notropis boops*) a state threatened fish, the mountain madtom (*Noturus eleutherus*), a state threatened fish, the river darter (*Percina shumardi*) a state threatened fish, the channel darter (*Percina copelandi*), a state threatened fish, the blue sucker (*Cycleptus elongatus*), a state threatened fish, and the paddlefish (*Polyodon spathula*) a state threatened fish. Due to the

location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet meadows and other wetlands. Due to the location, the type of habitat present at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the cave salamander (*Eurycea lucifuga*), a state endangered species. Due to the location, the type of habitat present at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. Due to the location, the type of habitat present at the project site, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. In the Oak Openings area west of Toledo, lark sparrows occupy open grass and shrubby fields along sandy beach ridges. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. Due to the location, the type of habitat present at the project site, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Sloan's crayfish (*Orconectes sloanii*), a state threatened species. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

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

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

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or Sarah.Tebbe@dnr.state.oh.us if you have questions about these comments or need additional information.

John Kessler
Environmental Services Administrator

From:	susan_zimmermann@fws.gov on behalf of Ohio, FW3
To:	Kaitlin Hillier
Subject:	Duke Energy F7481, 138kV Blue Ash Improvement, Hamilton Co.
Date:	Friday, February 8, 2019 1:27:32 PM
Attachments:	Patrice Signature.jpg Letterhead for Emails 2.jpg

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994

TAILS# 03E15000-2019-TA-0625

Dear Ms. Hillier,

We have received your recent correspondence requesting information about the subject proposal. There are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area.

FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES COMMENTS: Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the U.S. Fish and Wildlife Service should be initiated to assess any potential impacts.

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

Sincerely,

Patrice Ashfield,
Ohio Field Office Supervisor

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

2/19/2019 11:00:10 AM

in

Case No(s). 19-0398-EL-BNR

Summary: Application F7481– 138kV Blue Ash Road Improvement Project electronically filed by Carys Cochern on behalf of Duke Energy