COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF DUKE ENERGY KENTUCKY, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AUTHORIZING THE PHASE FIVE REPLACEMENT OF THE AM07 PIPELINE	)))))	CASE NO. 2026-00086

APPLICATION FOR APPROVAL OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND EXPEDITED TREATMENT

Now comes Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the Company), pursuant to KRS 278.020 and 807 KAR 5:001, Sections 14 and 15, and other applicable law, and hereby respectfully requests from the Kentucky Public Service Commission (Commission) an Order granting a Certificate of Public Convenience and Necessity (CPCN) for approval of the construction of the fifth phase of its AM07 Pipeline Replacement Project (Phase Five) and also requests expedited treatment of this Application in order to permit the Company to commence work on approximately two hundred (200) feet of replacement Phase 5 pipe on ***August 1, 2026***, and to complete that segment by September 30, 2026, in order to coordinate with a municipal road project of the City of Crestview Hills.

The AM07 Pipeline (AM07) is approximately sixteen miles in total length and is the primary artery for Duke Energy Kentucky's natural gas delivery system. AM07 extends to the Ohio River, transporting natural gas from upstream suppliers, and supports natural gas delivery throughout the Duke Energy Kentucky natural gas delivery system via connected pipelines. The AM07 pipeline was constructed in the 1950's, in accordance with

existing regulations at the time. Today, AM07 is of a vintage where the materials are no longer industry standard, and the pipeline is unable to meet regulations promulgated by the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA).

Duke Energy Kentucky needs to replace certain sections of its AM07 pipeline, totaling approximately 13.7 miles, and associated regulator stations through its northern Kentucky territory over the next few years to comply with PHMSA integrity regulations. This replacement has been occurring over several years, with three of five phases already complete.

The first phase of the AM07 replacement, consisting of replacement of an approximately 2.0-mile segment, was approved by the Commission in Case No. 2022-00084[1] (Phase One). The second phase of the AM07 replacement, consisting of replacement of an approximately 3.2-mile segment, was approved by the Commission in Case No. 2023-00210[2] (Phase Two). The third phase of the AM07 replacement, consisting of replacement of an approximately 4.3-mile segment, was approved by the Commission in Case No. 2024-00189[3] (Phase Three). The fourth phase of the AM07 replacement, consisting of replacement of an approximately 2.5-mile segment, was approved by the Commission in Case No. 2025-0057[4] (Phase Four). Construction activities for Phases One,

[1] *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc., for a Certificate of Public Convenience and Necessity Authorizing the Phase One Replacement of the AM07 Pipeline,* Case No. 2022-00084, Order, p. 7 (Ky. P.S.C. Feb. 24, 2023).

[2] *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc., for a Certificate of Public Convenience and Necessity Authorizing the Phase Two Replacement of the AM07 Pipeline,* Case No. 2023-00210, Order, p. 8 (Ky. P.S.C. Apr. 2, 2024).

[3] *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc., for a Certificate of Public Convenience and Necessity Authorizing the Phase Three Replacement of the AM07 Pipeline,* Case No. 2024-00189, Order, p. 8 (Ky. P.S.C. Jan. 17, 2025).

[4] *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc., for a Certificate of Public Convenience and Necessity Authorizing the Phase Four Replacement of the AM07 Pipeline,* Case No. 2025-00057, Order, p. 8 (Ky. P.S.C. Aug. 13, 2025).

Two, and Three have been completed. Construction activities for Phase Four have commenced. In order to maximize cost efficiencies, minimize work stoppages, and to complete the replacement of the entire 13.7 miles of the AM07 needing replacement in 2027 to meet PHMSA regulations for inspections of natural gas pipelines, the Company needs to seek Commission authorization now to construct Phase Five, so its construction can commence immediately upon completion of Phase Four.

Phase Five of the AM07 replacement includes abandonment of 1.42 miles[5] of the existing AM07 west of the existing AM07 section that is currently being replaced via Phase Four. The new route is approximately 2.02 miles in length and will include new industry standard material that will comply with PHMSA regulations. Phase Five will be located in areas in which Duke Energy Kentucky is currently already supplying natural gas service and will be placed primarily in a new right of way, east of the existing AM07 Section that was replaced via Phase Two. Maps depicting the precise location of Phase Five are included as an exhibit to this Application.[6] In support of this Application, Duke Energy Kentucky respectfully states as follows:

I. INTRODUCTION

1. Pursuant to 807 KAR 5:001, Section 14(2), Duke Energy Kentucky is a Kentucky corporation originally incorporated on March 20, 1901, in good standing, and a "public utility" as that term is defined in KRS 278.010(3), and, therefore, is subject to the Commission's jurisdiction. Attached as Exhibit 1 is a copy of a recent Certificate of Good Standing. Duke Energy Kentucky is engaged in the business of furnishing natural gas and

[5] In addition to abandonment of 1.42 miles, the project will also downrate 0.47 miles of existing AM07 (transmission) to high pressure distribution.

[6] *See* Confidential Exhibit 4. This exhibit also depicts construction specifications and engineering drawings stamped by a licensed Kentucky Engineer.

electric services to various municipalities and unincorporated areas in Boone, Bracken, Campbell, Gallatin, Grant, Kenton, and Pendleton Counties in the Commonwealth of Kentucky.

2. Pursuant to 807 KAR 5:001, Section 14(1), Duke Energy Kentucky's business address is 139 East Fourth Street, Cincinnati, Ohio 45202. The Company's local office address in Kentucky is Duke Energy Erlanger Ops Center, 1262 Cox Road, Erlanger, Kentucky 41018. The facts upon which the Application are based are set forth herein.

3. Copies of all orders, pleadings and other communications related to this proceeding should be sent to:

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Deputy General Counsel
Larisa M. Vaysman
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II. BACKGROUND

4. Duke Energy Kentucky has identified a need to construct and replace its AM07 Pipeline in order to comply with PHMSA regulations. For Phase Five of the AM07 replacement that is the subject of this Application, Duke Energy Kentucky is proposing to replace approximately 1.42 miles of section of AM07 east of the existing AM07 section that was replaced via Phase Two. The new route will consist of an approximately 2.02-mile section of 24-inch industry standard steel natural gas transmission line that will comply with PHMSA regulations.

5. The AM07 replacement will improve safety and reliability to the main portion of the Company's natural gas delivery system in Northern Kentucky. Although Duke Energy Kentucky has been able to meet customer needs with safe and reliable natural gas service, replacement of AM07 infrastructure is required under recent updates to federal regulations, known as the new pipeline safety regulation, "Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments" (New Transmission Rule). The New Transmission Rule went into effect July 2020, mandating Operators to review and reconfirm transmission pipeline Maximum Allowable Operating Pressure (MAOP). The Project is also necessary for complying with other relevant regulations, specifically, Subpart L §192.607, Verification of Pipeline Materials Properties and Attributes, Subpart L §192.624, Maximum allowable operating pressure reconfirmation, Subpart M §192.710, Transmission lines: Assessments outside of high consequence areas, and Subpart O, Gas Transmission Pipeline Integrity Management.

6. To properly assess for the threats on each pipeline, under the New Transmission Rule, natural gas companies that do not have the necessary traceable, verifiable, and complete records must pressure test, perform in-line inspection (ILI), or replace the pipe. The 1956 vintage pipe within the AM07 pipeline does not have traceable, verifiable, and complete pressure test records and is incapable of ILI. Additionally, because the AM07 is the backbone of the Company's natural gas delivery system, is it not possible to take it out of service to perform pressure testing due to complexity, timing, and extensive excavation that would be required. Moreover, due to its length and age, the Company may not be able to complete corrective action on any identified deficiencies in the existing

pipeline segments in time to place them back into service for winter heating seasons. Because the majority of AM07 is comprised of 1956 vintage pipe with active manufacturing and construction threats, the Company must take action to address these threats to comply with these regulations. The new AM07 will provide additional reliability to Duke Energy Kentucky's natural gas delivery system by replacing aging, non-piggable infrastructure with new pipe constructed from modern materials allowing the Company to continue to provide safe and reliable service and conduct cost-effective necessary inspections in the future. The new pipeline will be designed and constructed for safe passage of ILI tools allowing the Company to continue providing safe natural gas service for current and future customers

7. The purpose of, and need for, the Project is to meet PHMSA regulations and ensure the Company's natural gas delivery system continues to function in a safe and reliable manner for customers. The Project is necessary to support future load growth in the area and maintain sufficient natural gas system pressures. Additionally, the timing of the project, including the priority of completion of the project in five phases is to spread out the timing of the investments in a reasonable manner but within the compliance timeline per PHMSA regulations. The Company estimates the timeline of construction for Phase Five to be approximately eight months.

8. Duke Energy Kentucky anticipates that the majority of the Project will be located in private easements that will be obtained following approval of this Application. Where private easements are not possible, the Company will locate the Phase Five pipeline within existing public rights-of-way. Private easements are preferable as they allow the Company to maintain greater control over the pipeline and to mitigate any impact to system

integrity and reliability due to municipal street widening or improvement projects.

9. The current estimated project cost is approximately $ 34.89 million dollars as detailed in the chart below:

Task	Total in millions
Design	$ 2.89
Land	$3.80
Construction	$24.47
Materials	$ 3.73
Total	**$ 34.89**

III. REQUEST FOR CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

10. In accordance with KRS 278.020, no utility may construct or acquire any facility to be used in providing utility service to the public until it has obtained a CPCN from the Kentucky Public Service Commission.[7] To obtain a CPCN, the utility must demonstrate a need for such facilities and an absence of wasteful duplication.[8] "Need" requires:

> [A] showing of a substantial inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed or operated. [T]he inadequacy must be due either to a substantial deficiency of service facilities, beyond what could be supplied by normal improvements in the ordinary course of business; or to indifference, poor management or disregard of the rights of consumers, persisting over such a period of time as to establish an inability or unwillingness to render adequate service.[9]

"Wasteful duplication" is defined as "an excess of capacity over need" and "an excessive investment in relation to productivity or efficiency, and an unnecessary

[7] KRS 278.020(1)(a).

[8] *Kentucky Utilities Co. v. Pub. Serv. Comm 'n*, 252 S.W.2d 885 (Ky. 1952).

[9] *Id*., at 890.

multiplicity of physical properties."[10] To demonstrate that a proposed facility does not result in wasteful duplication, Duke Energy Kentucky must demonstrate that a thorough review of all reasonable alternatives has been performed. Although cost is a factor, selection of a proposal that costs more than an alternative does not necessarily result in wasteful duplication.[11] All relevant factors must be balanced.[12]

11. Duke Energy Kentucky respectfully states that AM07 replacement is needed to meet PHMSA Regulations as the existing pipeline does not and cannot do so. As such, the AM07 replacement is necessary to enable the Company to continue to provide safe and reliable natural gas service to our customers, as well as, to provide greater reliability to the overall system. The AM07 replacement will support future load growth and maintain sufficient natural gas system pressures to respond to an identified integrity risk to its natural gas delivery system.

12. As the Company will be taking the current pipeline out of service, the Project will not result in a wasteful duplication of facilities.

13. As explained more thoroughly in accompanying testimony, the AM07 replacement project is the most efficient and least cost solution to provide service as it provides greater access for maintenance inspections through the use of ILI tools going forward. Absent the use of the ILI tool for PHMSA testing, the estimated cost of pressure testing that would be required for the existing portion of pipeline to be replaced in the Phase

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[10] *Id.*

[11] *See Kentucky Utilities Co. v. Pub. Serv. Comm'n*, 390 S.W.2d 168, 175 (Ky. 1965). *See also, Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for the Construction of a 138 kV Electric Transmission Line in Rowan County, Kentucky*, Case No. 2005-00089, Final Order (Ky. P.S.C. Aug. 19, 2005).

[12] *Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky,* Case No. 2005-00142 (Ky. P.S.C. Sept. 8, 2005).

Five segment would be $ 11 million every seven years. This would include providing a mobile source of temporary liquid natural gas while bypassing portions of the existing pipeline, so service would not be interrupted for lengthy periods of time. Another option to comply with PHMSA testing requirements would be retrofitting existing pipeline for use with the ILI tool. This would also require using temporary gas during the retrofit but would prevent the future need for bypassing during testing because the ILI tool allows testing without pipeline interruption. The estimated cost of this option has previously been estimated to be $ 8.75 million. The estimated costs for an ILI inspection on a seven-year basis is between $400,000 to $500,000 per inspection. The estimated costs for both pressure testing and ILI retrofit does not include the cost of remedying deficiencies in the aging pipeline discovered during pressure testing or ILI testing after retrofit, which cannot be predicted, and which would also increase the downtime of the pipeline and therefore increase temporary gas costs as well as risk of extended outages for customers.

14. In accordance with 807 KAR 5:001 Section 12(2)(a)-(i), Duke Energy Kentucky is filing the following information in Exhibit 2, which is incorporated herein and made a part of this Application filed in this proceeding:

Exhibit 2 Page	Description	807 KAR 5:001 Section Reference
	Financial Exhibit	12 (2)
1	Amount and kinds of stock authorized	12(2)(a)
1	Amount and kinds of stock issued and outstanding	12(2)(b)
1	Terms of preference or preferred stock	12(2)(c)
1	Brief description of each mortgage on property of Duke Energy Kentucky	12(2)(d)
1-2	Amount of bonds authorized and issued and related information	12(2)(e)
2	Notes outstanding and related information	12(2)(f)
3	Other indebtedness and related information	12(2)(g)
4	Dividend information	12(2)(h)
4-6	Detailed Income Statement and Balance Sheet	12(2)(i)

15. 807 KAR 5:001, Section 15 sets forth the filing requirements to seek a CPCN. In accordance with Section 15(2)(a), the Application and supporting testimonies describe the facts relied upon to show the Phase Five replacement is required by public convenience or necessity in that the project is necessary to comply with federal regulations, and from an integrity and reliability standpoint as well as, to provide adequate, efficient, and reliable service.

16. In accordance with Section 15(2)(b), the Company has previously filed with the Commission the applicable franchises from the proper public authorities. Additionally, the following permits will be required to complete Phase Five:

a) Kentucky Transportation Cabinet permit to cross state and federal roads and to install the pipeline inside road right-of-way, and construction access;

b) Energy and Environmental Protection Cabinet - Division of Water, Application for a Permit to Construct Along or Across a Stream and/or Water Quality Certification;

c) Kenton County Local Floodplain permit

d) US Army Corp Section 404/General Nationwide Permit 12 (including Section 7 Threatened and Endangered Species Act of 1973, Section 106 National Historic Preservation Act of 1966, and Section 10 – River and Harbors Act of 1899 clearances);

e) City of Edgewood Excavation Permit

f) City of Fort Wright Excavation and Construction Permit

g) City of Crestview Hills Encroachment Permit

h) CSX RR Permit

i) Coordination with the Kentucky Heritage Council (KHC) regarding cultural resources, including cultural resource investigations/digs and potential viewshed impacts to architectural resources along the project route;

j) Coordination with the U.S. Fish and Wildlife Service (USFWS) and Kentucky Department of Fish and Wildlife Resources (KDFWR) with respect to federal and state endangered, threatened, and otherwise protected species;

k) Sanitation District No. 1 Land Disturbing Permit; and

l) KDOW Construction Storm Water Permit KYR10.

m) Hydrostatic Test Waster Discharge

Duke Energy Kentucky has already applied for permits (a), (e), (g), (h), (i), and (j).. Permits (b), (c), and (d) will be applied for in the coming months while permits (f), (k), (l), and (m) will be applied for closer to construction as those permits are required immediately before actual construction begins. There has been no indication that the permit applications will not be approved. The Company's permits are included in Exhibit 3 of the Application.

The Company will supplement the application as additional permit approvals are received. The Company anticipates commencing construction in early 2027 (apart from the 200 feet discussed above) for an in-service date in late 2027, before the beginning of the winter heating season.

17. In accordance with Section 15(2)(c), which requires the Company to provide a full description of the proposed location, route, or routes of the proposed construction or extension, including a description of the manner in which the facilities will be constructed, Duke Energy Kentucky respectfully states that this information is provided in Confidential Exhibit 4 to this Application and the direct testimony of Company Witness David A. Klein submitted in support thereof. A copy of Confidential Exhibit 4 is being provided under a petition for confidential treatment.

18. In accordance with Section 15(2)(d)(1)-(2), requiring maps showing the location or route of the proposed construction or extension and plans and specifications and drawings of the proposed plant, equipment, and facilities, Duke Energy Kentucky respectfully states that Confidential Exhibit 4 contains, among other things, maps, and engineering drawings, respectively, showing the route, location and nature of the proposed construction. Because the Project is situated solely within the Company's service territory, it will not compete with any public utilities, corporations, or persons. Confidential Exhibit 4 further contains the preliminary work specifications for the Project.

19. In accordance with Section 15(2)(e), the Company states that it proposes to finance the construction through continuing operations and debt instruments, as necessary.

20. In accordance with Section 15(2)(f), the total estimated cost of construction for Phase Five is approximately $ 34.89 million. The annual ongoing cost of operation of

the Project once completed is expected to be minimal, and less than $10,000 except for required periodic inspections and/or testing. The Company does not anticipate any incremental cost savings for the ongoing operation and maintenance of the new pipeline as compared to amounts currently in base rates as the cost to maintain the new AM07 pipeline will not substantially differ from existing costs to maintain the existing pipeline currently reflected in base rates. In fact, the new pipeline will avoid future incremental Operations and Maintenance expense that would be incurred to comply with more recent PHMSA regulations if the Company were required to pursue a more expensive and riskier alternative of taking the existing AM07 segments out of service for excavation and hydro-static testing and make any then identified necessary repairs/replacements.

IV. TESTIMONY AND EXHIBITS

21. Additional facts supporting this Application are set forth in the following direct testimonies attached to this Application as Exhibits 5 through 7:

a) Melton A. Huey, General Manager Engineering, Planning & Pipeline Integrity, provides an overview of the Company's gas operations and the Project;[13]

b) David A. Klein, Senior Project Manager, discusses the Phase Five construction specifications, the permits required, the need for expedited treatment, and estimated costs of construction and ongoing operation;[14] and,

c) Jefferson "Jay" P. Brown, Director of Rates and Regulatory Planning, discusses the estimated impacts to the Company's rates of the Project.[15]

[13] Exhibit 5.

[14] Exhibit 6.

[15] Exhibit 7.

WHEREFORE, Duke Energy Kentucky respectfully requests that the Commission:

1) Grant expedited treatment of this Application;

2) Issue a CPCN for approval of the construction of Phase Five of the AM07 replacement Project; and

3) Grant any other relief to which the Company may be entitled.

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC.

/s/Larisa M. Vaysman

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Counsel for Duke Energy Kentucky, Inc.

CERTIFICATE OF SERVICE

This is to certify that the foregoing electronic filing is a true and accurate copy of the document in paper medium; that the electronic filing was transmitted to the Commission on March 31, 2026 that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and that submitting the original filing to the Commission in paper medium is no longer required as it has been granted a permanent deviation.[16]

/s/Larisa M. Vaysman
Counsel for Duke Energy Kentucky, Inc.

[16] *In the Matter of Electronic Emergency Docket Related to the Novel Coronavirus COVID-19,* Case No. 2020-00085, Order (Ky. P.S.C. July 22, 2021).

Commonwealth of Kentucky
Michael G. Adams, Secretary of State

Michael G. Adams
Secretary of State
P. O. Box 718
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http://www.sos.ky.gov

Certificate of Existence

Authentication number: 363511
Visit https://web.sos.ky.gov/ftshow/certvalidate.aspx to authenticate this certificate.

I, Michael G. Adams, Secretary of State of the Commonwealth of Kentucky, do hereby certify that according to the records in the Office of the Secretary of State,

DUKE ENERGY KENTUCKY, INC.

DUKE ENERGY KENTUCKY, INC. is a corporation duly incorporated and existing under KRS Chapter 14A and KRS Chapter 271B, whose date of incorporation is March 20, 1901 and whose period of duration is perpetual.

I further certify that all fees and penalties owed to the Secretary of State have been paid; that Articles of Dissolution have not been filed; that the most recent annual report required by KRS 14A.6-010 has been delivered to the Secretary of State; and is therefore in good standing.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this 31st day of March, 2026, in the 234th year of the Commonwealth.

Michael G. Adams
Secretary of State
Commonwealth of Kentucky
363511/0052929

FINANCIAL EXHIBIT

(1) Section 12(2)(a) Amount and kinds of stock authorized.

1,000,000 shares of Capital Stock $15 par value amounting to $15,000,000 par value.

(2) Section 12(2)(b) Amount and kinds of stock issued and outstanding.

585,333 shares of Capital Stock $15 par value amounting to $8,779,995 total par value. Total Capital Stock and Additional Paid-in Capital as of December 31, 2025:

Capital Stock and Additional Paid-in Capital
As of December 31, 2024
($ per 1,000)

Capital Stock	$8,780
Premiums thereon	18,839
Total Capital Contributions from Parent (since 2006)	334,311
Contribution from Parent Company for Purchase of Generation Assets	140,061
Total Capital Stock and Additional Paid-in-Capital	$501,991

(3) Section 12(2)(c) Terms of preference or preferred stock, cumulative or participating, or on dividends or assets or otherwise.

There is no preferred stock authorized, issued or outstanding.

(4) Section 12(2)(d) Brief description of each mortgage on property of applicant, giving date of execution, name of mortgagor, name or mortgagee, or trustee, amount of indebtedness authorized to be secured, and the amount of indebtedness actually secured, together with any sinking fund provision.

Duke Energy Kentucky does not have any liabilities secured by a mortgage.

(5) Section 12(2)(e) Amount of bonds authorized, and amount issued, giving the name of the public utility which issued the same, describing each class separately, and giving the date of issue, face value, rate of interest, date of maturity and how secured, together with the amount of interest paid thereon during the last fiscal year.

The Company has eighteen outstanding issues of unsecured senior debentures issued under an Indenture dated December 1, 2004, between itself and Deutsche Bank Trust Company Americas, as Trustee, as supplemented by nine Supplemental Indentures. The Indenture allows

the Company to issue debt securities in an unlimited amount from time to time. The Debentures issued and outstanding under the Indenture are the following:

Supplemental Indenture	Date of Issue	Principal Amount Authorized and Issued	Principal Amount Outstanding	Rate of Interest	Date of Maturity	Interest Paid Year 2025
1st Supplemental	3/7/2006	65,000,000	65,000,000	6.20%	3/10/2036	4,030,000
3rd Supplemental	1/5/2016	45,000,000	45,000,000	3.42%	1/15/2026	1,539,000
3rd Supplemental	1/5/2016	50,000,000	50,000,000	4.45%	1/15/2046	2,225,000
4th Supplemental	9/7/2017	30,000,000	30,000,000	3.35%	9/15/2029	1,005,000
4th Supplemental	9/7/2017	30,000,000	30,000,000	4.11%	9/15/2047	1,233,000
4th Supplemental	9/7/2017	30,000,000	30,000,000	4.26%	9/15/2057	1,278,000
5th Supplemental	10/3/2018	40,000,000	40,000,000	4.18%	10/15/2028	1,672,000
5th Supplemental	12/12/2018	35,000,000	35,000,000	4.62%	12/15/2048	1,617,000
6th Supplemental	7/17/2019	40,000,000	40,000,000	4.32%	7/15/2049	1,728,000
7th Supplemental	9/15/2019	75,000,000	75,000,000	3.56%	10/1/2029	2,670,000
8th Supplemental	9/15/2020	35,000,000	35,000,000	2.65%	9/15/2030	927,500
8th Supplemental	9/15/2020	35,000,000	35,000,000	3.66%	9/15/2050	1,281,000
9th Supplemental	7/15/2024	80,000,000	80,000,000	5.90%	7/15/2031	4,720,000
9th Supplemental	7/15/2024	95,000,000	95,000,000	6.00%	7/15/2034	5,700,000
9th Supplemental	7/15/2024	50,000,000	50,000,000	6.17%	7/15/2039	3,085,000
9th Supplemental	8/12/2025	67,500,000	67,500,000	5.41%	9/15/2030	1,410,676
9th Supplemental	8/12/2025	42,500,000	42,500,000	6.01%	9/15/2035	986,710
9th Supplemental	8/12/2025	40,000,000	40,000,000	6.11%	9/15/2037	944,121
			885,000,000		(1)	38,052,007

(1) $3,068,500 interest was paid on $95,000,000 3.23% bonds that matured October 2025. Total cash outlay for interest in 2025 was $41,120,507.

(6) Section 12(2)(f) Each note outstanding, giving date of issue, amount, date of maturity, rate of interest, in whose favor, together with amount of interest paid thereon during the last fiscal year.

Duke Energy Kentucky does not have any outstanding notes as of 12/31/2025.

(7) Section 12(2)(g) Other indebtedness, giving same by classes and describing security, if any, with a brief statement of the devolution or assumption of any portion of such indebtedness upon or by person or corporation if the original liability has been transferred, together with amount of interest paid thereon during the last fiscal year.

The Company has two series of Pollution Control Revenue Refunding Bonds issued under a Trust Indenture dated as of August 1, 2006 and a Trust Indenture dated as of December 1, 2008, between the County of Boone, Kentucky and Deutsche Bank National Trust Company as Trustee. The Company's obligation to make payments equal to debt service on the Bonds is evidenced by a Loan Agreement dated as of August 1, 2006 and December 1, 2008 between the County of Boone, Kentucky and Duke Energy Kentucky. The Bonds issued under the Indentures are below. On Nov 1, 2021, the Company bought in the Series 2008A bond, and remarketed the bond in June 2022.

Indenture	Date of Issue	Principal Amount Authorized and Issued	Principal Amount Outstanding	Rate of Interest	Date of Maturity	Interest Paid Year 2025
Series 2010	11/24/2010	26,720,000	26,720,000	3.86% (1)	8/1/2027	752,215
Series 2008A	12/01/2011	50,000,000	50,000,000	3.70% (2)	8/1/2027	1,850,000
			76,720,000			2,602,215

(1) The bonds were issued at a variable-rate and were swapped to a fixed rate of 3.86% for the life of the debt.

(2) Bonds were remarketed in June 2022 under a fixed-to-maturity interest rate mode (3.70% coupon).

The Company has no outstanding financing leases as of December 31, 2025.

The Company also has $39,027,000 of money pool borrowings outstanding as of December 31, 2025, 25,000,000 of which is classified as Long-Term Debt payable to affiliated companies. This obligation, which is short-term by nature, is classified as long-term due to Duke Energy Kentucky's intent and ability to utilize such borrowings as long-term financing.

(8) Section 12(2)(h) Rate and amount of dividends paid during the last five (5) previous fiscal years, and the amount of capital stock on which dividends were paid each year.

DIVIDENDS PER SHARE

Year Ending	Per Share	Total	No. of Shares	Par Value of Stock
31-Dec-20	0	0	585,333	8,779,995
31-Dec-21	0	0	585,333	8,779,995
31-Dec-22	0	0	585,333	8,779,995
31-Dec-23	0	0	585,333	8,779,995
31-Dec-24	$15.94534	140,000,000	585,333	8,779,995
31-Dec-25	$7.40319	65,000,000	585,333	8,779,995

(9) Section 12(2)(i) Detailed Income Statement and Balance Sheet.

See the attached pages for detailed Income Statement for the twelve months ended December 31, 2025 and the detailed Balance Sheet as of December 31, 2025.

DUKE ENERGY KENTUCKY, INC.
CONDENSED STATEMENTS OF OPERATIONS
(Unaudited)
(In thousands)

	Twelve Months Ended December 31 2025
Operating Revenues	
Electric	552,373
Gas	164,486
Total operating revenues	**716,859**
Operating Expenses	
Fuel used in electric generation and purchased power	188,137
Natural gas purchased	63,913
Operation, maintenance and other	166,673
Depreciation and amortization	112,582
Property and other taxes	20,564
Goodwill and other impairment charges	-
Total operating expenses	**551,869**
Gains on Sales of Other Assets and Other, net	**391**
Operating Income	**165,381**
Other Income and Expenses, net	**8,217**
Interest Expense	**44,271**
Income Before Income Taxes	**129,327**
Income Tax Expense	**27,820**
Income From Continuing Operations	**101,507**
Income From Discontinued Operations, net of tax	**-**
Net Income	**101,507**

DUKE ENERGY KENTUCKY, INC.
Condensed Balance Sheets
(Unaudited)

(in thousands, except share amounts)	December 31, 2025
ASSETS	
Current Assets	
Cash and Cash Equivalents	4,046
Receivables (net of allowance for doubtful accounts)	87,529
Receivables from affiliated companies	22
Notes Receivables from affiliated companies	-
Inventory	62,241
Regulatory Assets	25,782
Other	9,945
Total Current Assets	189,565
Property, Plant and Equipment	
Cost	3,765,403
Less Accumulated Depreciation and Amortization	(1,232,317)
Generation Facilities To Be Retired	
Net Property Plant and Equipment	2,533,086
Other Noncurrent Assets	
Regulatory Assets	115,150
Operating Lease Right-of-Use assets	3,307
Other	25,034
Total Other Noncurrent Assets	143,491
Total Assets	**2,866,142**
LIABILITIES AND COMMON STOCKHOLDERS' EQUITY	
Current Liabilities	
Accounts Payable	70,251
Accounts payable to affiliated companies	23,530
Notes payable to affiliated companies	14,027
Taxes Accrued	25,517
Interest Accrued	16,427
Current Maturities of Long-Term Debt	44,999
Asset Retirement Obligations	5,628
Regulatory Liabilities	11,822
Other	15,536
Total Current Liabilities	227,737
Long-Term Debt	**913,635**
Notes payable to affiliated companies	**25,000**
Other Noncurrent Liabilities	
Deferred Income Taxes	329,723
Asset Retirement Obligations	74,383
Regulatory Liabilities	98,630
Operating Lease Liabilities	3,200
Accrued Pension and Other Post-Retirement Benefit Costs	27,139
Other	22,682
Total Other Noncurrent Liabilities	555,757
Commitments and Contingencies	
Equity	
Common Stock, $15.00 par value, 1,000,000 shares authorized and 585,333 shares outstanding	8,780
Additional Paid in Capital	493,211
Retained Earnings	642,022
Total Duke Energy Corporation Stockholders' Equity	1,144,013
Noncontrolling Interests	
Total Liabilities and Equity	**2,866,142**

CONFIDENTIAL PROPRIETARY TRADE SECRET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
Rev. 10/2020
Page 1 of 4

APPLICATION FOR ENCROACHMENT PERMIT

KYTC KEPT #: _____

SECTION 1: APPLICANT CONTACT INFORMATION

APPLICANT Duke Energy	**ADDRESS** 139 E 4th St		
EMAIL n/a	**CITY** Cincinnati	**STATE** OH	**ZIP** 45202
CONTACT NAME 1 Josh Pedersen (on behalf of Duke Energy)	**EMAIL** jmpedersen@burnsmcd.com	**PHONE #**	**CELL #** (913) 645-2713
CONTACT NAME 2 (*if applicable*) John Perkins	**EMAIL** john.perkins@duke-energy.com	**PHONE #**	**CELL #** 513-315-8338

SECTION 2: PROPOSED WORK LOCATION

ADDRESS 370 Madison Pk	**CITY** Edgewood		**STATE** Kentucky	**ZIP** 41017
COUNTY Kenton	**ROUTE #** KY-275 E	**MILE POINT** Exit 80 Eastbound	**LONGITUDE** (X) 84.53 6906°	**LATITUDE** (Y) 39.026994°

ADDITIONAL LOCATION INFORMATION: Temporary Construction Easement along a section of open trench pipeline installation. See attached drawings for limits of Temporary Construction Easement. Approx. 25x550' along the South property boundary abutting the private properties.

FOR KYTC USE ONLY

PERMIT TYPE: ☐ Air Right ☐ Entrance ☐ Utilities ☐ Vegetation Removal ☐ Other: _____

ACCESS: ☐ Full ☐ Partial ☐ by Permit **LOCATION:** ☐ Left ☐ Right ☐ Crossing

SECTION 3: GENERAL DESCRIPTION OF WORK

Installation of 24" steel natural gas pipeline through private property with road crossings at Horsebranch Rd, Dudley Rd, and KY-17. Area to be used as a temporary construction workspace during construction.

THE UNDERSIGNED APPLICANT(s), being duly authorized representative(s) or owner(s), DO AGREE TO ALL ORIGINAL UNEDITED TERMS AND CONDITIONS ON THE TC 99-1A, pages 1-4.

John Perkins — **SIGNATURE**

3/11/26 — **DATE**

This is not a permit unless and until the applicant(s) receives an approved TC 99-1B from KYTC. This application shall become void if not approved by the cancellation date. The cancellation date shall be a minimum of one year from the date the applicant submits their application.

CONFIDENTIAL PROPRIETARY TRADE SECRET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
Rev. 10/2020
Page 2 of 4

APPLICATION FOR ENCROACHMENT PERMIT

TERMS AND CONDITIONS

1. The permit, including this application and all related and accompanying documents and drawings making up the permit, remains in effect and is binding upon the Applicant/Permittee, its successors and assigns, as long as the encroachment(s) exists and also until the permittee is finally relieved by the Department of Highways from all its obligations.

2. Applicant shall meet all requirements of the Clean Water Act if the project will disturb one acre or more, the applicant shall obtain a KPDES KYR10 Permit from the Kentucky Division of Water. All disturbed areas shall meet the requirements of the Department of Highway's Standard Specifications, Sections 212 and 213, as amended.

3. **INDEMNITY:**
   - **A.** PERFORMANCE BOND: The permittee shall provide to the Department a performance bond according to the Permits Manual, Section PE-203 as a guarantee of conformance with the Department's Encroachment Permit requirements.
   - **B.** PAYMENT BOND: At the discretion of the department, a payment bond shall be required of the permittee to ensure payment of liquidated damages assessed to the permittee.
   - **C.** LIABILITY INSURANCE: Liability insurance shall be required of the permittee (in an amount approved by the department) to cover all liabilities associated with the encroachment.
   - **D.** It shall be the responsibility of the permittee, its successors and assigns, to maintain all indemnities in full force and effect until the permittee is authorized to release the indemnity by the Department.

4. A copy of this application and all related documents making up the approved permit shall be given to the applicant and shall be made readily available for review at the work site at all times.

5. Perpetual maintenance of the encroachment is the responsibility of the permittee, its successors and assigns, with the approval of the Department as required, unless otherwise stated.

6. Permittee, its successors and assigns, shall comply with and agree to be bound by the requirements and terms of (a) this application and all related documents making up the approved permit, (b) by the Department's Permits Manual, and (c) by the Manual on Uniform Traffic Control Devices, both manuals as revised to and in effect on the date of issuance of the permit, all of which documents are made a part thereof by this reference. Compliance by the permittee, its successors and assigns, with subsequent revisions to applicable provisions of either manual or other policy of the Department may be made a condition of allowing the encroachment to persist under the permit.

7. Permittee agrees that this and any encroachment may be ordered removed by the Department at any time, and for any reason, upon thirty days written notice to the last known address of the applicant or to the address at the location of the encroachment. The permittee agrees that the cost of removing and of restoring the associated right-of-way is the responsibility of the permittee, its successors and assigns.

8. Permittee, its successors and assigns, agree that if the Department determines that motor vehicular safety deficiencies develop as a result of the installation or use of the encroachment, the permittee, its successors and assigns, shall provide and bear the expenses to adjust, relocate, or reconstruct the facilities, add signs, auxiliary lanes, or other corrective measures reasonably deemed necessary by the Department within a reasonable time after receipt of a written notice of such deficiency. The period within which such adjustments, relocations, additions, modifications, or other corrective measures must be completed will be specified in the notice.

9. Where traffic signals are required as a condition of granting the requested permit or are thereafter required to correct motor vehicular safety deficiencies, as determined by the Department, the costs for signal equipment and installation(s) shall be borne by the permittee, its successors and assigns and the Department in its reasonable discretion and only in accordance with the Department's current policy set forth in the Traffic Operations Manual and Permits Manual. Any modifications to the permittee's entrance necessary to accommodate signalization (including necessary easement(s) on private property) shall be the responsibility of the permittee, its successors and assigns, at no expense to the Department.

CONFIDENTIAL PROPRIETARY TRADE SECRET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
Rev. 10/2020
Page 3 of 4

APPLICATION FOR ENCROACHMENT PERMIT

10. The requested encroachment shall not infringe on the frontage rights of an abutting owner without their written consent as hereinafter described. Each abutting owner shall express their consent, which shall be binding on their successors and assigns, by the submission of a notarized statement as follows, "I (we), _____, hereby consent to the granting of the permit requested by the applicant along Route _____, which permit does affect frontage rights along my (our) adjacent real property." By signature(s) _____, subscribed and sworn by _____, on this date _____.

11. The permit, if approved, is subject to the agreement that it shall not interfere with any similar rights or permit(s) previously granted to any other party, except as otherwise provided by law.

12. Permittee shall include documentation which describes the facilities to be constructed. Permittee, its successors and assigns, agree as a condition of the granting of the permit to construct and maintain any and all permitted facilities or other encroachments in strict accordance with the submitted and approved permit documentation and the policies and procedures of the Department. Permittee, its successors and assigns, shall not use facilities authorized herein in any manner contrary to that prescribed by the approved permit. Only normal usage as contemplated by the parties and by this application and routine maintenance are authorized by the permit.

13. Permittee, its successors and assigns, at all times from the date permitted work is commenced until such time as all permitted facilities or other encroachments are removed from the right-of-way and the right-of-way restored, **shall defend, protect, indemnify and save harmless** the Department from any and all liability claims and demands arising out of the work, encroachment, maintenance, or other undertaking by the permittee, its successors and assigns, related or undertaken pursuant to the granted permit, due to any claimed act or omission by the permittee, its servants, agents, employees, or contractors. This provision shall not inure to the benefit of any third party nor operate to enlarge any liability of the Department beyond that existing at common law or otherwise if this right to indemnity did not exist.

14. Upon a violation of any provision of the permit, or otherwise in its reasonable discretion, the Department may require additional action by the permittee, its successors and assigns, up to and including the removal of the encroachment and restoration of the right-of-way. In the event additional actions required by the Department under the permit are not undertaken as ordered and within a reasonable time, the Department may in its discretion cause those or other additional corrective actions to be undertaken and the Department shall recover the reasonable costs of those corrective actions from the permittee, its successors and assigns.

15. Permittee, its successors and assigns, shall use the encroachment premises in compliance with all requirements of federal law and regulation, including those imposed pursuant to Title VI of the Civil Right Act of 1964 (42 U.S.C. § 2000d et seq.) and the related regulations of the U.S. Department of Transportation in Title 49 C.F.R. Part 21, all as amended.

16. Permittee, its successors and assigns, agree that if the Department determines it is necessary for the facilities or other encroachment authorized by the permit to be removed, relocated or reconstructed in connection with the reconstruction, relocation or improvement of a highway, the Department may revoke permission for the encroachment to remain under the permit and may order its removal, relocation or reconstruction by the permittee, its successors and assigns, at the expense of the permittee, except where the Department is required by law to pay any or all of those costs.

CONFIDENTIAL PROPRIETARY TRADE SECRET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
Rev. 10/2020
Page 4 of 4

APPLICATION FOR ENCROACHMENT PERMIT

17. Permittee agrees that the authorized permit is personal to the permittee and shall remain in effect until such time as (a) the permittee's rights to the adjoining real property to have benefitted from the requested encroachment have been relinquished, (b) until all permit obligations have been assumed by appropriate successors and assigns, and (c) unless and until a written release from permit obligations has been granted by the Department. The permit and its requirements shall also bind the real property to have benefitted from the requested encroachment to the extent permitted by law. The permit and the related encroachment become the responsibility of the successors and assigns of the permittee and the successors and assigns of each property owner benefitting from the encroachment, or the encroachment may not otherwise permissibly continue to be maintained on the right-of-way. (Does not apply to utility encroachments serving the general public.)

18. If work authorized by the permit is within a highway construction project in the construction phase, it shall be the responsibility of the permittee to make personal contact with the Department's Engineer on the project in order to coordinate all permitted work with the Department's prime contractor on the project.

19. This permit is not intended to, nor shall it, affect, alter or alleviate any requirement imposed upon the permittee, its successors and assigns, by any other agency.

20. Permittee, its successors and assigns, agree to contain and maintain all dirt, mud, and other debris emanating from the encroachment away from the surrounding right-of-way and the travel way of the highway hereafter and at all times that its obligations under the permit remain in effect.

21. Before You Dig: The contractor is instructed to call 1-800-752-6007 to reach KY 811, the One-Call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that the owners of underground facilities are not required to be members of the KY 811 One-Call Before U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Clerk to determine what utility companies have facilities in the area.

22. The undersigned Utility acknowledges ownership and control of the facilities proposed to be installed, modified, or extended by the Applicant/Permittee and agrees to be bound by the requirements and terms of this application and all related documents making up the approved permit, by the Department's Permits Guidance Manual, and by all applicable regulations and statutes in effect on the date of issuance of the permit. This information and application is certified correct to the best knowledge and belief of the undersigned Utility.

Duke Energy
UTILITY

John Perkins
NAME (Utility Representative)

Sr Engineer
TITLE (Utility Representative)

John Perkins
SIGNATURE (Utility Representative)

3/11/26
DATE

Kentucky811 Know what's below. Call before you dig.

To Submit a Locate Request
24 Hours a Day, Seven Days a Week:
Call 811 or 800-752-6007

CONFIDENTIAL PROPRIETARY TRADE SECRET

CONFIDENTIAL EXHIBIT 3(a)(1)
Pgs. 5-7

FILED UNDER SEAL

CONFIDENTIAL PROPRIETARY TRADE SECRET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
Rev. 10/2020
Page 1 of 4

APPLICATION FOR ENCROACHMENT PERMIT

KYTC KEPT #: _____

SECTION 1: APPLICANT CONTACT INFORMATION

APPLICANT Duke Energy	**ADDRESS** 139 E 4th St		
EMAIL n/a	**CITY** Cincinnati	**STATE** OH	**ZIP** 45202
CONTACT NAME 1 Josh Pedersen (on behalf of Duke Energy)	**EMAIL** jmpedersen@burnsmcd.com	**PHONE #** **CELL #** (913) 645-2713	
CONTACT NAME 2 (*if applicable*) John Perkins	**EMAIL** john.perkins@duke-energy.com	**PHONE #** **CELL #** 513-315-8338	

SECTION 2: PROPOSED WORK LOCATION

ADDRESS between 998 Dudley Rd and 1051 Dudley Rd	**CITY** Edgewood		**STATE** Kentucky	**ZIP** 41017
COUNTY Kenton	**ROUTE #** KY-17	**MILE POINT** 18.3-18.4	**LONGITUDE** (*X*) -84.53 4444°	**LATITUDE** (*Y*) 39.025338°

ADDITIONAL LOCATION INFORMATION: HDD from 998 Dudley Rd to 1051 Dudley Rd, goes under Dudley Rd and KY Hwy 17. Extent of drill path under road is approximately 312 feet.

FOR KYTC USE ONLY

PERMIT TYPE: ☐ Air Right ☐ Entrance ☐ Utilities ☐ Vegetation Removal ☐ Other: _____

ACCESS: ☐ Full ☐ Partial ☐ by Permit **LOCATION:** ☐ Left ☐ Right ☐ Crossing

SECTION 3: GENERAL DESCRIPTION OF WORK

Installation of 24" steel natural gas pipeline through private property with road crossings at Horsebranch Rd, Dudley Rd, and KY-17. With HDD being used to cross Dudley Rd and KY-17.

THE UNDERSIGNED APPLICANT(s), being duly authorized representative(s) or owner(s), DO AGREE TO ALL ORIGINAL UNEDITED TERMS AND CONDITIONS ON THE TC 99-1A, pages 1-4.

John Perkins
SIGNATURE

3-11-26
DATE

This is not a permit unless and until the applicant(s) receives an approved TC 99-1B from KYTC. This application shall become void if not approved by the cancellation date. The cancellation date shall be a minimum of one year from the date the applicant submits their application.

CONFIDENTIAL PROPRIETARY TRADE SECRET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

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APPLICATION FOR ENCROACHMENT PERMIT

TERMS AND CONDITIONS

1. The permit, including this application and all related and accompanying documents and drawings making up the permit, remains in effect and is binding upon the Applicant/Permittee, its successors and assigns, as long as the encroachment(s) exists and also until the permittee is finally relieved by the Department of Highways from all its obligations.

2. Applicant shall meet all requirements of the Clean Water Act if the project will disturb one acre or more, the applicant shall obtain a KPDES KYR10 Permit from the Kentucky Division of Water. All disturbed areas shall meet the requirements of the Department of Highway's Standard Specifications, Sections 212 and 213, as amended.

3. **INDEMNITY:**
   - **A.** PERFORMANCE BOND: The permittee shall provide to the Department a performance bond according to the Permits Manual, Section PE-203 as a guarantee of conformance with the Department's Encroachment Permit requirements.
   - **B.** PAYMENT BOND: At the discretion of the department, a payment bond shall be required of the permittee to ensure payment of liquidated damages assessed to the permittee.
   - **C.** LIABILITY INSURANCE: Liability insurance shall be required of the permittee (in an amount approved by the department) to cover all liabilities associated with the encroachment.
   - **D.** It shall be the responsibility of the permittee, its successors and assigns, to maintain all indemnities in full force and effect until the permittee is authorized to release the indemnity by the Department.

4. A copy of this application and all related documents making up the approved permit shall be given to the applicant and shall be made readily available for review at the work site at all times.

5. Perpetual maintenance of the encroachment is the responsibility of the permittee, its successors and assigns, with the approval of the Department as required, unless otherwise stated.

6. Permittee, its successors and assigns, shall comply with and agree to be bound by the requirements and terms of (a) this application and all related documents making up the approved permit, (b) by the Department's Permits Manual, and (c) by the Manual on Uniform Traffic Control Devices, both manuals as revised to and in effect on the date of issuance of the permit, all of which documents are made a part thereof by this reference. Compliance by the permittee, its successors and assigns, with subsequent revisions to applicable provisions of either manual or other policy of the Department may be made a condition of allowing the encroachment to persist under the permit.

7. Permittee agrees that this and any encroachment may be ordered removed by the Department at any time, and for any reason, upon thirty days written notice to the last known address of the applicant or to the address at the location of the encroachment. The permittee agrees that the cost of removing and of restoring the associated right-of-way is the responsibility of the permittee, its successors and assigns.

8. Permittee, its successors and assigns, agree that if the Department determines that motor vehicular safety deficiencies develop as a result of the installation or use of the encroachment, the permittee, its successors and assigns, shall provide and bear the expenses to adjust, relocate, or reconstruct the facilities, add signs, auxiliary lanes, or other corrective measures reasonably deemed necessary by the Department within a reasonable time after receipt of a written notice of such deficiency. The period within which such adjustments, relocations, additions, modifications, or other corrective measures must be completed will be specified in the notice.

9. Where traffic signals are required as a condition of granting the requested permit or are thereafter required to correct motor vehicular safety deficiencies, as determined by the Department, the costs for signal equipment and installation(s) shall be borne by the permittee, its successors and assigns and the Department in its reasonable discretion and only in accordance with the Department's current policy set forth in the Traffic Operations Manual and Permits Manual. Any modifications to the permittee's entrance necessary to accommodate signalization (including necessary easement(s) on private property) shall be the responsibility of the permittee, its successors and assigns, at no expense to the Department.

CONFIDENTIAL PROPRIETARY TRADE SECRET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
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APPLICATION FOR ENCROACHMENT PERMIT

10. The requested encroachment shall not infringe on the frontage rights of an abutting owner without their written consent as hereinafter described. Each abutting owner shall express their consent, which shall be binding on their successors and assigns, by the submission of a notarized statement as follows, "I (we), _____, hereby consent to the granting of the permit requested by the applicant along Route _____, which permit does affect frontage rights along my (our) adjacent real property." By signature(s) _____, subscribed and sworn by _____, on this date _____.

11. The permit, if approved, is subject to the agreement that it shall not interfere with any similar rights or permit(s) previously granted to any other party, except as otherwise provided by law.

12. Permittee shall include documentation which describes the facilities to be constructed. Permittee, its successors and assigns, agree as a condition of the granting of the permit to construct and maintain any and all permitted facilities or other encroachments in strict accordance with the submitted and approved permit documentation and the policies and procedures of the Department. Permittee, its successors and assigns, shall not use facilities authorized herein in any manner contrary to that prescribed by the approved permit. Only normal usage as contemplated by the parties and by this application and routine maintenance are authorized by the permit.

13. Permittee, its successors and assigns, at all times from the date permitted work is commenced until such time as all permitted facilities or other encroachments are removed from the right-of-way and the right-of-way restored, **shall defend, protect, indemnify and save harmless** the Department from any and all liability claims and demands arising out of the work, encroachment, maintenance, or other undertaking by the permittee, its successors and assigns, related or undertaken pursuant to the granted permit, due to any claimed act or omission by the permittee, its servants, agents, employees, or contractors. This provision shall not inure to the benefit of any third party nor operate to enlarge any liability of the Department beyond that existing at common law or otherwise if this right to indemnity did not exist.

14. Upon a violation of any provision of the permit, or otherwise in its reasonable discretion, the Department may require additional action by the permittee, its successors and assigns, up to and including the removal of the encroachment and restoration of the right-of-way. In the event additional actions required by the Department under the permit are not undertaken as ordered and within a reasonable time, the Department may in its discretion cause those or other additional corrective actions to be undertaken and the Department shall recover the reasonable costs of those corrective actions from the permittee, its successors and assigns.

15. Permittee, its successors and assigns, shall use the encroachment premises in compliance with all requirements of federal law and regulation, including those imposed pursuant to Title VI of the Civil Right Act of 1964 (42 U.S.C. § 2000d et seq.) and the related regulations of the U.S. Department of Transportation in Title 49 C.F.R. Part 21, all as amended.

16. Permittee, its successors and assigns, agree that if the Department determines it is necessary for the facilities or other encroachment authorized by the permit to be removed, relocated or reconstructed in connection with the reconstruction, relocation or improvement of a highway, the Department may revoke permission for the encroachment to remain under the permit and may order its removal, relocation or reconstruction by the permittee, its successors and assigns, at the expense of the permittee, except where the Department is required by law to pay any or all of those costs.

CONFIDENTIAL PROPRIETARY TRADE SECRET

KENTUCKY TRANSPORTATION CABINET
Department of Highways
PERMITS BRANCH

TC 99-1A
Rev. 10/2020
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APPLICATION FOR ENCROACHMENT PERMIT

17. Permittee agrees that the authorized permit is personal to the permittee and shall remain in effect until such time as (a) the permittee's rights to the adjoining real property to have benefitted from the requested encroachment have been relinquished, (b) until all permit obligations have been assumed by appropriate successors and assigns, and (c) unless and until a written release from permit obligations has been granted by the Department. The permit and its requirements shall also bind the real property to have benefitted from the requested encroachment to the extent permitted by law. The permit and the related encroachment become the responsibility of the successors and assigns of the permittee and the successors and assigns of each property owner benefitting from the encroachment, or the encroachment may not otherwise permissibly continue to be maintained on the right-of-way. (Does not apply to utility encroachments serving the general public.)

18. If work authorized by the permit is within a highway construction project in the construction phase, it shall be the responsibility of the permittee to make personal contact with the Department's Engineer on the project in order to coordinate all permitted work with the Department's prime contractor on the project.

19. This permit is not intended to, nor shall it, affect, alter or alleviate any requirement imposed upon the permittee, its successors and assigns, by any other agency.

20. Permittee, its successors and assigns, agree to contain and maintain all dirt, mud, and other debris emanating from the encroachment away from the surrounding right-of-way and the travel way of the highway hereafter and at all times that its obligations under the permit remain in effect.

21. Before You Dig: The contractor is instructed to call 1-800-752-6007 to reach KY 811, the One-Call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that the owners of underground facilities are not required to be members of the KY 811 One-Call Before U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Clerk to determine what utility companies have facilities in the area.

22. The undersigned Utility acknowledges ownership and control of the facilities proposed to be installed, modified, or extended by the Applicant/Permittee and agrees to be bound by the requirements and terms of this application and all related documents making up the approved permit, by the Department's Permits Guidance Manual, and by all applicable regulations and statutes in effect on the date of issuance of the permit. This information and application is certified correct to the best knowledge and belief of the undersigned Utility.

Duke Energy
UTILITY

John Perkins
NAME (Utility Representative)

Senior Engineer
TITLE (Utility Representative)

John Perkins
SIGNATURE (Utility Representative)

3/11/26
DATE

Kentucky811 Know what's below. Call before you dig.

To Submit a Locate Request
24 Hours a Day, Seven Days a Week:
Call 811 or 800-752-6007

CONFIDENTIAL PROPRIETARY TRADE SECRET

CONFIDENTIAL EXHIBIT 3(a)(2)
Pgs. 5-8

FILED UNDER SEAL

CONFIDENTIAL PROPRIETARY TRADE SECRET

CITY OF EDGEWOOD

PUBLIC RIGHT-OF-WAY ENCROACHMENT PREREQUISITES & REGULATIONS

When applying for an Encroachment Permit, the following must be provided in accordance with City Ordinance 2016-07-08:

- A completed application form.
- Site Plan for proposed work.
- If a private contractor is doing work in the City's rights-of-ways the contractor is required to provide an indemnification letter, proof of Worker's Compensation Insurance, specific to the State of Kentucky and proof of General Liability Insurance.
- A non-refundable application fee of $100 for the first application in a calendar year and $15 for each application in the same calendar year.
- Notify the city when work is complete.

When applying for an Encroachment Permit, the applicant shall follow the subsequent requirements:

1. Applicant will be required to receive an approved permit prior to starting work. Applicant may be required to review sight distance minimums prior to approval.
2. Driveway Applicants shall place No. 2 or No. 4 stone on first 50 feet of driveway. Driveway must be wide enough to accommodate workers' vehicles. Vehicles are **not** to be illegally parked in the road or on the shoulder of the road.
3. Erosion control methods shall be used to control run-off.
4. Applicant must maintain proper drainage during construction.
5. Applicant must keep road/street clean during construction of mud, stone or debris.
6. Applicant shall follow the City of Edgewood Standard Details in the implementation of the project. The applicant is encouraged to include pertinent details in their application.

You may apply in person, or by mail, for the Encroachment Permit at the City of Edgewood, 385 Dudley Road, Edgewood, KY 41017, or you may fax the completed Application to 859-331-5912. Office hours are Monday through Friday from 8:00 am – 6:00 pm. Should you have further questions regarding the Encroachment Application process, please contact the Public Works Director at 859-331-8126.

The regulations for removal and excavation of the pavement, surface and sub-surface rocks and soils and other material from the streets and other public ways in the City of Edgewood are regulated by City Ordinance 2016-07-08.

CONFIDENTIAL PROPRIETARY TRADE SECRET

CERTIFICATE OF ENCROACHMENT APPLICATION

RIGHTS-OF-WAY EXCAVATION ENCROACHMENT APPLICATION

1. Name of Applicant: Duke Energy Kentucky, Inc
   Contact Name: John Perkins
   Address, City, State & Zip: 139 E. 4th St., Cincinnati, OH 45202
   Phone Number: 513-315-8338
   Email Address of Applicant: john perkins@duke-energy.com

2. Limits of Proposed Encroachment: Dudley Rd & KY-17
   (Attach plan for clarity)

3. Is Location of Encroachment on a: [x] City Road [ ] State Route
   Additional Information:

4. Duration of Excavation: Start Date(mm/dd/yy): ant. 02/01/2027 End Date(mm/dd/yy): ant. 5/1/2027

5. **NOTIFY CITY WHEN WORK IS COMPLETE**

   Additional Information:

6. (Provide list or copies of anticipated City of Edgewood Standard Drawings to be used on this project)
   HDD will span from 998 Dudley Rd to 1051 Dudley Rd, crossing Dudley Rd
   And KY-17, total HDD length is 1311' with approx.. 312' of which is underneath of roadway.
   HDD section to begin and end on private property.

---*For Official Use Only*---

Approved: [ ] Yes [ ] No Fee paid: _____(Amt paid)

Conditions: _____

_____

Approved By: _____ Date: _____

Inspected By: _____ Date: _____

CONFIDENTIAL PROPRIETARY TRADE SECRET

CONFIDENTIAL EXHIBIT 3(e)
Pgs. 3-6

FILED UNDER SEAL

CONFIDENTIAL PROPRIETARY TRADE SECRET

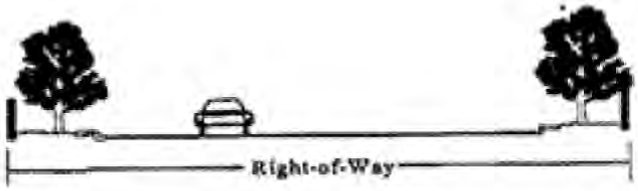
City of Crestview Hills, Kentucky
Encroachment Permit Information

What is an encroachment permit?

An encroachment permit is written permission to excavate or otherwise encroach within the City of Crestview Hills' public road right-of-way. A permit may be granted to a public utility, contractor or an individual. Permits are issued by the City of Crestview Hills for any work within the City's boundaries.

What is the road right-of-way?

The road right-of-way is the full width of land owned or controlled by the City of Crestview Hills, upon which the traveled way is constructed, and which usually extends considerably beyond the edge of pavement (or traveled way) to the boundaries of the adjacent private properties.



When are encroachment permits needed?

In addition to excavations, permits must be obtained for tree planting and removal, utility work, driveway installations, placement of any structures, construction of street improvements and drainage facilities, or generally for any type of work conducted within the public road right-of-way.

What is the purpose of an encroachment permit?

Encroachment permits provide necessary regulation of the encroachment process to safeguard the public interest in the roadway facility, minimize street cuts, help ensure the roadway longevity, and to ensure continuing safety and convenience for the traveling public.

What is the authority for Encroachment Permits?

Encroachment permits are required pursuant to City of Crestview Hills Ordinance No. 2018-11-01, which establish regulations specifically pertaining to right-of-way and govern the placement and maintenance of certain facilities that are used to provide utility or similar services. The ordinance also establishes penalties for working without a permit and for a violation of any terms of the permit.

What is the process for obtaining an encroachment permit?

An application describing the proposed work must be completed, signed, and turned into the City of Crestview Hills for review and processing. One set of construction plans or drawings, if available, must be submitted along with the application. There is a small fee for reviewing and processing the application form. The fee amount depends on the type of work being performed with a maximum of $50.00. Most permits are issued within 3 – 5 working days.

Where can permits be obtained?

Permits can be obtained at City of Crestview Hills' City Building, 50 Town Center Blvd., Crestview Hills, Kentucky, 41017, the City's website www.crestviewhills.com, or by calling 859-341-7373 during normal business hours.

CONFIDENTIAL PROPRIETARY TRADE SECRET

RIGHT-OF-WAY ENCROACHMENT PERMIT APPLICATION

50 Town Center Boulevard, Crestview Hills, KY 41017
Phone: 859-341-7373 | Fax: 859-341-6993 | Email: encroachmentpermits@crestviewhills.com

Name of Utility Company (if applicable): Duke Energy Kentucky, INC

Name of Entity Applying for Permit: Burns & McDonnell

Contact Person: John Perkins

Address: 139 (*Number*) E 4th St (*Street Name*) Cincinnati (*City*) OH (*State*) 45202 (*ZIP*)

Phone Number(s): 513-315-8338 (*Cell*) (*Work & Ext/Direct Line*) (*Fax*)

john.perkins@duke-energy.com (*Email*)

Name of Entity doing the work at site: TBD

(Please attach copy of the Occupational License for Entity doing work)

On Site Contact: TBD (*Name*) (*Phone*) (*Email*)

Location of Encroachment Activity: Within Horsebranch Rd, near 760 Horsebranch Rd. (see attached)

Description of Proposed Work: Execute open cut installation of 24" steel natural gas pipeline within Horsebranch Rd through the entirety of the roadway.

**Please attach any detailed plans and additional project descriptions*

Duration of Excavation **Start:** Spring 2027 **End:** Spring/Early Summer 2027

Estimated Restoration Complete Date Restoration to be completed Summer 2027

List Approximate Size of Each Type of Cut: 24" diameter pipe installed in approximate 5' wide excavated trench for a length of 30 ft within Horsebranch Rd

Billing Information: (If different than above)	**Permit Fees (Complete ALL that apply):**
Name: _____	Street Cut ($50 x X) $ _____
Address: _____	Sod Cut ($15 x ___) $ _____
_____	Bore Cut ($20 x ___) $ _____
Direct Phone: _____	Sidewalk/Bike Path Cut ($20 x ___) $ _____
Email: _____	Blocking Street ($15 x ___) $ _____
	TOTAL (Note: Max Fee is $50 per permit) $ _____

OFFICIAL USE ONLY **Permit Number:** _____

Approved as submitted: ☐ Yes ☐ No Approved with conditions: ☐ Yes ☐ No

Denied: ☐ Yes ☐ No

Is City Inspection of restoration required? ☐ Yes ☐ No

Fee Paid: ☐ Yes ☐ No If yes, Check Number: _____

_____ _____

City Official Date

CONFIDENTIAL PROPRIETARY TRADE SECRET

CONFIDENTIAL EXHIBIT 3(g)
Pgs. 3-4

FILED UNDER SEAL

Application Name : Utility Application
Tracking ID : 1094338
Last Update Date : 03/09/2026
Requested By : Candler, Curt
On Behalf Of : Candler, Curt
Last Updated By : CANDLER, CURT

Please reference the tracking number on payments and send to:

CSX Transportation

Attn: Corridor Occupancy Services

500 Water Street, J-180 Jacksonville, FL 32202

Project Owner Information

ACKNOWLEDGEMENT: by checking the box below applicant acknowledges that the application review fee is non-refundable.

Non-Refundable Review Fee Acknowledgement : Y

FACILITY OWNER/LEGAL COMPANY IDENTIFICATION

Please enter information as it appears on legal documents.

Company Name : DUKE ENERGY KENTUCKY, LLC
PS Applicant Legal Name :
CSX PS Alt Contact Legal Name :
PS Customer Legal Name :
Country : US
Address (1) : 525 S Tryon St
Address (2) : Attn: Real Estate Transactions
Address (3) :
Address (4) :
City : Charlotte
State : NC
Zip Code : 28202
Type Of Business : Limited Liability Company
State of Incorporation : NC
Tax Identification Number :
Emergency Contact Number : (919) 616-3028
Name : Ryan Houck
Title : Director, Real Estate
Office Phone Number : (704) 763-0068
Extension :
Mobile/Cell Phone Number :
Email : Road-RailPermits@Duke-Energy.com

BILLING ADDRESS FOR FACILITY OWNER ONLY

Click the box if the billing address is the same as customer legal address above. :
Company Name : DUKE ENERGY KENTUCKY, LLC
Country : US
Address (1) : 525 S Tryon St
Address (2) : Attn: Real Estate Transactions
Address (3) :
Address (4) :
City : CHARLOTTE
State : NC
Zip Code : 28202
Name : Ryan Houck
Title : Manager, Real Estate Transactions
Office Phone Number : (704) 763-0068
Extension :
Mobile/Cell Phone Number :
Email : road-railpermits@Duke-Energy.com

Application Name : Utility Application
Tracking ID : 1094338
Last Update Date : 03/09/2026
Requested By : Candler, Curt
On Behalf Of : Candler, Curt
Last Updated By : CANDLER, CURT

PROJECT ENGINEER/CONSULTANT/AGENT CONTACT INFORMATION

Click here if the Project Contact Information is the same as the Legal Information above :
Click here if the Project Contact Information is the same as the Billing Information above :
Check here if Agreement should be mailed to Engineer/Agent address :
Company Name : Schneider Geomatics
Country : US
Address (1) : 8901 Otis Avenue
Address (2) : Suite 100
Address (3) :
Address (4) :
City : Indianapolis
State : IN
Zip Code : 46216
Name : Curt Candler
Title : Team Lead
Office Phone Number : (317) 826-7168
Extension :
Mobile/Cell Phone Number :
Email : ccandler@schneidergeomatics.com

ADDITIONAL CONTACT INFORMATION

Additional Contact Name : Billy Fannin
Additional Contact Email : bfannin@schneidergeomatics.com
Additional Contact Name : Lori Mann
Additional Contact Email : lmann@schneidergeomatics.com
Additional Contact Name : Josh Fortney
Additional Contact Email : jfortney@schneidergeomatics.com

Project Information

REFERENCE

Your Reference Number : 2621001-60018
Will this utility facility solely provide service to CSX? : N
This request is for a CSX rail customer or rail-related project : N

The Theoretical Railroad Embankment Line ("TREL") begins at a point 12 ft. horizontally from center line of track, 18 in. below top-of-rail and extends downward on a 1.5 (H) to 1 (V) slope.

Type of Installation Request : NIR
Is this covered by an existing Master Agreement? : N
Is this project related to another transaction/project with CSX : N
Will proposed facility connect to an existing facility within the railroad corridor : N

DESCRIPTION

Provide detailed scope of work : Install a bored crossing for a new 24" natural gas steel pipeline

Location

PROJECT LOCATION

Is the facility located in a roadway? : N
Milepost Prefix From :

Application Name : Utility Application
Tracking ID : 1094338
Last Update Date : 03/09/2026

Requested By : Candler, Curt
On Behalf Of : Candler, Curt
Last Updated By : CANDLER, CURT

Milepost Number From : 103
Country : US
State : KY
County : Kenton
City : Fort Wright
Nearest Dot# : 915003A
Latitude : 39.023816
Longitude : -84.531094
MapCSX Link :
Did the applicant reference a State statute? :
Passenger Service :
MCI Territory :
Shortline Territory :
Shortline Agreement Number :
Number of Tracks :
Inspection Required :
Related Agreements :
Master Agreement Number :
Document Type :
Summary Comments :

Specification

Impact : CROSSING
Installation Method : HDD
Commodity Type : FLAMMABLE_GAS
Specification Information :
Casing Size in inches : 24

Application Fee

Description of Fee

Advanced Engineering Review Fee : $6830.00

Please note, you cannot submit the application until the payment has been received.

Disclaimer: The review fee being assessed is determined on the information provided. Review fee in non-refundable. Additional fees may apply if incorrect information is provided.

Please reference the tracking number on payments and send to:

CSX Transportation

Attn: Corridor Occupancy Services

500 Water Street, J-180 Jacksonville, FL 32202

ANDY BESHEAR
GOVERNOR

JACQUELINE COLEMAN
LT. GOVERNOR

TOURISM, ARTS AND HERITAGE CABINET
KENTUCKY HERITAGE COUNCIL
THE STATE HISTORIC PRESERVATION OFFICE
410 HIGH STREET
FRANKFORT, KENTUCKY 40601
(502) 564-7005
www.heritage.ky.gov

LINDY CASEBIER
SECRETARY

CRAIG A. POTTS
EXECUTIVE DIRECTOR &
STATE HISTORIC PRESERVATION OFFICER

January 12, 2026

Douglas Kullen
Senior Cultural Resources Specialist
Burns & McDonnell
1431 Opus Place, Suite 400
Downers Grove, IL 60515
Via email: dkullen@burnsmcd.com

RE: *Phase I Archaeological Survey of the Duke Energy AM07 Pipeline Replacement Project (Phase 5), Kenton County, Kentucky* by Douglas Kullen

Dear Mr. Kullen,

Thank you for your submittal of an archaeology report for the above-referenced undertaking. We understand that Duke Energy Kentucky, Inc. (Duke) proposes replacement of or upgrades to approximately 2.1 linear miles of their existing AM07 pipeline in Kenton County. We understand that the lead federal agency is anticipated to be the U.S. Army Corps of Engineers. The area of potential effects (APE) included the entirety of a survey corridor for the proposed pipeline route. No above-ground impacts are anticipated from the project activities.

Burns & McDonnell Engineering Company, Inc. conducted a Phase I archaeological survey over 97.1 acres of land in November of 2025. We understand methods included pedestrian survey and shovel testing. No new archaeological sites were identified during this investigation. Previously recorded site 15Ke209 is documented adjacent to the APE. No evidence of the site was found within the APE. Similarly, the Holy Guardian Angels Cemetery is adjacent to the APE, and field investigations confirmed the cemetery does not extend into the APE.

We accept the archaeology report without revision.

Our office would concur with the determination of **No Historic Properties Affected** for this undertaking.

Should you have any questions or concerns, please contact Patti Hutchins of my staff at Patricia.Hutchins@ky.gov.

Sincerely,

Craig Potts
Executive Director and
State Historic Preservation Officer

KHC# 252316
CP: peh

CONFIDENTIAL PROPRIETARY TRADE SECRET

BURNS McDONNELL

March 16, 2026

Greg McKay
Chief – North Branch
U.S. Army Corps of Engineers – Louisville District Regulatory Division Office
RDN, Room 752
P.O. Box 59
Louisville, KY 40201-0059

Re: Nationwide Permit Pre-Construction Notification for Section 404
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky, Inc.

Dear Mr. McKay:

Burns & McDonnell, on behalf of Duke Energy, Kentucky Inc. (Duke Energy) submits this request for a preliminary jurisdictional determination and Section 404 Nationwide Permit (NWP) authorization for the AM07 Phase 5 Pipeline Replacement Project (Project). The Project has been designed to avoid and minimize impacts to wetlands and other water bodies and meets the conditions for authorization under an NWP 12 – Oil or Natural Gas Pipeline Activities. We request agency review of the enclosed permit application and confirmation of NWP applicability.

AM07 Phase 5 Project is located in Kenton County, Kentucky (Attachment 6) and is an installation of approximately 2.08 miles of 24-inch pipeline with several road crossings.

Efforts have been made to avoid and minimize impacts to waters of the U.S. and sensitive species and habitat to the extent practicable. A wetland delineation was completed, and the results are included with this application (Attachment 5). Two wetlands and seventeen streams were identified within the Survey Area. Photos documenting existing habitat and resources are included with this application as Attachment 8.

Temporary impacts to waters of the U.S. are proposed and are associated with pipeline installation and construction crossings necessary to access the pipeline ROW and adjacent workspaces. Impacts to waters of the U.S. have been minimized to the maximum extent practicable for the Project. The project proposes to temporarily impact a total of 200 linear feet (0.011 acres) of four ephemeral non-jurisdictional streams and 50 linear feet (0.032 acres) of one perennial jurisdictional stream. Information on these impacts is included in the attached permit application form and other attachments. Temporary impacts to the jurisdictional streams may include open cut trench crossing with flumed construction crossing. Best management practices will be employed to keep any sediment from being transferred offsite or entering the channels or wetlands. Please refer to resource impact tables in Attachment 2 for additional information.

530 West Spring Street \ Suite 100 \ Columbus, OH 43215
O 614-453-7833 \ burnsmcd.com

Three potential roost trees were identified within the forested portions of the Survey Area. During the presence/probable absence surveys for federal and state-listed species on the nights of July 17th through July 24th, it was concluded there is probable absence for Indiana bat and northern long-eared bat. USFWS found this decision acceptable on September 4th, 2025. The tricolored bat was considered present for the Project area based on the survey, however USFWS determined probable absence for the species on September 4th, 2025. Although no impacts to species are anticipated, tree clearing activities are recommended by the KDFWR to be conducted during the winter season to avoid impacts to listed bat species. The KDFWR also recommends coordinating tree removal activities with USFWS. Therefore, impacts to listed bat species as a result of this Project are not anticipated. The results of the Kentucky Determination Key (DKey) included three federally-listed mussel species that have a May Affect determination: Longsolid (*Fusconaia subrotunda*), Pink Mucket *(Lampsilis abrupta*), and Rabbitsfoot (*Quadrula cylindrica cylindrica*). Assessment of ecological features within the Project survey area determined that there is potential suitable habitat present for two of the three federally-listed mussel species: Longsolid and Rabbitsfoot. Additionally, a total of 19.56 acres of tree clearing is proposed for the Project. Please refer to Attachment 3 for agency responses and dDetermination Keys.

A cultural resources survey for this Project was undertaken by Burns & McDonnell. One archaeological site and one cemetery were found near the Project. Archaeological clearance is recommended for construction within the Project area. The project will avoid impacts to historic resources and cemeteries. If buried cultural resources are encountered during Project construction, land-disturbing activities in the immediate area should be halted, and the Kentucky Heritage Council (KHC)/ State Historic Preservation Office (SHPO) will be notified. Then, any exposed cultural resources will be evaluated. The report was submitted to the KHC in December 2025, and a response was received in January 2026. The KHC accepted the report without revision and concur with the determination of "No Historic Properties Affected" for this undertaking. Please refer to Attachment 4 for the report and KHC consultation.

The following documents are attached to support this preliminary jurisdictional determination request and application. Please refer to Figure 1 (Attachment 6) included with this transmittal letter that identifies the environmental survey area corridor. Please refer to design drawings in Attachment 7 for preferred alignment information.

- Attachment 1: Application for Department of the Army Permit Form
- Attachment 2: Resource Impact Tables
- Attachment 3: USFWS KDFWR Consultation
- Attachment 4: KHC Consultation
- Attachment 5: Wetland Delineation Report

- Attachment 6: Vicinity Map
- Attachment 7: Design Drawings
- Attachment 8: Survey Area Photographs

If you have any questions or need any additional information, please don't hesitate to contact Brooke Harrison by telephone at (216) 527-4781 or by email at bharrison@burnsmcd.com. Your attention to this matter is appreciated.

Sincerely,

Brooke Harrison
Project Manager

Enclosure

cc: David Klein, Duke Energy
Steve Lane, Duke Energy
Brittany Webb, Burns & McDonnell
Joshua Pedersen, Burns & McDonnell

ATTACHMENT 1 – APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT FORM

CONFIDENTIAL PROPRIETARY TRADE SECRET

U.S. Army Corps of Engineers (USACE)

NATIONWIDE PERMIT PRE-CONSTRUCTION NOTIFICATION (PCN)

For use of this form, see 33 CFR 330; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003 Expires: 2027-10-31

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority	Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Regulatory Program of the Corps of Engineers (Corps); Final Rule 33 CFR 320-332.
Principal Purpose	Information provided on this form will be used in evaluating the nationwide permit pre-construction notification.
Routine Uses	This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of the agency coordination process.
Disclosure	Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

The public reporting burden for this collection of information, 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR RESPONSE TO THE ABOVE EMAIL.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (*see sample drawings and/or instructions*) and be submitted to the district engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (*agent is not required*)
First - David Middle - Last - Klein	First - Brooke Middle - Last - Harrison
Company - Duke Energy Kentucky, Inc.	Company - Burns & McDonnell
Company Title - Senior Project Manager	E-mail Address - bharrison@burnsmcd.com
E-mail Address - David.Klein@duke-energy.com	
6. APPLICANT'S ADDRESS	**9. AGENT'S ADDRESS**
Address- 139 E. 4th Street	Address- 530 West Spring Street, Suite 100
City - Cincinnati State - OH ZIP - 45202 Country - USA	City - Columbus State - OH ZIP - 43215 Country - USA
7. APPLICANT'S PHONE NOs. with AREA CODE	**10. AGENT'S PHONE NOs. with AREA CODE**
a. Residence b. Business 513-678-1336 c. Fax d. Mobile	a. Residence b. Business 380-390-2516 c. Fax d. Mobile

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Burns & McDonnell to act in my behalf as my agent in the processing of this nationwide permit pre-construction notification and to furnish, upon request, supplemental information in support of this nationwide permit pre-construction notification.

SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME or TITLE (*see instructions*)
AM07 Phase 5 Pipeline Replacement Project

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NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

13. NAME OF WATERBODY, IF KNOWN (*if applicable*)
S-1, S-7, S-8, S-9, S-10 (Horse Branch Creek)

14. PROPOSED ACTIVITY STREET ADDRESS (*if applicable*)
See Attached Wetland Delineation Report

15. LOCATION OF PROPOSED ACTIVITY (*see instructions*)

Latitude	°N	Longitude	°W
-84.539497		39.026422	center of Project

City: Crestview Hills, Edgewood, Fort Wright, Covington
State: KY
ZIP: 41017

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (*see instructions*)

State Tax Parcel ID

Municipality

Section

Township

Range

17. DIRECTIONS TO THE SITE
From the USACE Louisville District office, get on I-64 East from West Broadway and South 9th Street/ Wilkins Avenue. Follow I-71 North to KY-17 South/ Madison Pike in Kenton County. Take exit 80 from I-275 East. Take Dudley Road to Louing Lane in Edgewood. (39.026422, -84.539497).

18. IDENTIFY THE SPECIFIC NATIONWIDE PERMIT(S) YOU PROPOSE TO USE
NWP 12

19. DESCRIPTION OF PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)
The Project includes the installation of approximately 2.08 miles of 24-inch pipeline with several road crossings and installation across several streams. The existing pipeline will be abandoned in place and the new pipe will be installed within the new easement locations. Tree and vegetation clearing will be necessary to access the new pipeline easement. Streams proposed for temporary impacts have 50 or less feet of bank disturbance.

Ephemeral streams S-1, S-7, S-8, and S-9 will be temporarily crossed to install new pipeline, alongside with temporary timber matting for workspace and access. Temporary timber matting will be installed for equipment crossing; culverts are not anticipated for crossings. Perennial stream S-10, known as Horse Branch Creek, will be temporarily crossed with a flumed construction. Installation of the new pipe will occur by excavating a trench. The pipeline will be constructed in a way to maintain flow and allow for dry excavation, and no equipment will be operating within the stream channel. Streams will be dammed to manage flow. Water will either be pumped around or managed with a flume and bypass. Spoils from open cutting activities will be temporary sidecast and erosion and sediment controls will be installed along with best management practices (BMPs) to protect spoils, prevent runoff and limit erosion.

No wetlands are anticipated to be impacted by the Project. Please refer to the impact table in Attachment 2 and design drawings in Attachment 7 for additional information.

The Project has been designed to minimally impact streams. Removal of vegetated buffer will be limited to necessary access area and stream buffer will be maintained to the extent practicable. Following completion of construction activities, the trench will be backfilled, restored to pre-construction contours, and seeded as appropriate.

20. DESCRIPTION OF PROPOSED MITIGATION MEASURES (*see instructions*)
The Project has been designed to minimally impact streams. No impacts to wetlands are anticipated. A wetland delineation of the project (Attachment 5) allowed for the temporary work areas and access roads to be designed to avoid and minimize impacts to waters of the U.S. where practicable. Removal of vegetated buffer will be limited to necessary access area and stream buffer will be maintained to the extent practicable. The pipeline will be constructed in a way to maintain flow and allow for dry excavation, and no equipment will be operating within the stream channel. Best management practices will be utilized to minimize erosion. After Project construction, temporary work areas will be returned to preconstruction contours and re-vegetated as appropriate.

21. PURPOSE OF NATIONWIDE PERMIT ACTIVITY (*Describe the reason or purpose of the project, see instructions*)
The purpose of the project is the installation of approximately 2.08 miles of 24-inch pipeline in order to maintain the gas utility function and to continue to provide reliable, affordable, and clean energy to the communities it serves. Construction is scheduled to start March 2027 and is to be completed by September 2027.

CONFIDENTIAL PROPRIETARY TRADE SECRET

22. QUANTITY OF WETLANDS, STREAMS, OR OTHER TYPES OF WATERS DIRECTLY AFFECTED BY PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)

Acres	Linear Feet	Cubic Yards Dredged or Discharged
0.043	250	74.3

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site.

23. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. (*see instructions*)

Kentucky General Certification for NWP 12.

24. If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and/or the loss of greater than 3/100-acre of stream bed and requires pre-construction notification, explain how the compensatory mitigation requirement in paragraph (c) and/or paragraph (d) of general condition 23 will be satisfied, or explain why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required for the proposed activity.

All resources impacts are temporary with no permanent loss. Because there are no permanent impacts and no loss of waters of the U.S., no compensation or mitigation is anticipated.

25. Is any portion of the nationwide permit activity already complete? ☐ Yes ☒ No If Yes, describe the completed work:

N/A

26. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (*see instructions*)

Three potential roost trees were identified within the forested portions of the Survey Area. During the presence/probable absence surveys for federal and state-listed species on the nights of July 17th through July 24th, it was concluded there is probable absence for Indiana bat and northern long-eared bat. USFWS found this decision acceptable on September 4th, 2025. The tricolored bat was considered present for the Project area based on the survey, however USFWS determined probable absence for the species on September 4th, 2025. A total of 19.56 acres of tree clearing is proposed for the Project. Although no impacts to species are anticipated, tree clearing activities are recommended by the KDFWR to be conducted during the winter season to avoid impacts to listed bat species. The KDFWR also recommends coordinating tree removal activities with USFWS. Therefore, impacts to listed bat species as a result of this Project are not anticipated. Additionally, the results of the Kentucky Determination Key (DKey) included three federally-listed mussel species with a May Affect determination: Longsolid (Fusconaia subrotunda), Pink Mucket (Lampsilis abrupta), and Rabbitsfoot (Quadrula cylindrica cylindrica). Assessment of ecological features within the Project survey area determined that there is potential suitable habitat present for two of the three federally-listed mussel species: Longsolid and Rabbitsfoot. Please refer to Attachment 3 for the agency responses and determination keys.

27. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (*see instructions*)

A cultural resources survey for this Project was undertaken by Burns & McDonnell. One archaeological site and one cemetery were found near the Project. Archaeological clearance is recommended for construction within the Project area. The project will avoid impacts to historic resources and cemeteries. If buried cultural resources are encountered during Project construction, land-disturbing activities in the immediate area should be halted, and the Kentucky Heritage Council (KHC)/ State Historic Preservation Office (SHPO) will be notified. Then, any exposed cultural resources will be evaluated. The report was submitted to the KHC in December 2025 and a response was received in January 2026. The KHC accepted the report without revision and concur with the determination of "No Historic Properties Affected" for this undertaking. Please refer to Attachment 4 for the report and KHC consultation.

28. For a proposed NWP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":

N/A

29. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? ☐ Yes ☐ No

If "yes", please provide the date your request was submitted to the Corps district: N/A

30. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (*see instructions*)

N/A

31. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that the information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE

The pre-construction notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in Block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Instructions for Preparing a

Department of the Army

Nationwide Permit (NWP) Pre-Construction Notification (PCN)

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant's Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity, including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g.,a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, or occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distant crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands and/or of Greater Than 3/100-Acre of Stream Bed When Pre-Construction Notification is Required. Paragraphs (c) and (d) of NWP general condition 23 require compensatory mitigation at a minimum one-for-one replacement ratio for all wetland losses that exceed 1/10-acre and/or for all losses of stream bed that exceed 3/100-acre, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre and/or for losses of stream bed that exceed 3/100-acre, or provide an explanation of why the district engineer should not require wetland and/or stream compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 24.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a Federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a “study river” under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit http://www.rivers.gov/.

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

Block 30. Other Information Required For Nationwide Permit Pre-Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

* NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
* NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
* NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.
* NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre-construction notification.
* NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
* NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
* NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions must be submitted to the district engineer and receive written authorization prior to commencing the activity.
* NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification.

If more space is needed, attach an extra sheet of paper marked Block 30.

Block 31. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.

ATTACHMENT 2 – RESOURCE IMPACT TABLES

ATTACHMENT 2

AM07 Phase 5 Pipeline Replacement Project – Stream Impacts

Stream Number	Stream Name	Feature Type	Preliminary Jurisdictional Determination	Impacts					Impact Duration	Impact Cause
				Linear Feet	Width (OHWM)	Acres	Cubic Yards of Fill	Cubic Yards of Dredge*		
1	Unnamed Tributary	Ephemeral	Non-Jurisdictional	50	3	0.003	9.56	4.00	Temporary	Open cut trench crossing. Temporary timber matting for workspace and access (50').
7	Unnamed Tributary	Ephemeral	Non-Jurisdictional	50	3	0.003	18.89	16.67	Temporary	Open cut trench crossing & excavation/bore pit. Temporary timber matting for workspace and access (20').
8	Unnamed Tributary	Ephemeral	Non-Jurisdictional	50	2.5	0.003	15.74	13.89	Temporary	Open cut trench crossing & excavation/bore pit. Temporary timber matting for workspace and access (20').
9	Unnamed Tributary	Ephemeral	Non-Jurisdictional	50	2	0.002	4.15	2.67	Temporary	Open cut trench crossing. Temporary timber matting for workspace and access (20').
10	Horse Branch Creek	Perennial	Jurisdictional	50	27.8	0.032	98.84	37.07	Temporary	Open cut trench crossing. Flumed construction crossing.
Total Proposed Impacts to Non-Jurisdictional Streams				**200**		**0.011**	**48.34**	**37.23**		
Total Proposed Impacts to Jurisdictional Streams				**50**		**0.032**	**98.84**	**37.03**		
Total Proposed Stream Impact				**250**		**0.043**	**147.18**	**74.3**		

*Open cut trench "dredge" excavation volume is calculated based on the assumption of a 4' trench width at 9' depth.

ATTACHMENT 3 – USFWS AND KDFWR CONSULTATION

CONFIDENTIAL PROPRIETARY TRADE SECRET

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0467 Fax: (502) 695-1024
Email Address: kentuckyes@fws.gov

In Reply Refer To: 08/20/2025 19:53:59 UTC
Project Code: 2025-0138780
Project Name: AM07 Phase 5 Pipeline Replacement Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do..

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
(502) 695-0467

PROJECT SUMMARY

Project Code: 2025-0138780
Project Name: AM07 Phase 5 Pipeline Replacement Project
Project Type: Pipeline - Onshore - Maintenance / Modification - Below Ground
Project Description: The project includes installation of approximately 2.08 miles of 24-inch steel pipeline with several road crossings. A single road bore across Horsebranch Road is anticipated, with a single HDD across Madison Pike. Two tie-ins are anticipated on each end of this new installation into the previously installed new AM07 24-inch pipeline.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.0234763,-84.53155243965575,14z

Counties: Kenton County, Kentucky

ENDANGERED SPECIES ACT SPECIES

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Bat *Myotis grisescens*	Endangered

No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:
- The project area includes potential gray bat habitat.

Species profile: https://ecos.fws.gov/ecp/species/6329
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/documents/generated/6422.pdf

Indiana Bat *Myotis sodalis*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
This species only needs to be considered under the following conditions:
- The project area includes 'potential' habitat. All activities in this location should consider possible effects to this species.

Species profile: https://ecos.fws.gov/ecp/species/5949
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/documents/generated/6422.pdf

Tricolored Bat *Perimyotis subflavus*	Proposed Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/10515

AMPHIBIANS

NAME	STATUS
Eastern Hellbender *Cryptobranchus alleganiensis alleganiensis*	Proposed Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9039

CLAMS

NAME	STATUS
Longsolid *Fusconaia subrotunda*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/9880

Pink Mucket (pearlymussel) *Lampsilis abrupta*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7829
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/documents/generated/5639.pdf

Rabbitsfoot *Quadrula cylindrica cylindrica*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/5165

NAME	STATUS
General project design guidelines: https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/documents/generated/5639.pdf	
Salamander Mussel *Simpsonaias ambigua* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Burns & McDonnell
Name: Audrey Cash
Address: 530 W Spring St
City: Columbus
State: OH
Zip: 43215
Email aicash@burnsmcd.com
Phone: 3305544362

CONFIDENTIAL PROPRIETARY TRADE SECRET

Outlook

Re: [EXTERNAL] Duke Energy AM07 Phase 5 Project Review Request- IPAC #2025-0138780

From KentuckyES, FW4 <kentuckyes@fws.gov>
Date Tue 9/2/2025 10:41 AM
To Cash, Audrey I <aicash@burnsmcd.com>
Cc Harrison, Brooke <bharrison@burnsmcd.com>; Pedersen, Joshua M <jmpedersen@burnsmcd.com>; Culbertson, James R. <jrculbertson@burnsmcd.com>; Bishop, Seth R <seth_bishop@fws.gov>; Webb, Brittany N <bnwebb@burnsmcd.com>; Lane, Steve <steve.lane@duke-energy.com>; kelsey.pace@duke-energy.com <kelsey.pace@duke-energy.com>; brad.seiter@duke-energy.com <brad.seiter@duke-energy.com>

Thank you for contacting the U.S. Fish and Wildlife Service's Kentucky Ecological Services Field Office (KFO) regarding the subject action. You have requested comments from our office regarding potential effects from the proposed action to federally listed species/critical habitat. The KFO is directing Federal agencies and project proponents requesting comments to use the Service's Information for Planning and Consultation (IPaC) website to identify listed species/critical habitat that may be affected by a proposed action and evaluate potential effects to these species and/or habitat. Listed species/critical habitat can be identified by entering the action into IPaC, then generating an official species list. Potential effects to each listed species/critical habitat can then be evaluated using one or more determination keys. The determination keys will recommend an effects determination for each species covered by that key based on your answers to the questions. Instructions on using IPaC, generating an official species list, and using determination keys are included on the IPaC home page. Additional information on IPaC is included on the Project Review Guidance page of our website.

Generating an official species list in IPaC will assign a project code (e.g., 202x-xxxxxxx) to the proposed action and enter it into the Service's project tracking system. If you do not wish to create an official action in our system, the IPaC Beta website can be used instead. This test website is identical to IPaC and will provide the same information but will not assign a project code, enter the action into our system, or submit any information to the Service.

If you have already obtained an official species list and completed all applicable determination keys in IPaC, the KFO has no further comments at this time.

If the intention of your request is to consult with the KFO under Section 7 of the Endangered Species Act or receive technical assistance, please respond to this email.

U.S Fish and Wildlife Service
KY Ecological Services Field Office
330 W. Broadway, Room 265
Frankfort, KY 40601
502.234.2832 (office)

From: Cash, Audrey I <aicash@burnsmcd.com>
Sent: Tuesday, August 26, 2025 9:47 AM
To: KentuckyES, FW4 <kentuckyes@fws.gov>

Cc: Harrison, Brooke <bharrison@burnsmcd.com>; Pedersen, Joshua M <jmpedersen@burnsmcd.com>; Culbertson, James R. <jrculbertson@burnsmcd.com>; Webb, Brittany N <bnwebb@burnsmcd.com>; Lane, Steve <steve.lane@duke-energy.com>; kelsey.pace@duke-energy.com <kelsey.pace@duke-energy.com>; brad.seiter@duke-energy.com <brad.seiter@duke-energy.com>
Subject: [EXTERNAL] Duke Energy AM07 Phase 5 Project Review Request- IPAC #2025-0138780

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hello,

On behalf of Duke Energy Kentucky Inc., Burns & McDonnell is requesting project review from the USFWS for the AM07 Phase 5 pipeline replacement project. Federally listed species were evaluated as part of the USFWS IPaC process and an official IPAC list (2025-0138780) is included as an attachment. The Project is requesting review to support a KY CPCN application and a potential USACE NWP.

Please feel free to contact me with questions or any additional informational needs.

Thank you,

Audrey Cash
Assistant Environmental Scientist
[she | her | hers]
Burns & McDonnell
530 W. Spring St, Suite 100, Columbus, OH 43215
M +1 330-554-4362 | **E** aicash@burnsmcd.com

CONFIDENTIAL PROPRIETARY TRADE SECRET

KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES

Rich Storm
Commissioner

#1 Sportsman's Lane
Frankfort, Kentucky 40601
Phone (502) 564-3400
Fax (502) 564-0506

Gabe Jenkins
Deputy Commissioner

September 12, 2025

Brooke Harrison,
Burns & McDonnell
530 West Spring Street, Suite 100
Columbus, OH 43215
Sent via e-mail

RE: Project Review Request
AM07 Phase 5 Pipeline Replacement Project
Kenton County, Kentucky

Dear Ms. Harrison:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has reviewed the proposed AM07 Phase 5 Pipeline Replacement Project in Kenton County, Kentucky for possible effects to listed species, designated critical habitat, and KDFWR-managed properties. KDFWR offers the following comments and recommendations:

Federally-listed species

Our records[1] indicate the following federally listed species[2] occur within ten (10) miles of the proposed project. Be advised that the KDFWR does not have the authority to confirm compliance with the Endangered Species Act. Please coordinate with the U.S. Fish and Wildlife Service for specific recommendations and compliance requirements for these federally listed species.

[1] Be advised that the KDFWR database is dynamic and only represents the Department's current knowledge of various species distributions. The database is a compilation of collection records made available by individuals and resource agencies, and therefore does not conclusively determine that a listed species is present/absent at a given location.
[2] Federal status designations are as follows: *N=None, C=Candidate, T=Threatened, E=Endangered, PT=Proposed Threatened, PE=Proposed Endangered*.

Scientific Name	Common Name	Class	Federal Status	State Status	SGCN Species
Cyprogenia stegaria	Fanshell	Bivalvia	E	E	Yes
Fusconaia subrotunda	Longsolid	Bivalvia	T	T	Yes
Lampsilis abrupta	Pink Mucket	Bivalvia	E	E	Yes
Plethobasus cyphyus	Sheepnose	Bivalvia	E	E	Yes
Pleurobema rubrum	Pyramid Pigtoe	Bivalvia	PT	E	Yes
Myotis sodalis	Indiana Bat	Mammalia	E	E	Yes
Perimyotis subflavus	Tricolored Bat	Mammalia	PE	T	Yes

State-listed species and Kentucky Wildlife Action Plan Species of Greatest Conservation Need (SGCN)

A review of KDFWR records for state-listed[3] and SGCN species[4] identified the following within one (1) mile of the proposed project area.

Scientific Name	Common Name	Class	Federal Status	State Status	SGCN Species
Ambystoma barbouri	Streamside Salamander	Amphibia	N	N	Yes
Desmognathus fuscus	Northern Dusky Salamander	Amphibia	N	N	Yes
Plethodon cinereus	Eastern Red-backed Salamander	Amphibia	N	S	Yes
Accipiter striatus	Sharp-shinned Hawk	Aves	N	S	Yes
Butorides virescens	Green Heron	Aves	N	N	Yes
Coccyzus americanus	Yellow-billed Cuckoo	Aves	N	N	Yes
Empidonax traillii	Willow Flycatcher	Aves	N	N	Yes
Falco sparverius	American Kestrel	Aves	N	N	Yes
Hylocichla mustelina	Wood Thrush	Aves	N	N	Yes
Lanius ludovicianus	Loggerhead Shrike	Aves	N	S	Yes

[3] State-listed species are assigned status designations by the Office of Kentucky Nature Preserves (OKNP). Designations are as follows: *N=None, E=Endangered, T=Threatened, S=Special Concern, H=Historic, X=Extirpated*.

[4] The KDFWR recently updated the Kentucky State Wildlife Action Plan (SWAP) under a federal grant from the U.S. Fish and Wildlife Service. The updated SWAP is a user-friendly guide for conservation of species of greatest conservation need (SGCN) in the state. The KDFWR invites you to review the updated SWAP on its website (https://app.fw.ky.gov/kyswap/). Species experts from the public and private sectors helped develop the SWAP by determining which species were rare, vulnerable, declining in population, or for which there was not enough information to determine status, and therefore had the greatest need for conservation actions. The SWAP is intended to provide guidance to developers, regulators, resource agencies, the public, and other stakeholders to conserve SGCN by prioritizing threats and recommending conservation actions for each species. The KDFWR is promoting the use of the SWAP to prevent declines in SGCN thereby preventing the need to list them in the Endangered Species Act. SGCN status does not invoke regulatory restrictions or requirements. However, the KDFWR encourages project sponsors to consider actions that provide conservation benefits to these species such as minimization of habitat encroachment, using buffer areas near projects to provide habitat, or other measures.

Melanerpes erythrocephalus	Red-headed Woodpecker	Aves	N	N	Yes
Scolopax minor	American Woodcock	Aves	N	N	Yes
Setophaga discolor	Prairie Warbler	Aves	N	N	Yes
Sitta canadensis	Red-breasted Nuthatch	Aves	N	E	No
Spiza americana	Dickcissel	Aves	N	N	Yes
Spizella pusilla	Field Sparrow	Aves	N	N	Yes
Sturnella magna	Eastern Meadowlark	Aves	N	N	Yes
Perimyotis subflavus	Tricolored Bat	Mammalia	PE	T	Yes

KDFWR Comments and Guidance:

The KDFWR asks that you coordinate any tree removal activities with the U.S. Fish and Wildlife Service Kentucky Field Office. Due to the presence of federally listed bat species near the project site, the USFWS may have seasonal requirements for removing trees, especially those greater than 3" dbh. Removing these trees during the winter months would reduce possible direct impacts to tree-roosting bat species.

Given the nature of the project location and type of aquatic resources present (or lack thereof), KDFWR does not have specific concerns regarding direct impacts to the listed mussel species. However, to protect aquatic species downstream of the proposed project area, KDFWR recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways. Additionally, KDFWR recommends avoiding and minimizing parallel alignments adjacent to streams.

While state-listed and SGCN species are not afforded specific protections, the KDFWR asks that appropriate measures be taken to reduce impacts to these species. The Streamside Salamander utilizes headwater streams, ditches, and small ponds/pools for breeding sites. The Eastern Red-Backed Salamander typically occurs in mesic woodlands but can be found in suburban yards. Therefore, minimizing the area of disturbance to the extent practicable is recommended. To reduce the risk of bird take, KDFWR recommends scheduling all vegetation removal and maintenance activities (e.g., general landscaping activities, mowing, grubbing) outside of the peak bird breeding season. Breeding seasons can be determined using online tools (e.g., Avian Knowledge Network [AKN], Information for Planning and Conservation system [IPaC], Birds of North America Online) or by contacting qualified experts (e.g., local Audubon or birding groups, KDFWR avian specialist Michael Patton). When vegetation removal activities cannot avoid the bird breeding season, conduct nest clearance surveys:

- Surveys should be conducted no more than five (5) days prior to the scheduled activity to ensure recently constructed nests are identified;

- Timing and dimensions of the area to be surveyed should depend on the nature of the project, location, and expected level of vegetation disturbance; and

- If active nests are identified within or in the vicinity of the project site, the site should be avoided until nestlings have fledged or the nest fails. If the activity must occur, a buffer

zone should be established around the nest and no activities should occur within that zone until nestlings have fledged. The dimension of the buffer zone depends on the proposed activity, habitat type, and species present. The buffer should be a distance that does not elicit a flight response by the adult birds and can be 0.5 – 1 mile for hawks and eagles. *Please note that KDFWR records did not identify any documented osprey/eagle nests within one (1) mile of the proposed project at the time of this review.*

Thank you for coordinating with the KDFWR. Please contact me at emilym.lawson@ky.gov if you have any questions.

Sincerely,

Emily Lawson
Environmental Coordinator

Outlook

Fw: [EXTERNAL] Acoustic Bat Survey Report - Duke AM07 Phase 5 Project

From Maine, Josiah J <jjmaine@burnsmcd.com>
Date Thu 9/4/2025 4:09 PM
To Webb, Brittany N <bnwebb@burnsmcd.com>; Harrison, Brooke <bharrison@burnsmcd.com>
Cc Rogers, Cara <crogers@burnsmcd.com>

Please see the USFWS concurrence with the acoustic bat survey results for AM07 Phase 5 below.

Josiah Maine

Burns & McDonnell

Senior Environmental Scientist

O 816-448-7519 \ M 785-317-1595

jjmaine@burnsmcd.com \ burnsmcd.com

9400 Ward Parkway \ Kansas City, MO 64114

From: Armstrong, Mike <mike_armstrong@fws.gov>
Sent: Thursday, September 4, 2025 2:55 PM
To: Maine, Josiah J <jjmaine@burnsmcd.com>
Cc: Rogers, Cara <crogers@burnsmcd.com>
Subject: Re: [EXTERNAL] Acoustic Bat Survey Report - Duke AM07 Phase 5 Project

Afternoon Josiah.

Thanks for your responses below. I have provided some additional feedback in green text for your consideration with future P/A surveys. No need to provide more justification for this project. Given the responses below, I have completed my review of the subject survey report and find it to be acceptable for probable absence of Indiana, northern long-eared, and the proposed endangered tricolored bat during the summer in the project area. Please be aware that my approval of these survey results is not a section 7(a)(2) concurrence and does not authorize implementation of any part of the proposed action or remove the applicant from the permitting requirements that may be required by other State and federal agencies. Please contact Kentuckyes@fws.gov if you have additional questions regarding the consultation.

Mike

Mike Armstrong
Southeast Region Bat Recovery Biologist
U.S. Fish & Wildlife Service
Kentucky Field Office
330 W. Broadway, Room 265
Frankfort, KY 40601
Cell: 502-229-4632
Office/Teams: 502-653-0498

**Check us out at https://www.fws.gov/office/kentucky-ecological-services

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From: Maine, Josiah J <jjmaine@burnsmcd.com>
Sent: Friday, August 29, 2025 3:48 PM
To: Armstrong, Mike <mike_armstrong@fws.gov>
Cc: Rogers, Cara <crogers@burnsmcd.com>
Subject: Re: [EXTERNAL] Acoustic Bat Survey Report - Duke AM07 Phase 5 Project

Hey Mike, thanks for reviewing so quickly. Please see my responses below and let me know if you need any additional information or want to discuss.

1. Given the potential noise issues from anthropogenic features at sites 1 and 3, please justify why those sites were selected for sampling over other sites (Note: the proportion of noise files to bat files were higher than I'd like to see as well)
   We selected the sites based on good open space for recording near areas of suitable habitat, and also areas where we had land access. As described below, the all noise files reviewed were from insects, so I don't believe the anthropogenic features influenced the results. What ratio of noise files to bat files does USFWS consider normal and is there guidance we could reference? Ok, thanks for looking at the noise files and confirming those were insects and not from the anthropogenic features. It is what I suspected given that there were some nights (consistent across sites) where the proportion of noise files were not an issue. We don't have a ratio per se. It is more of a red flag for us to question and request further analysis, if it isn't provided already, when the proportion is skewed as these site-nights were. The site selection, similarly, were red flags for me given the survey was conducted for MYSO, MYSE and PESU. I would not consider sites 1 and 3 to be adequate habitat that MYSE would ever use because they are too far removed from forest. I understand sometimes finding sites that are truly acceptable for all 3 species is challenging, especially in an urban location as you were sampling but I have no way of knowing what you had access to versus what you didn't. I'd prefer all sites to within forest gaps, along forested stream corridors, or along forested corridors when possible. Please keep this in mind when the survey includes all 3 species with future surveys.

2. You stated in the report that based on MLE values that MYSO and PESU were considered likely present by KPro on at least one site/night; however, my review of your results tables indicates that none of the site/nights had an MLE < or = 0.05 for either species. Please confirm which is correct and provide some explanation of the error.
   You are correct, thanks for catching that. It should be 9 species (out of 11 total) that were determined likely present by Kaleidoscope pro on at least one site/night combination. I've revised it in the attached version. Thank you for this correction.

3. I noticed in the photos of deployments that none of the zipties holding the mics were trimmed. Please provide any justification for why that could not have influenced call quality, especially in light of the high proportion of noise files recorded at most site-nights.
   I am not aware of any studies that have been done on unclipped zipties influencing call quality. If you have any, feel free to send them my way. Based on the data collected for this project, the recorded calls seem to be good quality, so I don't believe the zip ties interfered with the recordings. That said, we can keep them clipped going forward. Thank you for reviewing the calls and confirming that the recorded calls were of adequate quality and not influenced by the unclipped zipties. There is not published literature that I am aware of either; it is more of a simple thing that can be done to ensure that there is no interference, especially on windier nights.

4. Table 2-1 described sites 1 and 2 as being upland forest sites; however the site photos indicate that the sites were placed in open fields further removed from forest. Please provide additional support for why these sites should be considered upland forest or adjust the table.
   We base the habitat types we record for detectors on the options available in the USFWS reporting spreadsheets. AS-01 was on a ROW with the microphone facing some mature trees in an upland area. AS-02 was in an opening in a forest on a hillside. If we should be indicating these as "Other" and providing a more detailed description, let me know. Please see my response to #1 above. The issue really focuses mostly on whether the sites are suitable for determining P/A of MYSE and to a lesser extent MYSO. Both species prefer to spend their time in forest and less likely to be foraging or traveling in more open landscapes adjacent to forested habitat. When the P/A survey includes MYSE, we prefer sites to be within forested habitat.

5. Please provide any additional discussion/explanation from your perspective for why the proportion of noise files were high on most nights (basically all but 7/20). Also, did you spend time reviewing files identified by KPro as noise to assess how often bats may have been hidden in those files?
   I took a look at some of the noise files from each site (see attached screenshots), and they mostly appear to be katydids and other insects. Generally, I wouldn't expect these to interfere much with detection of high-frequency bats. In some cases there were some faint bat calls recorded incidentally with the insect noise, but I don't think these would have been enough to trigger a recording in the absence of the insect noise. Thanks for this response and the screenshots provided. I anticipated that it was insect noise causing the issue but needed to see it.

Thanks,

Josiah Maine

Burns & McDonnell

Senior Environmental Scientist

O 816-448-7519 \ M 785-317-1595

jjmaine@burnsmcd.com \ burnsmcd.com

9400 Ward Parkway \ Kansas City, MO 64114

From: Armstrong, Mike <mike_armstrong@fws.gov>
Sent: Friday, August 29, 2025 9:31 AM
To: Maine, Josiah J <jjmaine@burnsmcd.com>
Subject: Fw: [EXTERNAL] Acoustic Bat Survey Report - Duke AM07 Phase 5 Project

Morning Josiah.

I am reviewing you report and had a few things that I would like you to address please:

1. Given the potential noise issues from anthropogenic features at sites 1 and 3, please justify why those sites were selected for sampling over other sites (Note: the proportion of noise files to bat files were higher than I'd like to see as well)
2. You stated in the report that based on MLE values that MYSO and PESU were considered likely present by KPro on at least one site/night; however, my review of your results tables indicates that none of the site/nights had an MLE < or = 0.05 for either species. Please confirm which is correct and provide some explanation of the error.
3. I noticed in the photos of deployments that none of the zipties holding the mics were trimmed. Please provide any justification for why that could not have influenced call quality, especially in light of the high proportion of noise files recorded at most site-nights.
4. Table 2-1 described sites 1 and 2 as being upland forest sites; however the site photos indicate that the sites were placed in open fields further removed from forest. Please provide additional support for why these sites should be considered upland forest or adjust the table.
5. Please provide any additional discussion/explanation from your perspective for why the proportion of noise files were high on most nights (basically all but 7/20). Also, did you spend time reviewing files identified by KPro as noise to assess how often bats may have been hidden in those files?

I have reviewed your qualitative analysis of calls and don't have any questions regarding that at this time.

Thanks and feel free to reach out if you want to discuss.

Mike

Mike Armstrong
Southeast Region Bat Recovery Biologist
U.S. Fish & Wildlife Service
Kentucky Field Office
330 W. Broadway, Room 265
Frankfort, KY 40601
Cell: 502-229-4632
Office/Teams: 502-653-0498

**Check us out at https://www.fws.gov/office/kentucky-ecological-services

From: KentuckyES, FW4 <kentuckyes@fws.gov>
Sent: Monday, August 25, 2025 11:21 AM
To: Armstrong, Mike <mike_armstrong@fws.gov>
Subject: Fw: [EXTERNAL] Acoustic Bat Survey Report - Duke AM07 Phase 5 Project

Sir,

Please see attached and below email for a bat survey.

Thank you,

From: Maine, Josiah J <jjmaine@burnsmcd.com>
Sent: Monday, August 25, 2025 10:48 AM
To: KentuckyES, FW4 <kentuckyes@fws.gov>
Cc: Lane, Steve <steve.lane@duke-energy.com>; Pace, Kelsey M <kelsey.pace@duke-energy.com>; Webb, Brittany N <bnwebb@burnsmcd.com>; Pedersen, Joshua M <jmpedersen@burnsmcd.com>; Sandra.Guile@duke-energy.com <Sandra.Guile@duke-energy.com>; Seiter, Brad <brad.seiter@duke-energy.com>; Harrison, Brooke <bharrison@burnsmcd.com>; Rogers, Cara <crogers@burnsmcd.com>
Subject: [EXTERNAL] Acoustic Bat Survey Report - Duke AM07 Phase 5 Project

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hello,
Please see the attached acoustic bat survey report for your review. This is for the Duke AM07 Phase 5 Pipeline Replacement Project in Kenton County, Kentucky. I have also attached a spreadsheet of auto/manual ID disagreements, some example screenshots, and detector log files. Please let me know if you have any questions or need any additional information for your review.
Thanks,

Josiah Maine
Burns & McDonnell
Senior Environmental Scientist
O 816-448-7519 \ M 785-317-1595
jjmaine@burnsmcd.com \ burnsmcd.com
9400 Ward Parkway \ Kansas City, MO 64114

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0467 Fax: (502) 695-1024
Email Address: kentuckyes@fws.gov

In Reply Refer To: 10/23/2025 14:37:25 UTC
Project code: 2025-0138780
Project Name: AM07 Phase 5 Pipeline Replacement Project

Subject: Technical Assistance letter for the project named 'AM07 Phase 5 Pipeline Replacement Project' for specified threatened and endangered species that may occur in your proposed project location consistent with the Kentucky Determination Key (DKey)

Dear Audrey Cash:

The U.S. Fish and Wildlife Service (Service) received on **October 23, 2025** your effect determination(s) for the 'AM07 Phase 5 Pipeline Replacement Project' (Action) using the Kentucky (DKey) within the Information for Planning and Consultation (IPaC) system. The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based on your answers and the assistance of the Service's Kentucky DKey, you made the following effect determination(s) for the proposed Action:

Species	Listing Status	Determination
Gray Bat (*Myotis grisescens*)	Endangered	NLAA
Longsolid (*Fusconaia subrotunda*)	Threatened	May affect
Pink Mucket (pearlymussel) (*Lampsilis abrupta*)	Endangered	May affect
Rabbitsfoot (*Quadrula cylindrica cylindrica*)	Threatened	May affect

Consultation Status

May Affect Determinations: Species with May Affect determinations are those for which the DKey was unable to provide a conclusion or those for which you were either unsure about the determination or you chose to make a "may affect" determination. If the DKey was unable to provide a conclusion, this does not necessarily mean that the project is likely to adversely affect the species. If you think the project may affect the species or want additional technical assistance, please follow the instructions in the "Additional Coordination" section below. If a federal action agency chooses to make a "no effect" determination for the species, there is no

statutory requirement to request concurrence with that determination; however, the federal action agency should document the supporting information for this determination in their files. This documentation would typically demonstrate a lack of suitable habitat within the action area, show that no impacts to suitable habitat would occur, or provide information that the species is not reasonably certain to occur in the action area even though suitable habitat is present.

The Service recommends that your agency contact the Kentucky Ecological Services Field Office or re-evaluate the Action in IPaC if: 1) the scope, timing, duration, or location of the Action changes, 2) new information reveals the Action may affect listed species or designated critical habitat, or 3) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Kentucky Ecological Services Field Office should take place before project changes are final or resources committed.

The following species and/or critical habitats may also occur in your project area and **are not** covered by this conclusion:

- Eastern Hellbender *Cryptobranchus alleganiensis alleganiensis* Proposed Endangered
- Indiana Bat *Myotis sodalis* Endangered
- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Salamander Mussel *Simpsonaias ambigua* Proposed Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

To address effects to other federally listed or proposed species and/or their designated critical habitat, you can request project-specific review by following the instructions in the “Next Steps” section of your species list letter, or you may use another determination key, if available.

Additional Coordination

To request additional technical assistance or consultation, please contact the Kentucky Ecological Services Field Office . When you contact the office, please provide all relevant site-specific information regarding the proposed Action. The Kentucky Ecological Services Field Office will respond within 30 to 60 days of your submittal.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

AM07 Phase 5 Pipeline Replacement Project

2. Description

The following description was provided for the project 'AM07 Phase 5 Pipeline Replacement Project':

> The project includes installation of approximately 2.08 miles of 24-inch steel pipeline with several road crossings. A single road bore across Horsebranch Road is anticipated, with a single HDD across Madison Pike. Two tie-ins are anticipated on each end of this new installation into the previously installed new AM07 24-inch pipeline.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.023491750000005,-84.54622650384403,14z

QUALIFICATION INTERVIEW

1. Will the proposed Action involve Federal funding, permitting, or authorization, or will it be carried out by a Federal Agency?

   Yes

2. Are you the lead Federal Action Agency or designated non-federal representative requesting concurrence on behalf of the lead Federal Action Agency?

   Yes

3. [Hidden Semantic] Does the action area intersect critical habitat?

   Automatically answered
   No

4. Will the proposed Action involve construction or operation of wind turbines?

   No

5. Will the proposed Action involve blasting (other than a fireworks display)?

   No

6. Will the proposed Action involve a new point source discharge from a facility other than a water treatment plant or storm water system?

   No

7. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g. leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

   No

8. Will the proposed Action include the removal, replacement, repair and/or maintenance of an existing bridge or culvert?

   No

9. Will the proposed Action involve perennial stream loss that would require an individual permit under 404 of the Clean Water Act?

   No

10. Will the proposed Action involve discharge of sediment into a stream?

    No

11. Does the Action Area contain any caves (including their associated sinkholes, fissures, or other karst features), rockshelters, underground quarries, or abandoned mine portals (including associated underground workings)?

    No

12. [Hidden Semantic] Does the Action Area intersect the Kentucky AOI of the gray bat?

    Automatically answered
    Yes

13. Will the proposed Action involve drilling or boring?

    Yes

14. Prior to the drilling or boring, will the project proponent conduct appropriate preliminary evaluations to ensure that proposed drilling or boring is unlikely to encounter karst voids or other voids?

    Yes

15. Will the project proponent contact the Field Office if potentially suitable gray bat hibernacula or roosting habitat is encountered during drilling or boring?

    Yes

16. Based on the responses you have provided, we believe that the proposed Action is consistent with the type of Actions programmatically evaluated by the Service's Kentucky Field Office under the standing analyses that support this determination key. These Actions typically conclude with "no effect" or "may affect - not likely to adversely affect" determinations for the gray bat.

    What is your effect determination for the **gray bat**?

    Note:*IPaC will not provide a concurrence for "no effect" determinations, because there is no statutory requirement to request concurrence from the Service. IPaC will provide concurrence for "May affect – not likely to adversely affect" determinations. If you choose "May affect – likely to adversely affect" or "Unsure," additional coordination with the Service is recommended.*

    2. "May affect - not likely to adversely affect"

17. Will the proposed Action involve a new point source discharge into a stream or change an existing point source discharge (e.g., outfalls; leachate ponds)?

    No

18. Will the proposed Action include any activities that would alter stream flow, such as hydropower energy production, impoundments, intake structures, diversion structures, and/or turbines?

    No

19. Will the proposed Action involve dredging or in-stream gravel mining?

    No

20. Will the proposed Action involve resource extraction (e.g., mining, oil/gas, logging), including exploration activities?

    No

21. Will the proposed Action involve stream impacts (perennial or intermittent) that would require an individual permit under 404 of the Clean Water Act?

    No

22. Will the proposed Action involve activities that would contribute measureable nonpoint source pollution to streams (e.g., sediment, nutrients, etc.)? *See the following EPA webpage for more examples of nonpoint source pollution and activities that can produce it: https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution*

    No

23. [Hidden Semantic] Does the action area include the 1/2-mile buffer of a stream or river in which any species covered under this key occurs or may occur?

    Automatically answered
    No

24. Will the proposed Action disturb the channel or bank of a perennial or intermittent stream?

    Yes

25. [Hidden Semantic] Does the project area intersect the AOI of the pink mucket (*Lampsilis abrupta*)?

    Automatically answered
    Yes

26. [Hidden Semantic] Does the project area intersect the AOI of the rabbitsfoot (*Theliderma (= Quadrula) cylindrica*)?

    Automatically answered
    Yes

27. [Hidden Semantic] Does the project area intersect the AOI of the longsolid?

    Automatically answered
    Yes

IPAC USER CONTACT INFORMATION

Agency: Burns & McDonnell
Name: Audrey Cash
Address: 530 W Spring St
City: Columbus
State: OH
Zip: 43215
Email aicash@burnsmcd.com
Phone: 3305544362

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0467 Fax: (502) 695-1024
Email Address: kentuckyes@fws.gov

In Reply Refer To: 02/27/2026 14:14:53 UTC
Project code: 2025-0138780
Project Name: AM07 Phase 5 Pipeline Replacement Project

Subject: Technical Assistance letter for the project named 'AM07 Phase 5 Pipeline Replacement Project' for the endangered Indiana bat and its critical habitat in the proposed project location, pursuant to the Indiana Bat Determination Key (DKey)

Dear Audrey Cash:

The U.S. Fish and Wildlife Service (Service) received on **February 27, 2026** your effect determination(s) for the 'AM07 Phase 5 Pipeline Replacement Project' using the Indiana Bat DKey within the Information for Planning and Consultation (IPaC) system. The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

You have agreed to the following conservation measures:

- Wait for the Field Office to review and approve the Indiana bat survey proposal before proceeding with the survey.

Based on your answers and the assistance of the Service's Indiana Bat DKey, you made the following effect determination(s) for the proposed Action:

Species	Listing Status	Determination
Indiana Bat (*Myotis sodalis*)	Endangered	May affect

Consultation Status

May Affect Determinations: Species with May Affect determinations are those for which the DKey was unable to provide a conclusion or those for which you were either unsure about the determination or you chose to make a "may affect" determination. If the DKey was unable to provide a conclusion, this does not necessarily mean that the project is likely to adversely affect the species. If you think the project may affect the species or want additional technical assistance, please follow the instructions in the "Additional Coordination" section below. If a

federal action agency chooses to make a "no effect" determination for the species, there is no statutory requirement to request concurrence with that determination; however, the federal action agency should document the supporting information for this determination in their files. This documentation would typically demonstrate a lack of suitable habitat within the action area, show that no impacts to suitable habitat would occur, or provide information that the species is not reasonably certain to occur in the action area even though suitable habitat is present.

In addition to the Indiana bat, the following species and/or critical habitats may also occur in your project area and **are not** covered by this conclusion:

- Eastern Hellbender *Cryptobranchus alleganiensis alleganiensis* Proposed Endangered
- Longsolid *Fusconaia subrotunda* Threatened
- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Pink Mucket (pearlymussel) *Lampsilis abrupta* Endangered
- Rabbitsfoot *Quadrula cylindrica cylindrica* Threatened
- Salamander Mussel *Simpsonaias ambigua* Proposed Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

To address effects to other federally listed or proposed species and/or their designated critical habitat, you can request project-specific review by following the instructions in the “Next Steps” section of your species list letter, or you may use another determination key, if available.

Additional Coordination

To request additional technical assistance or consultation, please contact the Kentucky Ecological Services Field Office . When you contact the office, please provide all relevant site-specific information regarding the proposed Action. The Kentucky Ecological Services Field Office will respond within 30 to 60 days of your submittal.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

AM07 Phase 5 Pipeline Replacement Project

2. Description

The following description was provided for the project 'AM07 Phase 5 Pipeline Replacement Project':

> The project includes installation of approximately 2.08 miles of 24-inch steel pipeline with several road crossings. A single road bore across Horsebranch Road is anticipated, with a single HDD across Madison Pike. Two tie-ins are anticipated on each end of this new installation into the previously installed new AM07 24-inch pipeline.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.0234908,-84.54622795787903,14z

QUALIFICATION INTERVIEW

1. Does the project intersect the Indiana bat species list area?

   Automatically answered
   Yes

2. Will the proposed action involve Federal funding, permitting, or authorization, or will it be carried out by a Federal Agency?

   Yes

3. Does the proposed action include a communication tower requiring Federal Communication Commission (FCC) authorization or approval?

   No

4. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) the lead Federal Agency for this action?

   No

5. Are you the lead Federal Action Agency or designated non-federal representative requesting concurrence on behalf of the lead Federal Action Agency?

   Yes

6. Will the proposed Action involve construction or operation of a wind turbines?

   No

7. Will the proposed Action involve blasting, other than a fireworks display?

   No

8. Will the proposed Action involve a new point source discharge from a facility other than a water treatment plant or storm water system?

   No

9. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

   Note: For information regarding NSF/ANSI 60 please visit https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects

   No

10. Will the proposed Action include the removal, replacement, repair and/or maintenance of an existing bridge?

    No

11. Will the proposed Action involve perennial stream loss that would require an individual permit under 404 of the Clean Water Act?

    No

12. Will the proposed Action involve discharge of sediment into a stream?

    No

13. Does the Action Area contain any caves (including their associated sinkholes, fissures, or other karst features), rockshelters, underground quarries, or abandoned mine portals (including associated underground workings)?

    No

14. Will the proposed project result in the removal of trees?

    Yes

15. Did a **FWS-approved** habitat model applicable to the project site determine the project site to be of low probability for use by Indiana bats?

    Note: This question will most commonly be answered "no." If the answer to this question is "yes", you will be required to upload your **Habitat Model Report**

    No

16. Will the proposed project result in the removal of potentially suitable summer habitat for the Indiana bat?

    Suitable summer habitat for Indiana bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel. This includes forests and woodlots, linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree (live tree and/or snag ≥5 inches diameter at breast height (dbh) (12.7 centimeter) that has exfoliating bark, cracks, crevices, and/or hollows) and are located within 1,000 feet (305 meters) of other forested/wooded habitat. See the Indiana Bat and Northern Long-eared Bat Survey Guidelines for additional description (https://www.fws.gov/library/collections/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines).

    Note: If "no" upload a document with photos representative of the forested habitat to be removed.

    Yes

17. Does the action area intersect known Indiana bat habitat in Kentucky?

    Automatically answered
    No

18. Will the proposed Action remove any suitable (primary or alternate) Indiana bat roost trees? *Suitable Indiana bat roost trees are live trees and/or snags ≥5 inches diameter at breast height (dbh) (12.7 centimeter) that have exfoliating bark, cracks, crevices, and/or hollows*.

    Note: If "no" upload a document with photos representative of the forested habitat to be removed.

    Yes

19. Will the proposed Action remove any suitable primary roost trees?

    Suitable Indiana bat primary maternity roost tree refers to a dead tree or snag that is nine inches or greater in diameter at breast height and has loose or exfoliating bark, cracks, crevices, and/or hollows. A live tree may also qualify if it contains hollows or dead portions with loose or exfoliating bark, cracks, and/or crevices.

    Note: If "no" upload a document with photos representative of the forested habitat to be removed.

    Yes

20. If appropriate, would you like to conduct a voluntary emergence survey to determine if bats are using all of the suitable roost trees proposed for removal? *Emergence surveys require a surveyor to observe each suitable roost tree for the presence of bats. Surveys should follow the protocol in Appendix E in the USFWS' current Indiana Bat and Northern Long-eared Bat Survey Guidelines at https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.*

    No

21. Would you like to conduct a voluntary summer presence/absence survey (netting or acoustic) of the project area?

    Note: If "yes" upload a survey proposal for the Field Office to review. Surveys should be conducted in accordance with the USFWS' current Indiana Bat and Northern Long-eared Bat Survey Guidelines, found at https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines

    Yes

    SUBMITTED DOCUMENTS

    - *Fw_ EXTERNAL Acoustic Bat Survey Repo...pdf https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/projectDocuments/171896108*
    - *Duke AM07 Phase 5 Bat Survey Report_29Aug2025.pdf https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/projectDocuments/171895202*

22. Do you agree to wait for the Field Office to review and approve your survey proposal before proceeding?

    Yes

IPAC USER CONTACT INFORMATION

Agency: Burns & McDonnell
Name: Audrey Cash
Address: 530 W Spring St
City: Columbus
State: OH
Zip: 43215
Email aicash@burnsmcd.com
Phone: 3305544362

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0467 Fax: (502) 695-1024
Email Address: kentuckyes@fws.gov

In Reply Refer To: 02/27/2026 14:25:20 UTC
Project code: 2025-0138780
Project Name: AM07 Phase 5 Pipeline Replacement Project

Federal Nexus: yes
Federal Action Agency (if applicable):

Subject: Technical assistance for 'AM07 Phase 5 Pipeline Replacement Project'

Dear Audrey Cash:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on February 27, 2026, for 'AM07 Phase 5 Pipeline Replacement Project' (here forward, Project). This project has been assigned Project Code 2025-0138780 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements may not be complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid. Note that conservation measures for northern long-eared bat and tricolored bat may differ. If both bat species are present in the action area and the key suggests more conservative measures for one of the species for your project, the Project may need to apply the most conservative measures in order to avoid adverse effects. If unsure which conservation measures should be applied, please contact the appropriate Ecological Services Field Office***

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based upon your IPaC submission and a standing analysis completed by the Service, your project has reached the following effect determination(s):

Species	Listing Status	Determination
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	NLAA

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Eastern Hellbender *Cryptobranchus alleganiensis alleganiensis* Proposed Endangered
- Indiana Bat *Myotis sodalis* Endangered
- Longsolid *Fusconaia subrotunda* Threatened
- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Pink Mucket (pearlymussel) *Lampsilis abrupta* Endangered
- Rabbitsfoot *Quadrula cylindrica cylindrica* Threatened
- Salamander Mussel *Simpsonaias ambigua* Proposed Endangered

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above. Note that if a new species is listed that may be affected by the identified action before it is complete, additional review is recommended to ensure compliance with the Endangered Species Act.

Next Steps

Consultation with the Service is necessary. The project has a federal nexus (e.g., Federal funds, permit, etc.), but you are not the federal action agency or its designated (in writing) non-federal representative. Therefore, the ESA consultation status is incomplete and no project activities should occur until consultation between the Service and the Federal action agency (or designated non-federal representative), is completed.

As the federal agency or designated non-federal representative deems appropriate, they should submit their determination of effects to the Service by doing the following.

1. Log into IPaC using an agency email account and click on My Projects, click "Search by record locator" to find this Project using **870-177454112**. (Alternatively, the originator of the project in IPaC can add the agency representative to the project by using the Add Member button on the project home page.)
2. Review the answers to the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key to ensure that they are accurate.
3. Click on Review/ Finalize to convert the ‘not likely to adversely affect’ technical assistance letter to a concurrence letter. Download the concurrence letter for your files if needed.

If no changes occur with the Project or there are no updates on listed species, no further consultation/coordination for this project is required for the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place before project implements any changes which are final or commits additional resources.

If you have any questions regarding this letter or need further assistance, please contact the Kentucky Ecological Services Field Office and reference Project Code 2025-0138780 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

AM07 Phase 5 Pipeline Replacement Project

2. Description

The following description was provided for the project 'AM07 Phase 5 Pipeline Replacement Project':

> The project includes installation of approximately 2.08 miles of 24-inch steel pipeline with several road crossings. A single road bore across Horsebranch Road is anticipated, with a single HDD across Madison Pike. Two tie-ins are anticipated on each end of this new installation into the previously installed new AM07 24-inch pipeline.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.0234908,-84.54622795787903,14z

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

   No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Note for projects in Pennsylvania: Projects requiring authorization under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act would be considered as having a federal nexus. Since the U.S. Army Corps of Engineers (Corps) has issued the Pennsylvania State Programmatic General Permit (PASPGP), which may be verified by the PA Department of Environmental Protection or certain Conservation Districts, the need to receive a Corps authorization to perform the work under the PASPGP serves as a federal nexus. As such, if proposing to use the PASPGP, you would answer ‘yes’ to this question.

   Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   No

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

10. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum or winter roost? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your state wildlife agency.

    Automatically answered

    No

11. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    No

12. Will the action cause effects to a bridge?

    Note: Covered bridges should be considered as bridges in this question.

    No

13. Will the action result in effects to a culvert or tunnel at any time of year?

    No

14. Are trees present within 1000 feet of the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

15. Does the action include the intentional exclusion of bats from a building or building-like structure? **Note:** Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

    No

16. Does the action involve removal, modification, or maintenance of a human-made building-like structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No

17. Will the action cause construction of one or more new roads open to the public?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

18. Will the action include or cause any construction or other activity that is reasonably certain to increase average night-time traffic permanently or temporarily on one or more existing roads? **Note:** For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    No

19. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

20. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

    Note: For information regarding NSF/ANSI 60 please visit https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects

    No

21. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

    No

22. Will the proposed action involve blasting or drilling?

    No

23. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use at night)?

    No

24. Will the proposed action involve the use of herbicides or pesticides (e.g., fungicides, insecticides, or rodenticides)?

    No

25. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

    Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

26. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

27. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

    Yes

28. Is the project related to the production of coal, including projects that support the mining of coal, as well as the production and/or distribution of energy produced from coal?

    No

29. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

    No

30. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

    Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

    No

31. Does the project intersect with the 0- 9.9% forest density category?

    Automatically answered
    No

32. Does the project intersect with the 10.0- 19.9% forest density category map?

    Automatically answered
    No

33. Does the project intersect with the 20.0- 29.9% forest density category map?

    Automatically answered
    Yes

34. Does the project intersect with the 30.0- 100% forest density category map?

    Automatically answered
    Yes

35. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 40 acres in total extent?

    No

36. Will the proposed action result in the use of prescribed fire?

    Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

    No

37. Does the action area intersect the tricolored bat species list area?

    Automatically answered
    Yes

38. Is the action area located within 0.5-mile of radius of an entrance/opening to any known tricolored bat hibernacula or winter roost?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your state wildlife agency.

    Automatically answered
    No

39. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

40. Has a presence/probable absence bat survey targeting the tricolored bat and following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines been conducted within the project area?

    Yes

41. Was the presence/probable absence survey conducted within the last 5 years?

    Yes

42. Did you coordinate with your Ecological Services Field Office (ESFO) and receive approval of the results? If NO, please contact the appropriate local ESFO before completing this determination key - you may change your answer to 'yes' only after coordinating with the ESFO and uploading survey results.

    Yes

43. Did survey results demonstrate the probable absence of tricolored bats?

    Yes

44. Do you have any documents that you want to include with this submission?

    Yes

    SUBMITTED DOCUMENTS

    - *Duke AM07 Phase 5 Bat Survey Report_29Aug2025.pdf https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/projectDocuments/171895202*
    - *Fw_ EXTERNAL Acoustic Bat Survey Repo...pdf https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/projectDocuments/171896108*

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

19.56

IPAC USER CONTACT INFORMATION

Agency: Burns & McDonnell
Name: Audrey Cash
Address: 530 W Spring St
City: Columbus
State: OH
Zip: 43215
Email aicash@burnsmcd.com
Phone: 3305544362

ATTACHMENT 4 – KHC CONSULTATION

BURNS McDONNELL

DUKE ENERGY KENTUCKY, INC.

Phase I Archaeological Survey of the Duke Energy AM07 Pipeline Replacement Project (Phase 5), Kenton County, Kentucky

AM07 Pipeline Replacement (Phase 5)

PROJECT NO. 181589

DECEMBER 2025

Phase I Archaeological Survey of the Duke Energy AM07 Pipeline Replacement Project (Phase 5), Kenton County, Kentucky

prepared for
Duke Energy Kentucky, Inc.

by
Douglas Kullen, Principal Investigator

Burns & McDonnell Engineering Company, Inc.
Downers Grove, Illinois

December 2025

Burns & McDonnell Project No. 181589

Kentucky Heritage Council
Project Registration #FY26-13676

Contents

Figures

Tables

List of Abbreviations

Abbreviation	Term/Phrase/Name
Duke	Duke Energy Kentucky, Inc.
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
KHC	Kentucky Heritage Council (aka SHPO)
NRHP	National Register of Historic Places
OSA	Office of the State Archaeologist
Project	AM07 (Phase 5) Pipeline and Station Replacement Project
ROW	right-of-way
SHPO	Kentucky State Historic Preservation Office (aka KHC)
USGS	U.S. Geological Survey

Abstract

Phase I archaeological survey was undertaken by Burns & McDonnell Engineering Company, Inc. for Duke Energy Kentucky's AM07 (Phase 5) Pipeline Replacement Project (Project). The Project is in the uplands of Kenton County, Kentucky, an area of intensive commercial, industrial, and residential urban development. Archaeological survey covered a roughly linear corridor totaling approximately 97.1 acres. Evidence of one archaeological site and one cemetery was found just outside the Project footprint. The archaeological site is not considered to be historically significant, and has been destroyed by recent construction. Avoidance of the cemetery is recommended.

1.0 Introduction

This introductory chapter provides a brief, general description of the proposed AM07 Pipeline (Phase 5) Replacement Project (Project). This chapter also addresses relevant regulatory issues, mentions some key project management considerations including survey scope, and acknowledges other specifics regarding the archaeological survey.

1.1 Project Description

The Project is planned by Duke Energy Kentucky, Inc. (Duke) as part of infrastructure upgrades and improvements to the local natural gas distribution system in the greater Cincinnati metropolitan area south of the Ohio River in Kentucky. The Project extends west-to-east across Kenton County, from the Thomas More Office Park eastward through the towns of Crestview Hills, Edgewood, Ft. Wright, and Covington (Figure 1 and Figure 2). The survey area was comprised of the proposed pipeline route and an alternate route that, in total, extended across approximately 2.1 miles within a survey corridor that was generally 250-300 feet (ft) wide, not including wider portions to accommodate laydown areas and ancillary workspace. Altogether, the survey area covered approximately 97.1 acres. Within the Project corridor, proposed construction will consist of replacement of, or upgrade to, the existing AM07 natural gas pipeline. Work will mainly be done via open trenching, although horizontal directional drilling is planned at some locations. For the purposes of this survey, it is assumed that proposed construction will disturb soils within the entire Project area.

The Project extends across broken terrain inland from the Ohio River bluff line in the uplands of northern Kentucky. The natural landscape is characterized by finger ridges of variable width separated by deeply incised, wooded ravines. The area is also intensively urbanized, with an extensive patchwork of residential, commercial, and industrial developments framed within a relatively dense grid of local roads, state highways, and interstate expressways.

1.2 Regulatory Context

The Project will likely be regulated by the U.S. Army Corps of Engineers due to environmental permitting linked to wetlands considerations. The assumption is that the Project will be subject to Federal review. For that reason, the cultural resource investigation reported here was undertaken to address Project compliance under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800. Duke retained the services of Burns & McDonnell to assist in the permitting process.

1.3 Project Area Description

This cultural resources survey covered a roughly linear corridor that included one alternate route segment. These are mapped in Figure 1 and Figure 2. To accommodate additional workspaces and laydown areas, the survey area is not the same width throughout. Details of the route configurations, including descriptions of vegetation cover, terrain, and the existing built environment in the survey area, are discussed in the following narratives, in order from west to east.

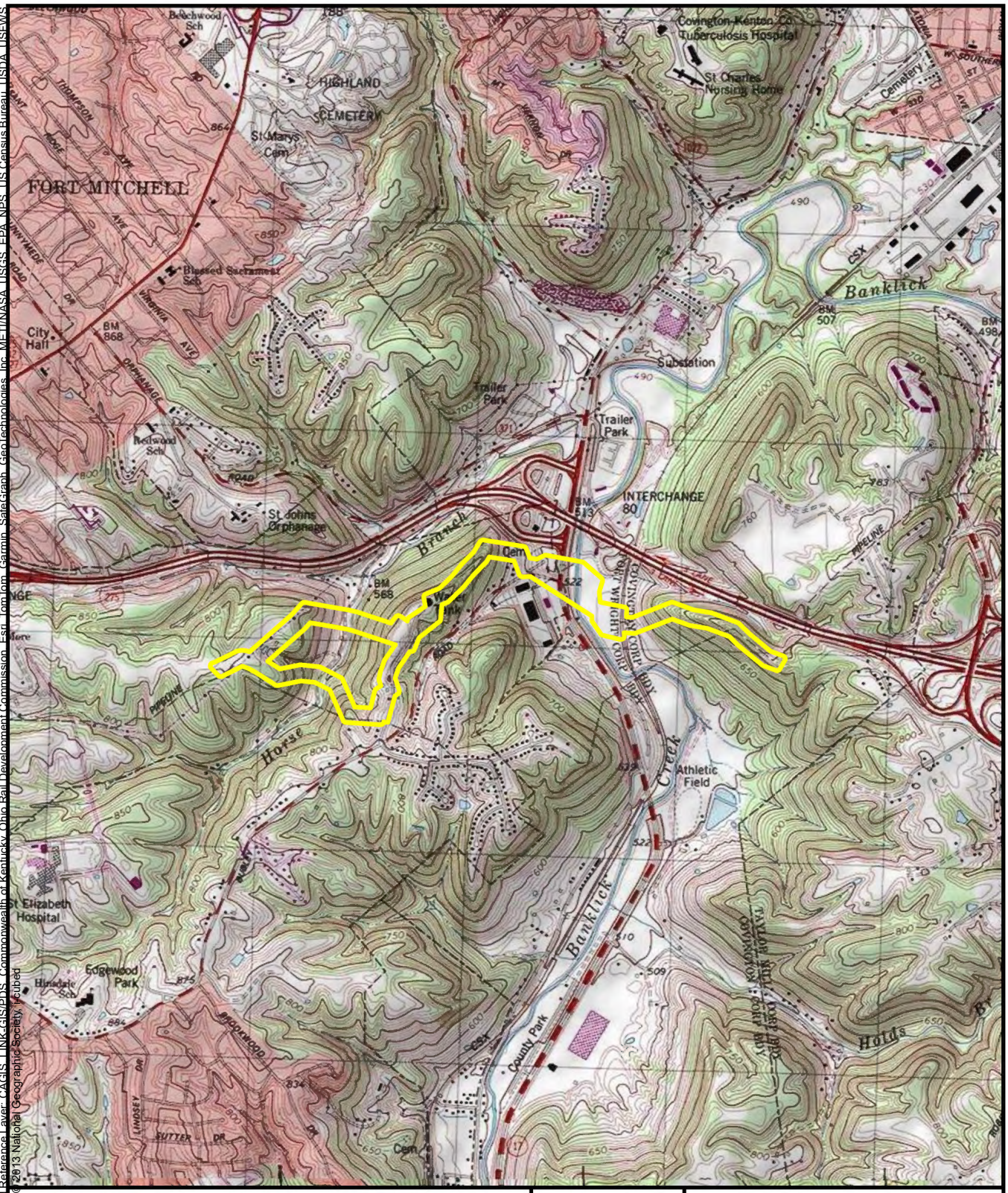

Figure 1
Project Overview Map
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Kenton County, Kentucky

Source: ESRI, USGS, Duke Energy Kentucky, Burns & McDonnell

Issued: 12/4/2025

Path: C:\Project_2025\Duke_AM07_Phase_5_Figures\Duke_AM07_Phase_5_Figures.aprx aachakraborty 12/4/2025
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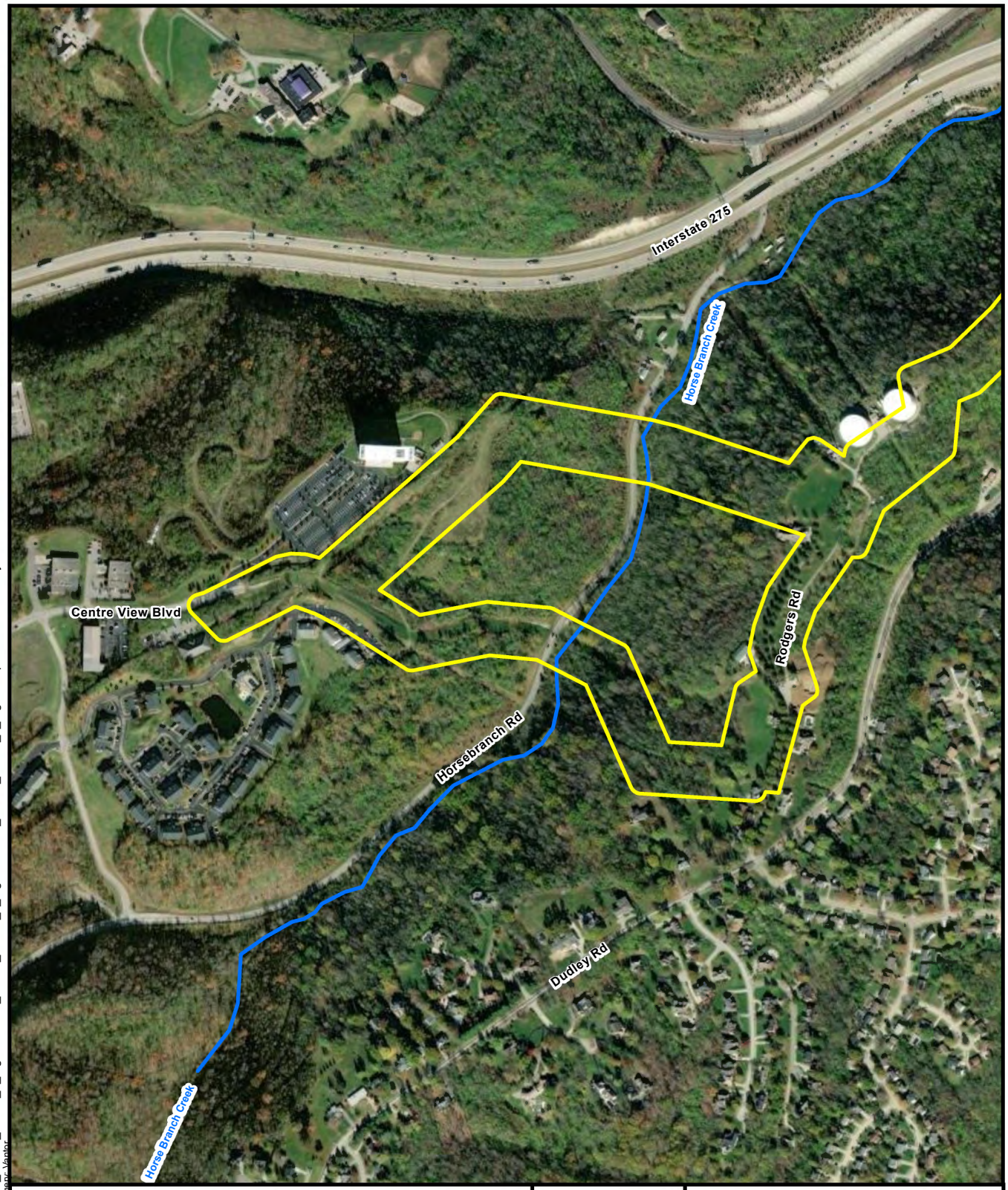

Survey Area

NORTH

600 300 0 600

Scale in Feet

BURNS McDONNELL

Figure 2
Aerial Map of the Survey Area
AM07 Phase 5 Pipeline
Replacement Project
Duke Energy Kentucky Inc.
Kenton County, Kentucky
Page 1 of 3

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Service Layer Credits: World Imagery; Vector

Source: ESRI, USGS, Duke Energy Kentucky, Burns & McDonnell

Issued: 12/8/2025

Cemetery
Survey Area

NORTH

600 300 0 600

Scale in Feet

BURNS McDONNELL

Figure 2
Aerial Map of the Survey Area
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Kenton County, Kentucky
Page 2 of 3

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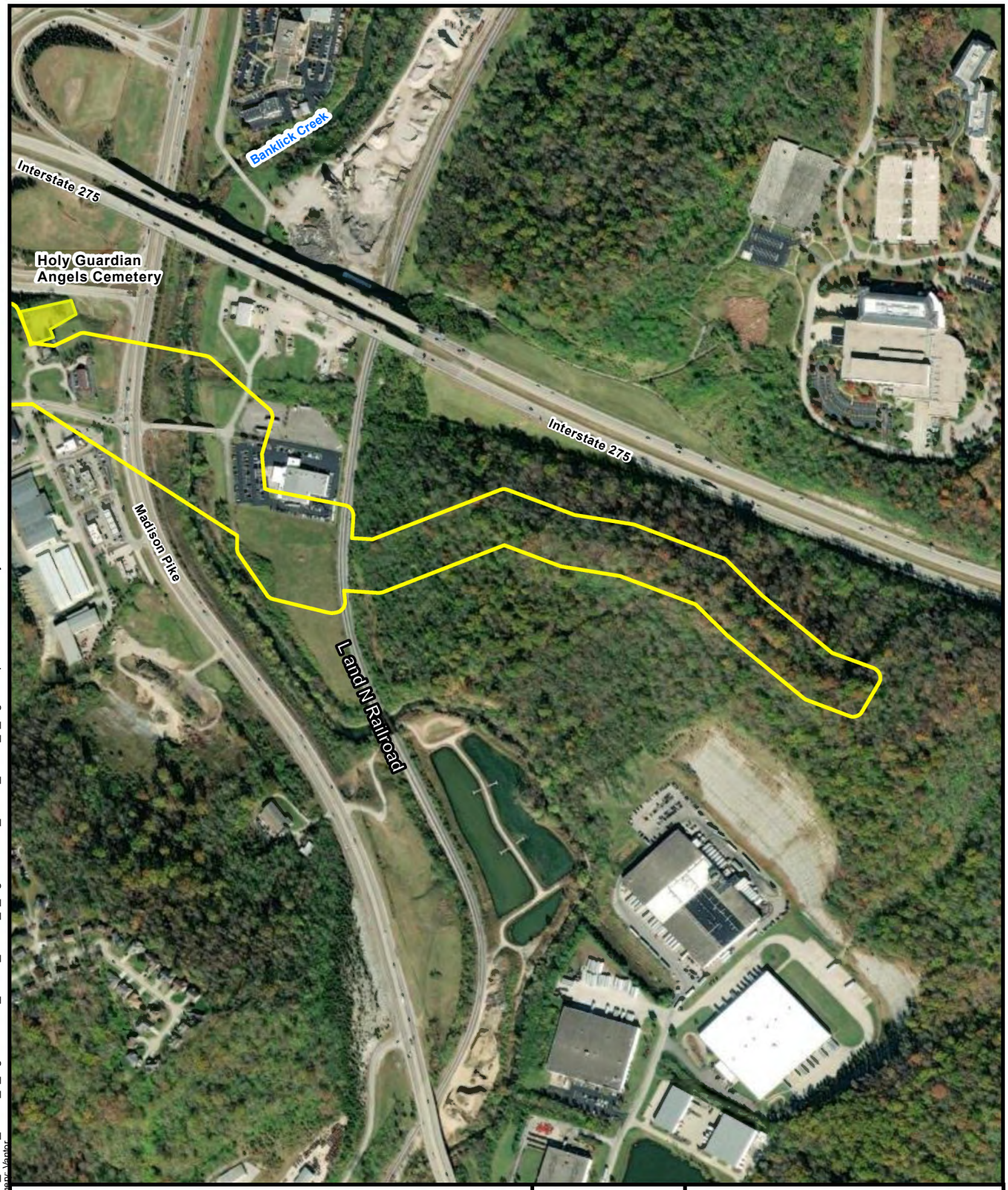

Cemetery
Survey Area

NORTH

600 300 0 600

Scale in Feet

BURNS McDONNELL

Figure 2
Aerial Map of the Survey Area
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Kenton County, Kentucky
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Service Layer Credits: World Imagery, Vector

Source: ESRI, USGS, Duke Energy Kentucky, Burns & McDonnell

Issued: 12/8/2025

1.3.1 West End to Rodgers Road

The western end of the survey area begins in Thomas More Office Park, on the crest and upper side slopes of a finger ridge (Figure 1 and Figure 2) The survey area starts at the east end of Centre View Boulevard in an existing buried natural gas pipeline right-of-way (ROW). Centre View Boulevard is a paved, two-lane, improved road. The main survey corridor winds eastward following the existing ROW past the Grandview Summit apartment complex, including its asphalt-paved parking lots and Napa Valley Lane, a paved, two-lane access road (Figure 3). East of that complex, the survey area and existing pipeline ROW plunge down the steep, wooded side slope of the finger ridge into a broad, deep ravine (Figure 4). At the foot of the ravine slope (Figure 5), the survey area and existing ROW continue eastward, crossing Horsebranch Road and Horsebranch Creek (Figure 6). Horsebranch Road is an asphalt-paved, two-lane, improved roadway. The creek channel is deeply incised, with bedrock exposed on the streambanks and channel floor. From the channel, the survey area and existing ROW bend southeastward and extend up the opposite ravine slope, which is wooded and very steep. Before reaching the absolute top of the wooded ravine slope, the corridor bends eastward and traverses a wooded headland and the upper reaches of a ravine (Figure 7). East of that ravine, the survey area and existing ROW extend across maintained residential lawns up the steep ravine side slope to Rodgers Road, which runs along the crest of a narrow finger ridge. Rodgers Road is a narrow, two-lane, asphalt-paved residential street.

Figure 3: Main Corridor Near Apartment Complex

NOTE: Looking northwest along existing ROW. Paved area at left is Grandview Summit Apartments parking lot.

Figure 4: Main Corridor West of Horsebranch Creek Valley.

NOTE: Looking east along existing ROW from ridge crest toward Horsebranch Creek valley.

Figure 5: Main Corridor West of Horsebranch Road

NOTE: Looking west toward ravine slope. Horsebranch Road in foreground.

Figure 6: Main Corridor at Horsebranch Creek Crossing

NOTE: Looking north at the bottom of Horsebranch Creek valley. Creek channel is in shadows at right. Horsebranch Road is at left.

Figure 7: Main Corridor at Headland East of Horsebranch Creek Valley

NOTE: Looking west along existing ROW toward crest of headland.

1.3.2 Alternate Route

The alternate route diverges from the main route just east of the western terminus, north of the Grandview Summit apartment complex. The alternate runs northeast, paralleling a weed-covered utility corridor for an existing electrical transmission line and water line (Figure 8). Topographically, the alternate route follows the ridge crest and its upper, wooded slope. The ridge crest in this location has been severely graded, apparently for access routes and an expansive workspace related to previous utility construction work (Figure 9). At the northeast tip of the finger ridge, the alternate corridor turns eastward and plunges down into the Horsebranch Creek ravine. As with the main survey corridor, the ravine slopes are wooded and very steep. The alternate route crosses Horsebranch Road and the creek channel, then extends up the steep slope on the opposite side of the creek. At the top of the wooded ravine slope, the alternate route extends eastward across a residential lawn on the crest of the next finger ridge. The alternate corridor ends at Rodgers Road, where it rejoins the main project corridor.

Figure 8: Western Part of Alternate Route

NOTE: Facing southwest along utility corridor on ridge crest and side slope.

1.3.3 Rodgers Road to Madison Pike

On Rodgers Road, the main route passes northward along the narrow, fairly level crest and upper side slopes of a finger ridge, through a neighborhood of single-family homes. The houses are clustered near Rodgers Road and in most cases, the backyards — while covered in turf grass — extend down steep slopes. The limited extent of level terrain on the ridge top has in most places been disturbed by earthmoving and grading related to homebuilding, driveway construction, landscaping, and the installation of buried utilities (Figure 10 and Figure 11). Toward the north end of Rodgers Road, one residential side yard in the corridor was level and undisturbed enough to allow for shovel testing (Figure 12). Beyond, to the northeast, the ridge crest narrows

Figure 9: Central Part of Alternate Route

NOTE: Facing northeast toward previously graded area on ridge crest.

Figure 10: Main Corridor Along Rodgers Road

NOTE: Facing south toward ridge crest and side slope. Rodgers Road at left; private driveway at right.

Figure 11: Main Corridor Along Rodgers Road

NOTE: Facing north toward ridge crest and side slope. Rodgers Road at right; private driveway and residence at left.

Figure 12: Main Corridor in Residential Side Yard

NOTE: Facing south toward residential lawn on ridge crest.

even more and passes through a municipal water well and storage facility, where soils are severely disturbed. Further northeast, the corridor continues to follow the ridge crest, which narrows even more. The ridge crest and side slopes are all wooded.

The side slopes are very steeply sloped, but a stretch of the ridge crest northeast of the water storage facility, while fairly eroded, was otherwise undisturbed and that stretch was shovel tested (Figure 13). Beyond, to the north, the ridge crest itself slopes downward steeply. The project corridor turns sharply east and plunges down a wooded side slope that forms the western wall of the Banklick Creek valley.

Figure 13: Ridge Crest Northeast of Water Storage Facility

NOTE: Facing northeast along narrow crest of finger ridge.

At the base of the steep slope, the project corridor enters another residential area. Here, the prefabricated homes have been placed on terraced benches carved into the slope. Cutting, filling, and the construction of retaining walls and driveways has caused severe soil disturbance. At the base of the valley wall, the project corridor passes immediately south of Holy Guardian Angels Cemetery, which is surrounded by a gated chain-link fence (Figure 14 and Figure 15). Beyond, to the east, the corridor widens as it enters an area of heavily landscaped retail and commercial properties west of the intersection of Dudley Road and Madison Pike.

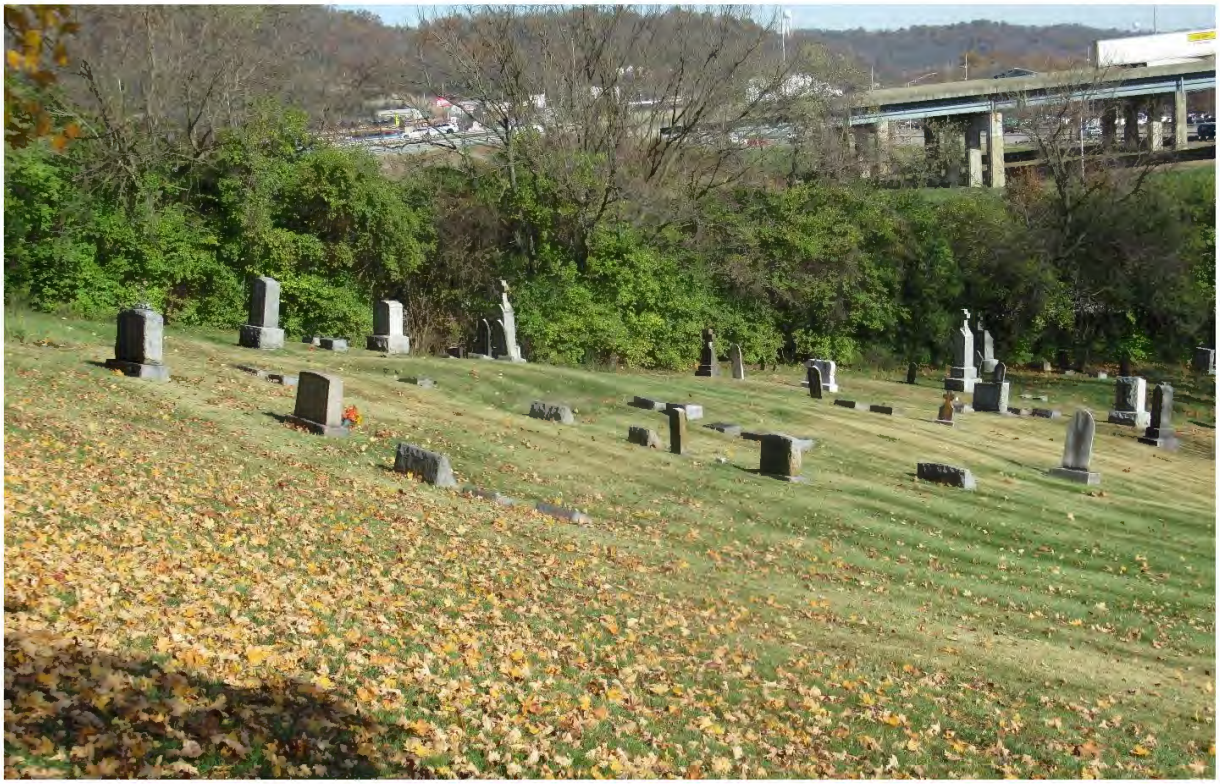
1.3.4 Madison Pike to Louisville & Nashville Railroad

The widened project corridor extends from Madison Pike southeastward along Dudley Road. In this location, Madison Pike is a four-lane divided highway flanked by substantial, graded ditches and embankments. Dudley Road is a paved two-lane roadway which runs eastward over a bridge across Banklick Creek. The creek channel roughly parallels the east side of Madison Pike. The creek appears to have been dredged, and its weed- and brush-covered banks are substantially graded. Portions of the creek valley bottom appear to have been filled with concrete and earthen debris (Figure 16 and Figure 17).

Figure 14: Holy Guardian Angels Cemetery

NOTE: Facing north toward southwest corner of cemetery.

Figure 15: Interior of Holy Guardian Angels Cemetery



NOTE: Facing northeast from southwest corner of fenced cemetery.

Figure 16: Banklick Creek Valley South of Dudley Road

NOTE: Facing south from Dudley Road. Madison Pike is at right.

Figure 17: Banklick Creek Valley North of Dudley Road

NOTE: Facing north from Dudley Road. Interstate 275 bridge across the creek is in the background.

East of Banklick Creek the widened corridor crosses paved driveways and parking lots associated with Gateway Community and Technical College. The college building itself is just outside the north edge of the project corridor. South of the college's parking lot, the corridor passes across level terrain on a stream terrace that has been heavily graded and is now covered in weeds and grasses (Figure 18). The east edge of this graded plain is bordered by the Louisville & Nashville Railroad line. Where the corridor crosses it, the rail line consists of paired, parallel tracks built upon embankments, with broad ditches on each flank.

Figure 18: Graded Terrace East of Banklick Creek

NOTE: Facing east. Gateway Community and Technical College building at left. Main corridor extends eastward across the weedy field in the foreground and up the wooded valley wall in the background.

1.3.5 Louisville & Nashville Railroad to East End

East of the railroad, the project corridor extends northeastward up the eastern valley wall. The lower slopes there are covered in shrubs and small trees blanketing depleted soils that have been substantially disturbed by slopewash erosion, gullying, and prior earthmoving of unknown purpose. Further east, the slopes become very steep and are covered in second-growth forest. The corridor attains the crest of a very narrow finger ridge, where it bends to the east, following the wooded and still steeply sloping ridge crest. The crest widens eastward, eventually becoming wide and level enough to allow for shovel testing (Figure 19). Eastward, the project corridor joins an existing buried pipeline corridor that enters from the southwest and eastward runs along the narrow ridge crest (Figure 20 and Figure 21). Soils in that part of the survey area are substantially disturbed on the ridge crest and steeply sloped on the ridge flanks. The survey corridor ends on the ridge crest where it meets a recently built section of the Duke AM07 project. The ridge crest in that area has been substantially graded and has been freshly planted in grass, while side slopes are still steeply sloped.

Figure 19: Undisturbed Ridge Crest in Eastern Part of Main Corridor

NOTE: Facing west.

Figure 20: Existing Pipeline ROW on Ridge Crest

NOTE: Facing west.

Figure 21: Eastern Part of the Main Corridor

NOTE: Facing west along existing pipeline ROW on ridge crest.

1.4 Survey Summary

Burns & McDonnell received archaeological file search data from the Office of the State Archaeologist (OSA) in June 2025. Historic resources were researched in November 2025, at the Kentucky Heritage Council (KHC) Site Check Web Service – an online geodatabase accessible to the public at: https://kyshpo.maps.arcgis.com/apps/webappviewer/index.html. Because the visual Area of Potential Effects (APE) for below-ground pipeline construction does not extend beyond the direct APE, consideration of historic buildings and other above-ground cultural resources was restricted to the survey corridor and its immediate vicinity.

Archaeological field survey in the Project was undertaken on November 10, 11, and 12, 2025. Field work was conducted by Principal Investigator Douglas Kullen using visual inspection, pedestrian survey, and shovel testing. No archaeological sites were found during the survey. The Project route passes very near the Holy Guardian Angels Cemetery. The east end of the Project is located just west of previously reported (and now destroyed) archaeological site 15KE209. These are discussed below in Chapter 2.1.3 and Chapter 2.1.5.

2.0 Previous Research and Known Sites

A main objective of this archaeological survey is to assess the historic significance of any cultural resources encountered in the survey area. This chapter provides context for assessing historic significance by supplying background information on local cultural resources known in the area and by addressing the results of previous investigations in the vicinity.

2.1 Previously Recorded Cultural Resources

The literature review was directed toward identifying previously recorded archaeological sites, cemeteries, and historic sites within a 500-foot (150 meter) radius of the survey area. This research universe was designated the Study Area. Research material was obtained through a geospatial data request from the OSA and through a review of KHC geospatial data, although other sources were researched. Online sources included the National Historic Landmark list, the National Register of Historic Places (NRHP), the U.S. Geological Survey (USGS) Historical Topographic Map Explorer, the Nationwide Environmental Title Research (2025) Historic Aerials website, Google Earth (2025) historical imagery, and Find-A-Grave (2025).

2.1.1 National Historic Landmarks List

There are no National Historic Landmarks located in the Study Area.

2.1.2 National Register of Historic Places

No sites listed on the National Register of Historic Places are located within the Study Area.

2.1.3 Cemeteries and Burial Sites

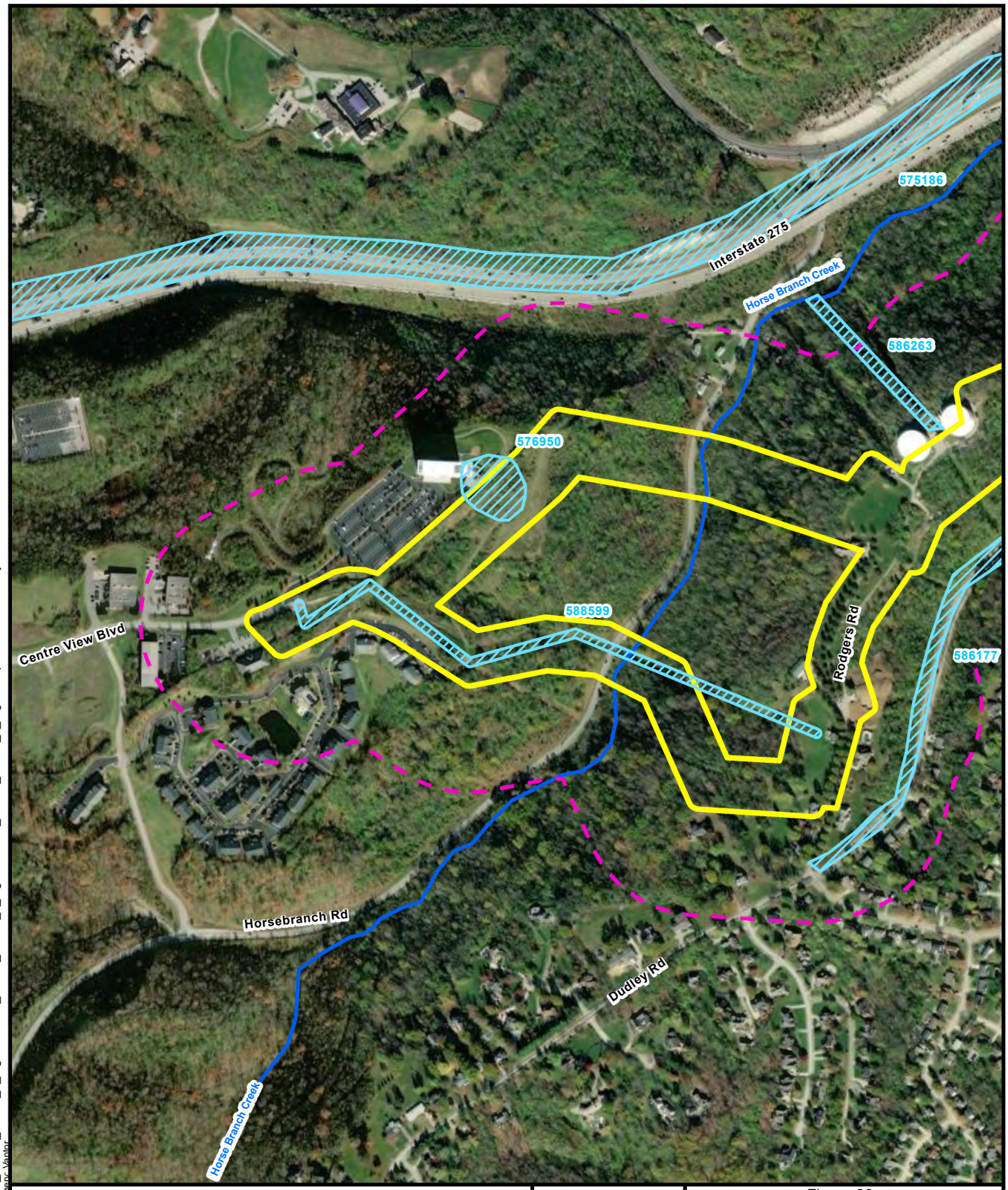
No prehistoric burial sites are reported within the Study Area; however, one historic-age cemetery is known in the Study Area. Its location is mapped in Figure 22.

2.1.3.1 Holy Guardian Angels Cemetery

The Holy Guardian Angels Cemetery is located adjacent to the central part of the main project corridor. It is west of Madison Pike, north of Dudley Road, and south of the eastbound off-ramp from Interstate 275 (Figure 22). The cemetery is just north of a two-story residential building that currently serves as professional offices. The cemetery is accessed from a sidewalk that runs north from a paved parking lot west of that building.

The cemetery covers approximately 0.7 acre. It is surrounded by a low chain-link fence with a locked entrance gate near the southwest corner (Figure 14). The interior of this cemetery extends across a steep slope with a grade of approximately 17 percent. The cemetery grounds are maintained in mowed turf with a couple of mature trees just inside the fence (Figure 15).

This cemetery is plotted on old U.S. Geological Survey (USGS) quadrangle maps from 1950 through 1987 (USGS 1950, 1961, 1969, 1981, 1987). It appears to have been originally associated with the Holy Garden of Angels School, which is labeled on the 1950 quadrangle (USGS 1950). The 1961 and later quadrangles give the cemetery no label beyond the cemetery symbology. A quadrangle from 1914 (USGS 1914) does not map cemeteries at all, but information from FindAGrave.com indicates that the cemetery was established in the early 1850s.



Survey Area
Study Area
Previous Survey

NORTH

600 300 0 600

Scale in Feet

BURNS McDONNELL

Figure 22
Cemeteries and Previous Surveys in the Study Area
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Kenton County, Kentucky
Page 1 of 3

Path: C:\Project_2025\Duke_AM07_Phase_5_Figures\Duke_AM07_Phase_5_Figures\Duke_AM07_Phase_5_Figures.aprx aachakraborty 12/8/2025
Service Layer Credits: World Imagery, Vantor

Source: ESRI, USGS, Duke Energy Kentucky, Burns & McDonnell

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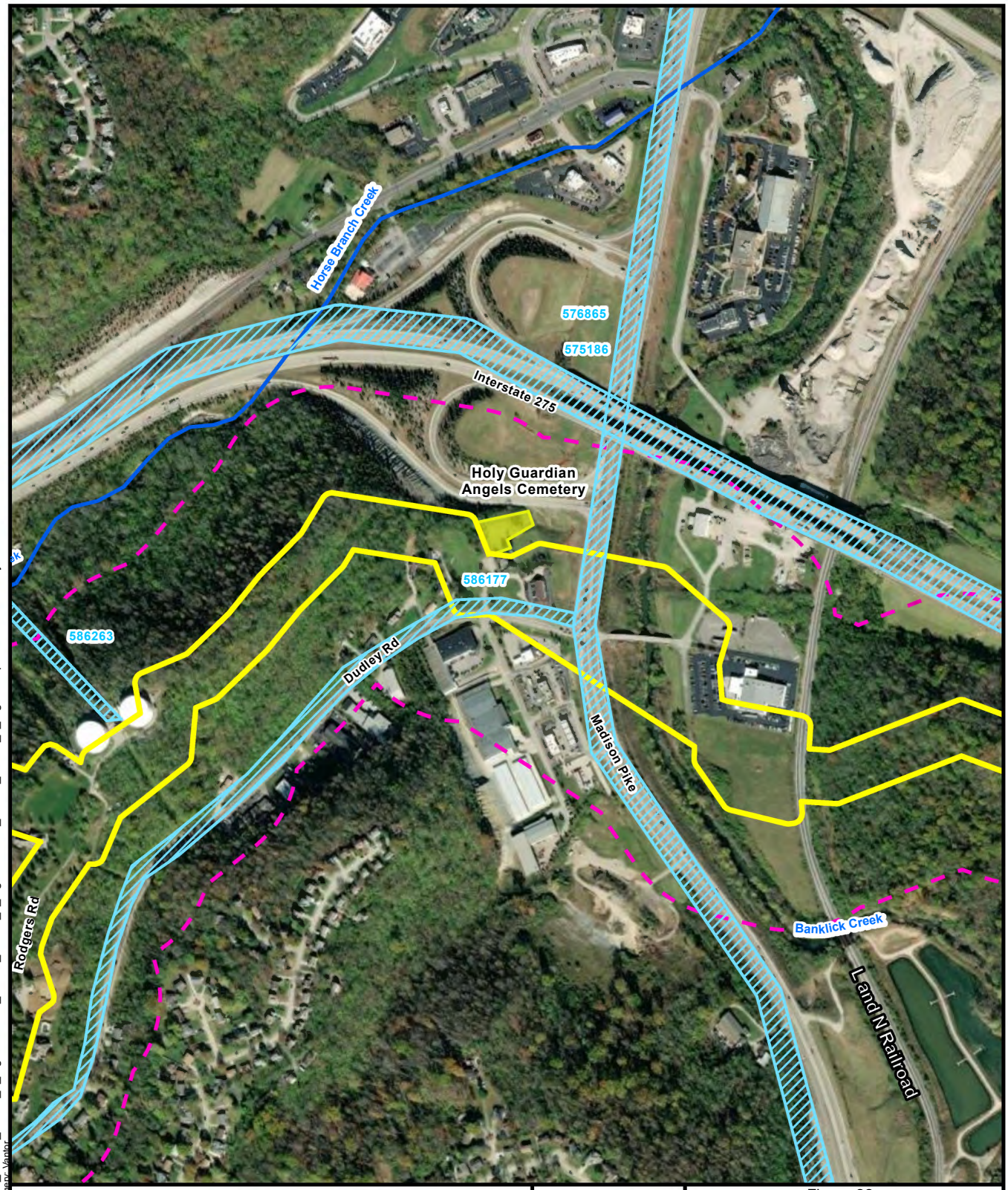

Survey Area
Study Area
Cemetery
Previous Survey

NORTH

600 300 0 600

Scale in Feet

BURNS McDONNELL

Figure 22
Cemeteries and Previous Surveys in the Study Area
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Kenton County, Kentucky
Page 2 of 3

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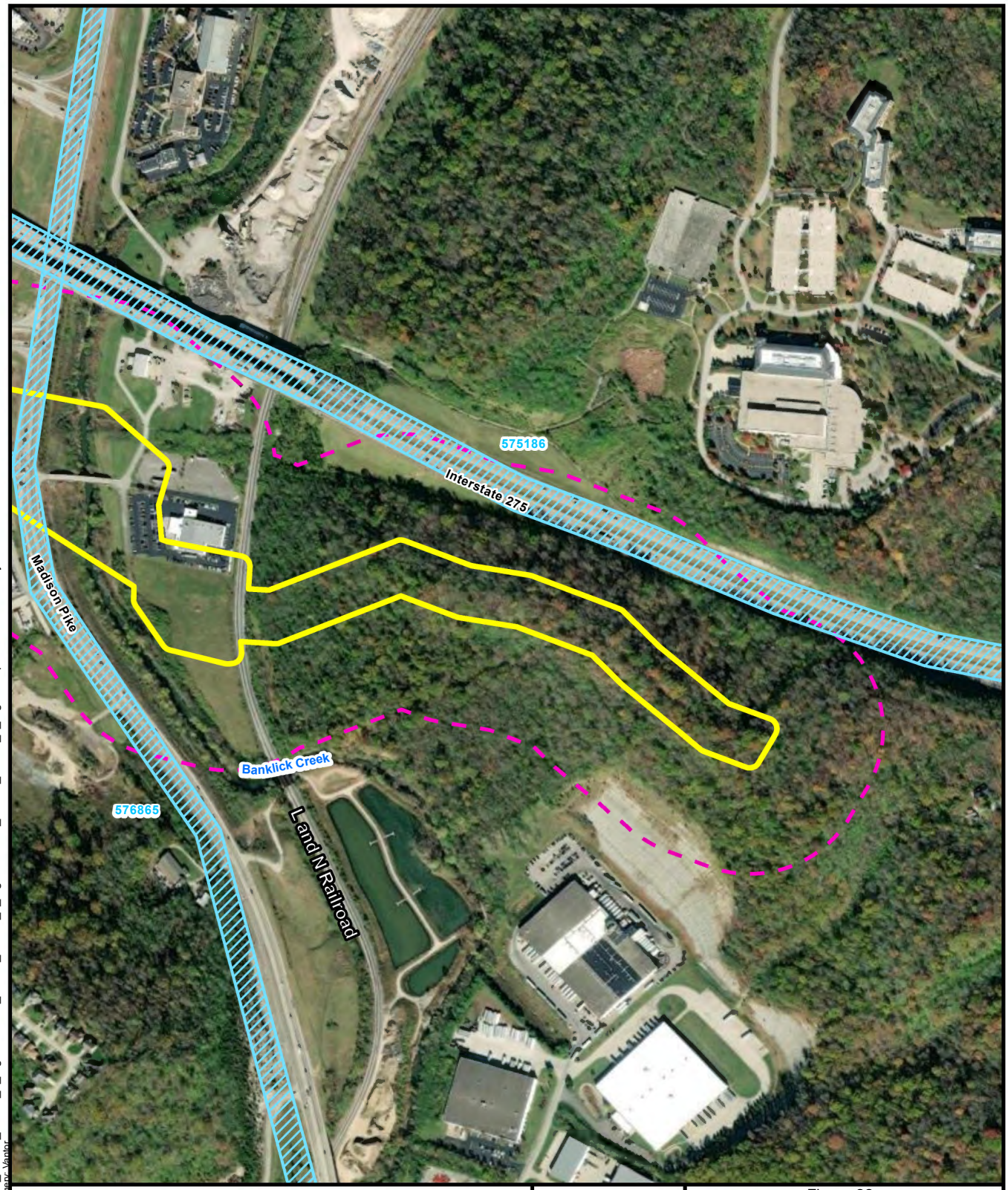
Service Layer Credits: World Imagery, Vantor

Source: ESRI, USGS, Duke Energy Kentucky, Burns & McDonnell

Issued: 12/8/2025



Survey Area
Study Area
Previous Survey

NORTH

600 300 0 600

Scale in Feet

BURNS McDONNELL

Figure 22
Cemeteries and Previous Surveys in the Study Area
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Kenton County, Kentucky
Page 3 of 3

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Service Layer Credits: World Imagery; Vantor

Source: ESRI, USGS, Duke Energy Kentucky, Burns & McDonnell

Issued: 12/8/2025

2.1.4 Historic Resources

Aside from the cemetery discussed above, no historic resources are recorded or mapped in the Study Area.

2.1.5 Previously Recorded Archaeological Sites

According to the KY-OSA database, there is one recorded archaeological site in the Study Area (Figure 22). This archaeological site, as mapped, does not extend into the Project footprint. The site has not been determined to be eligible for NRHP listing, and it has been destroyed.

2.1.5.1 Site15Ke209

Site 15Ke209 is reported to be approximately 80 feet beyond the eastern end of the current survey corridor. The site was discovered during previous survey for Phase 3 of the Duke AM07 project (Kullen 2024). The site was found during pedestrian survey on a narrow finger ridge crest. The site was reported as a thin domestic midden associated with a rural residence dating from the early and mid-20th century. No traces of a former building were observed at the site location. Artifacts consisted of a moderately light surface scatter of about two dozen ceramic sherds and vessel glass fragments dating from the 20th century and covering about 222 square meters. Given the function of this site, the absence of intact cultural features, and minimal artifact content, this site does not appear to possess enough archaeological data to warrant listing on the NRHP under Criterion D. The site location was revisited and it appears to have been destroyed by grading for the Duke AM07 Phase 3 project. The site area is now in landscaped terrain planted in grass.

2.2 Previous Archaeological Work

Six archaeological investigations have been undertaken in the Study Area, according to the OSA geodatabase and two others have yet to be integrated into that database. All of these included a survey component, but one also included limited test excavations. These investigations are listed in Table 1 and mapped in Figure 22

Table 1: Previous Archaeological Investigations Reported in the Study Area

OSA Number	Project Name/Type	Institution	Author (Year)
575186	Interstate 275 Survey and Test Excavations	University of Louisville	Rodeffer (1968)
576865	Sanitary Sewage System	Ohio Valley Archaeological Research Associates	Chapman (1975)
576950	Interstate 275 Borrow Site	Janzen, Inc.	Janzen (1983)
586177	Dudley Road Reconstruction	John Wood Group	Prybylski (2009)
586263	Horsebranch Road Water Line	Natural & Ethical Environmental Solutions	Kreinbrink (2010)
588599	Water Main Replacement	K & V Cultural Resources Management, LLC	Von Strohe (2017)
-----	Duke AM07 Natural Gas pipeline Replacement, Phase 1	Burns & McDonnell Engineering, Inc.	Kullen (2021)
-----	Duke AM07 Natural Gas pipeline Replacement, Phase 3	Burns & McDonnell Engineering, Inc.	Kullen (2024)

The earliest reported archaeological investigation in the Study Area was undertaken by the University of Louisville in 1986 for Interstate 275 construction (Rodeffer 1968). The survey component of that work roughly paralleled the Study Area for its entire length, overlapping into it near its east end. No sites were recorded in the Study Area as a result of that survey.

The next oldest reported archaeological investigation was undertaken by Ohio Valley Archaeological Research Associates in 1975 for a sanitary sewer line (Chapman 1975). In the Study Area, the survey corridor for that project basically followed the route of Madison Pike, west of Banklick Creek. No archaeological sites were recorded in the Study Area as a result of that survey.

In 1983, Janzen, Inc. conducted a survey in advance of soil borrow excavation on 1.7 acres on the finger ridge headland northeast of the dead end of Centre View Boulevard (Janzen 1983). No archaeological sites were reported there. This location is now within the footprint of the Columbia Sussex Hotel building and parking lot, an adjacent utility line corridor, and an extensive graded area recognized in the field along the Alternate Corridor.

In 2009, the John Wood Group conducted a survey in advance of the reconstruction of Dudley Road (Prybylski 2009). That survey area extended through much of the central portion of the Study Area, overlapping with the current survey corridor near the intersection of Dudley Road and Madison Pike. No sites were recorded in the Study Area as a result of that survey.

In 2010, Natural & Ethical Environmental Solutions conducted a survey for a water line (Kreinbrink 2010). The survey corridor for that project extended in linear fashion northwest from the municipal water storage facility at the north end of Rodgers Road toward Horsebranch Road. No archaeological sites were recorded as a result of that survey.

In 2017, K & V Cultural Resources Management conducted a survey for a water line replacement (Von Strohe 2017). The narrow, linear survey area for that project extended from the end of Centre View Boulevard eastward along the existing natural gas pipeline ROW to Horsebranch Road and across Horsebranch Creek. From there, it extended eastward up the ravine wall, nearly to Rodgers Road. Much of that survey area overlaps with the current survey corridor, but the 2017 survey reported finding no archaeological sites.

In 2021, Burns & McDonnell Engineering conducted a survey for the first phase of the Duke AM07 natural gas pipeline replacement project (Kullen 2021). That survey was mainly west of the current survey area, but its eastern end overlaps slightly in the area around the end of Centre View Boulevard. Much of the terrain in the 2017 survey area was found to be steeply sloping, and most of the level ground has been substantially disturbed by previous development. No archaeological sites were reported as a result of that survey.

In 2024, Burns & McDonnell Engineering conducted a survey for the third phase of the Duke AM07 natural gas pipeline replacement project (Kullen 2024). That survey was mainly east of the current survey area, but its western end overlaps slightly with the eastern terminus of the current survey corridor. Much of the terrain in the 2024 survey area was found to be steeply sloping, and most of the level terrain had been substantially disturbed by previous development. A scatter of early twentieth century ceramics was recorded on the ridge crest just east of the current survey. It was recorded as Site 15Ke209, as described above. No other archaeological sites were reported as a result of the 2024 survey.

2.3 Summary of Previous Findings

Eight previous archaeological surveys overlapped with the Study Area. Seven of these recorded no archaeological sites in the current Project vicinity. Archaeological site 15Ke209, which was located just outside the current Project survey corridor, was reported by a previous survey. That site was considered to be NRHP-eligible and has since been destroyed. One cemetery is known in the Study Area. The Holy Guardian

Angels Cemetery is adjacent to the central portion of the survey corridor. No cultural resources listed on the NRHP are reported in the Study Area.

3.0 Field Methods

The archaeological survey reported here was conducted to identify archaeological sites and other cultural resources located within the Project. Accepted methods and best practices were employed in the conduct of this archaeological survey. Permission to enter the Project was arranged by Duke. Most of the survey area is under private ownership, but parts of the corridor extend across public road rights-of-way.

The direction of archaeological field work was undertaken by a professional archaeologist whose experience exceeds the Secretary of the Interior's Professional Qualification Standards and who is a member of the Register of Professional Archaeologists. Survey procedures were conducted in accordance with guidelines outlined in the Kentucky State Historic Preservation Office (SHPO) *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (Sanders 2006). Survey was intended to identify archaeological sites present in the Project and to provide preliminary evaluation of any cultural resources based on NRHP eligibility criteria.

3.1 Disturbances

Previous soil disturbance is ubiquitous throughout the survey area. Erosion is severe on ravine side slopes where, in some cases, bedrock is exposed as lag deposits on the ground surface. Stream channels in ravine bottoms have been incised by erosion, and in some cases altered by dredging. Severe soil disturbances are present in most residential areas; in industrial, commercial, and retail developments; in and adjacent to all existing roadways and parking lots; and along existing pipeline corridors. Local disturbances are detailed in the description of the survey area in Chapter 1.3.

3.2 Survey Methods

Survey methods varied depending upon ground cover and slope. Guidelines published by SHPO outlining archaeological field work procedures in Kentucky were followed. Pedestrian reconnaissance at intervals of approximately 20 meters was the method used to survey steep slopes of 15 percent grade or higher. Pedestrian walkover was used to survey areas where surface observations clearly indicated severe soil disturbance, such as paved, graded, and landscaped areas. Standard, screened shovel testing at 20-meter intervals was used in locations where soils were found to be relatively undisturbed. In some locations, shovel tests were attempted, but rock, earthen fill, packed gravel, or subsoil was encountered directly below the ground surface. In those cases, severe soil disturbance was confirmed and backdirt was not screened. All shovel test holes were backfilled upon completion.

Other field notes were recorded. Digital photography documented terrain and other field conditions in the survey area. Global Positioning System-linked digital notes were used to record information regarding survey coverage, vegetation, landforms, and disturbances in various portions of the survey area.

4.0 Findings

Altogether, land surfaces throughout much of the survey area are steeply sloped and/or are severely disturbed by previous development-related grading. Very few land surfaces in the survey area have the potential to contain intact archaeological deposits. Four parts of the survey area were level and relatively undisturbed enough to allow for shovel testing (Figure 23). These included a wooded headland and a residential lawn on the ridge crest west of Rodgers Road, a wooded finger ridge crest north of Rodgers Road, and another wooded finger ridge crest near the east end of the survey corridor. Even in these relatively undisturbed locations, severely eroded soil mantles were commonly encountered.

No cultural resources were identified in the survey area. Holy Guardian Angels Cemetery was observed north of, and immediately adjacent to, the central part of the survey corridor. The location of archaeological site 15KE209 was noted just east of the survey area in a location that has been recently graded.

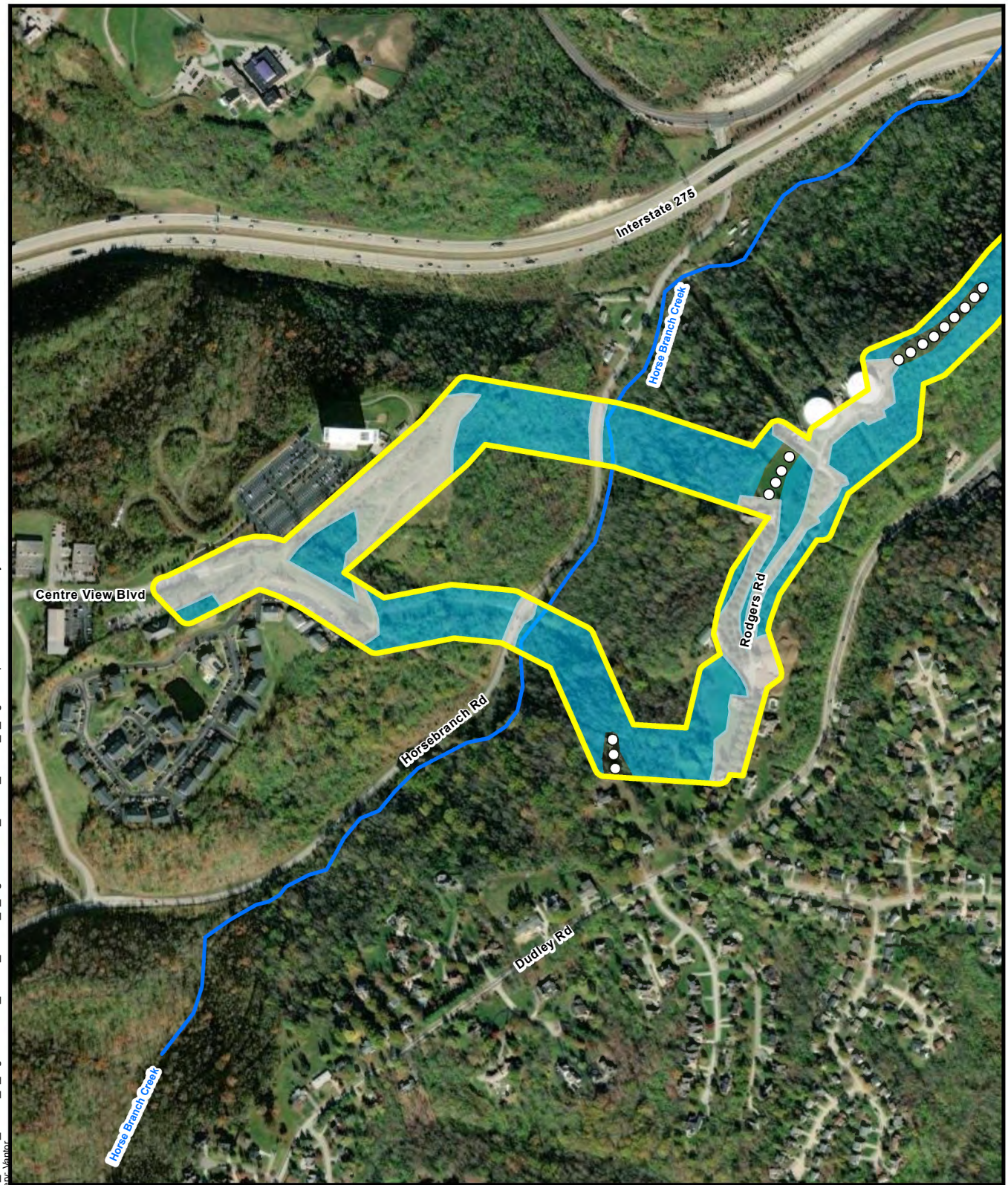

Figure 23
Survey Coverage
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Kenton County, Kentucky
Page 1 of 3

Path: C:\Project_2025\Duke_AM07_Phase_5_Figures\Duke_AM07_Phase_5_Figures\Duke_AM07_Phase_5_Figures.aprx aachakraborty 12/8/2025
Service Layer Credits: World Imagery, Vantor

Source: ESRI, USGS, Duke Energy Kentucky, Burns & McDonnell

Issued: 12/8/2025

Survey Area
Disturbance Area
Steep Slopes
Negative Shovel Test
Cemetery

NORTH
600 300 0 600
Scale in Feet

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Figure 23
Survey Coverage
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Kenton County, Kentucky
Page 2 of 3

Path: C:\Project_2025\Duke_AMO7_Phase_5_Figures\Duke_AMO7_Phase_5_Figures\Duke_AMO7_Phase_5_Figures.aprx aachakraborty 12/8/2025
Service Layer Credits: World Imagery, Vantor

Source: ESRI, USGS, Duke Energy Kentucky, Burns & McDonnell

Issued: 12/8/2025

Survey Area
Disturbance Area
Steep Slopes
Negative Shovel Test

NORTH

600 300 0 600

Scale in Feet

BURNS McDONNELL

Figure 23
Survey Coverage
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky Inc.
Kenton County, Kentucky
Page 3 of 3

Path: C:\Project_2025\Duke_AM07_Phase_5_Figures\Duke_AM07_Phase_5_Figures\Duke_AM07_Phase_5_Figures.aprx aachakraborty 12/8/2025
Service Layer Credits: World Imagery; Vantor

Source: ESRI, USGS, Duke Energy Kentucky, Burns & McDonnell

Issued: 12/8/2025

5.0 Summary and Recommendations

This concluding chapter summarizes the findings of the archaeological survey for the Duke AM07 (Phase 5) survey area. Included here are recommendations regarding archaeological sites and historic resources. Of special consideration are the cemeteries intersected by the Project.

5.1 Archaeological Sites

One archaeological site has been previously reported just outside the survey area. Site 15KE209 appears to have been completely destroyed. The site is not considered eligible for NRHP listing. No further archaeological investigations are recommended at the site location.

5.2 Historic Resources

No historic buildings have been reported in the Project vicinity.

5.3 Cemeteries

Holy Guardian Angels Cemetery is situated just outside the survey area. Avoidance of this cemetery is recommended. Avoidance should be simple since this cemetery is fenced. High visibility temporary fencing and/or flagging is likely to suffice to prevent any proposed earthmoving equipment from impacting the cemetery grounds. Coordination with cemetery owners is recommended.

5.4 Recommendations

Archaeological clearance is recommended for construction within the Project area. Note that if the Project configuration is changed, supplemental cultural resource investigations and NRHP evaluation may be necessary. If buried cultural resources are encountered during Project construction, land-disturbing activities in the immediate area should be halted, and the Principal Investigator and the KHC/SHPO should be notified. Then, any exposed cultural resources will be evaluated for their significance. These recommendations are subject to the approval of the KHC/SHPO.

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TOURISM, ARTS AND HERITAGE CABINET
KENTUCKY HERITAGE COUNCIL
THE STATE HISTORIC PRESERVATION OFFICE
410 HIGH STREET
FRANKFORT, KENTUCKY 40601
(502) 564-7005
www.heritage.ky.gov

LINDY CASEBIER
SECRETARY

CRAIG A. POTTS
EXECUTIVE DIRECTOR &
STATE HISTORIC PRESERVATION OFFICER

January 12, 2026

Douglas Kullen
Senior Cultural Resources Specialist
Burns & McDonnell
1431 Opus Place, Suite 400
Downers Grove, IL 60515
Via email: dkullen@burnsmcd.com

RE: *Phase I Archaeological Survey of the Duke Energy AM07 Pipeline Replacement Project (Phase 5), Kenton County, Kentucky* by Douglas Kullen

Dear Mr. Kullen,

Thank you for your submittal of an archaeology report for the above-referenced undertaking. We understand that Duke Energy Kentucky, Inc. (Duke) proposes replacement of or upgrades to approximately 2.1 linear miles of their existing AM07 pipeline in Kenton County. We understand that the lead federal agency is anticipated to be the U.S. Army Corps of Engineers. The area of potential effects (APE) included the entirety of a survey corridor for the proposed pipeline route. No above-ground impacts are anticipated from the project activities.

Burns & McDonnell Engineering Company, Inc. conducted a Phase I archaeological survey over 97.1 acres of land in November of 2025. We understand methods included pedestrian survey and shovel testing. No new archaeological sites were identified during this investigation. Previously recorded site 15Ke209 is documented adjacent to the APE. No evidence of the site was found within the APE. Similarly, the Holy Guardian Angels Cemetery is adjacent to the APE, and field investigations confirmed the cemetery does not extend into the APE.

We accept the archaeology report without revision.

Our office would concur with the determination of **No Historic Properties Affected** for this undertaking.

Should you have any questions or concerns, please contact Patti Hutchins of my staff at Patricia.Hutchins@ky.gov.

Sincerely,

Craig Potts
Executive Director and
State Historic Preservation Officer

KHC# 252316
CP: peh

KENTUCKY HERITAGE COUNCIL COVER SHEET FOR SECTION 106 SUBMISSIONS

We want to help you with your project as early in the process as possible. Our reviewers need up to 30 days to review and provide comments to you for your proposal. If you are using federal funds or permits, you definitely need us. If you are working through the e-Clearing House (KHC does not use e-Clearinghouse), or need environmental review, you'll likely need us. DON'T WAIT! We're here to help. Submit your documentation in a single attachment to our INHERIT portal**: https://heritage.ky.gov/compliance/Pages/overview.aspx**

Questions? Nicole.Konkol@ky.gov

SECTION 1: APPLICANT INFORMATION

Project Applicant:

Contact Person (name & position)**:**

Return Address:

Telephone: 513-678-1336 **E-mail:** David.Klein@duke-energy.com

Project Title:

SECTION 2: AGENCY INFORMATION ADD email here, if applicable

Federal Agency:

Agency Contact Person (name & position)**:**

Telephone: (502) 315-6669 **E-mail:** Cory.D.Shumate@usace.army.mil

SECTION 3: PROJECT LOCATION

Street Address (or other location)**:**

City:	**County:**
Lat (Dec/Deg):39.027038	**Long (Dec/Deg):**-84.538082

SECTION 4: PROJECT TYPE (please check all that apply)

Proposed Activity: ☐ Demolition ☐ Rehabilitation ☐ Structural Relocation ☐ Trails

☐ New Construction ☐ Land and/or Building Acquisition ☐ Sewer/Water Lines ☐ Roads/Bridges

☐ Non-Construction Planning/Refinancing ☐ Other (describe): Natural gas pipeline

SECTION 5: IDENTIFICATION OF KNOWN HISTORIC PROPERTIES

OSA Preliminary Site Check #:

Provide a detailed description of your project. If necessary, include it in your pdf attachments.

Is there anything over 50 years of age in or visible from the project location? ☐ Yes ☐ No

SECTION 6: ATTACHMENTS - Attach All.

All documentation should be labeled with the project name or site address.

- ☐ Clear, current photographs of the project site and anything over 50 years of age in or visible from it.
- ☐ Site map/plan indicating the exact location and boundaries of the project area.
- ☐ Detailed description of the project (may include plans, scope of work, and other available information.)
- ☐ Documentation of prior ground disturbance (e.g. maps, photographs, underground utility plans, etc.)
- ☐ Any known information about the history/use of the property and local significance.
- ☑ Results of your Preliminary Records Review from the Site Identification web portal.

If you have questions, email Nicole.Konkol@ky.gov.

ATTACHMENT 5 – WETLAND DELINEATION REPORT

November 7, 2025

Mr. Bradley Seiter
Project Manager
Natural Gas Major Projects
Duke Energy Kentucky, Inc.
139 E. 4th Street
Cincinnati, OH 45202

Re: Wetland Delineation and Protected Species Habitat Report
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky, Inc.
Burns & McDonnell Project No.: 181589

Dear Mr. Seiter,

Burns & McDonnell was retained by Duke Energy Kentucky, Inc. (Duke Energy) to provide a wetland delineation and protected species habitat assessment for the AM07 Phase 5 Pipeline Replacement Project (Project) located in Kenton County, Kentucky (Appendix A, Figure 1).

The purpose of this assessment was to identify any wetlands or other waterbodies present within the Project that may be considered waters of the United States (WOTUS) and subject to regulation by the U.S. Army Corps of Engineers (USACE) under the federal Clean Water Act or by the State of Kentucky. The Project was also assessed for the presence of threatened and endangered species habitat. The following sections provide information on the proposed Project and summarize the results of the wetland delineation and protected species habitat assessment.

INTRODUCTION

The Project includes installation of approximately 2.08 miles of 24-inch pipeline with several road crossings and installation. The wetland delineation and protected species habitat assessment was conducted within an approximately 97-acre area (Survey Area), encompassing the segments and construction areas.

METHODS

The following discussions summarize the methods used for the review of existing data and the wetland delineation and protected species habitat assessment.

Existing Data Review

Burns & McDonnell reviewed available background information for the Project prior to conducting a site visit. This available background information included the 2022 U.S. Geological Survey (USGS) 7.5 minute topographic maps (Covington quadrangle), U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps, National Agriculture Imagery Program (NAIP) aerial photography (2023), 2023 USGS National Hydrography Dataset (NHD), Federal Emergency Management Agency (FEMA) 2011 National Flood Hazard Layer (NFHL),

and U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) 2024 Soil Survey Geographic (SSURGO) digital data for Kenton County, Kentucky. Figures 2 and 3 in Appendix A depict this data.

Additionally, a USFWS Information for Planning and Consultation (IPaC) report and Kentucky Department of Fish and Wildlife Resources (KDFWR) Covington quadrangle species list (Appendix D) were reviewed to identify known threatened and endangered species' habitat that might be present in the Survey Area.

The presence of environmental resources based only on aerial, NWI, and NHD maps or other background information cannot be assumed to be an accurate assessment of the location and extent of jurisdictional resources and species habitat. Identification criteria differ between the USFWS, USGS, and the USACE. As a result, wetlands, streams or other water resources shown on a NWI or NHD map may not be under the jurisdiction of the USACE, and all USACE-jurisdictional resources are not always included on NWI and NHD maps. Furthermore, potential species' habitat cannot be identified without conducting a field visit. Therefore, a field visit was conducted to identify any environmental resources that may be present.

Wetland Delineation

Wetland scientists with Burns & McDonnell completed a wetland delineation of the Survey Area on October 13th and 14th, 2025. The Survey Area included the areas where proposed Project activities would occur. The delineation was completed in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) and the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0* (Regional Supplement). The Survey Area was searched for the presence of wetlands, streams, and other WOTUS. Wetlands are identified by the presence of wetland hydrology, a predominance of hydrophytic vegetation, and hydric soils. Streams are identified by the presence of a defined bed and bank and an ordinary high-water mark or evidence of flow. The site was also assessed for the presence of potential habitat capable of supporting protected species.

A sample plot was established at a representative location and a Wetland Determination Data Form from the Regional Supplement was completed to characterize the Survey Area (Appendix B). Locations of sample plots and other identified features were surveyed using a sub-meter-accurate global positioning system (GPS) unit. Photographs were taken onsite and are included in Appendix C.

Protected Species

The Covington quadrangle list was received from the KDFWR on October 22, 2025, as the Kenton County species list is currently unavailable (Appendix D). The Covington quadrangle list

was researched for federal and state protected species to identify what may be present within and near the Survey Area. In October 2025, the official USFWS IPaC report was researched for federally protected species to identify what may be present within and near the Survey Area.

Burns & McDonnell has previously conducted presence/probable absence surveys for federal and state-listed bat species on the nights from July 17th through July 24th. Based on USFWS Guidelines, probable absence results for bat surveys are sufficient to cover the Project for a period of five years. In August 2025, consultation letters requesting concurrences and guidance on calls for federally and state-listed species were sent to USFWS and KDFWR. A response was received from USFWS and KDFWR on September 2, 2025 and September 12, 2025, respectively (Appendix F).

An onsite habitat assessment was performed to identify potential habitat of federally and state-protected species within the Survey Area. A general bat habitat survey was conducted to identify potential roost habitat trees (i.e. trees larger than 3 inches in diameter breast height (dbh) that also displayed characteristics such as loose bark, hollows, sloughing, and crevasses) within forested habitat of the Survey Area. The Survey Area was also assessed for the presence of potential habitat that could support other listed species.

RESULTS

The following sections describe the results of the existing data review and the completed wetland delineation.

Existing Data Review

The existing USGS topographic maps were reviewed to familiarize Burns & McDonnell wetland personnel with the topography and potential locations of wetlands and other waterbodies (Appendix A, Figures 1 and 2). The USGS topographic maps indicate the Survey Area has considerable changes in elevation throughout. USFWS NWI data depicts seven NWI features labeled as riverine and one palustrine unconsolidated bottom (PUB) wetland; USGS NHD data depicts nine streams located within the Survey Area. Two of the streams identified on NWI and NHD data are Horse Branch Creek and Banklick Creek, with Horse Branch Creek having mapped FEMA 100-year flood plains and Banklick Creek having mapped FEMA 100-year floodplains, 500-year floodplains, and regulatory floodways within the Survey Area (Appendix A, Figure 3). All of the NWI and NHD streams shown within the Survey Area boundary were identified during the environmental field survey. Aerial imagery indicates the Survey Area consists of mostly forested areas, with some residential and industrial areas (Appendix A, Figures 3 and 4).

The NRCS SSURGO digital data indicates that portions of ten soil map units are located in the Survey Area. Two of these soil map units ("Newark silt loam" (Nk) & "Nolin silt loam" (No)) are included on local and national hydric soil lists (Appendix A, Figure 3), however as the hydric percentages are 2% and 1%, respectively, they are not classified as hydric soils based on SSURGO data. Soil map units identified within the Survey Area are listed below:

- Cg: Chagrin gravelly silty clay loam (sensabaugh 0 to 4 percent slopes, occasionally flooded)
- CyF: Cynthiana flaggy silty clay loam, 20 to 50 percent slopes
- EdE2: Eden silty clay loam, 20 to 35 percent slopes, eroded
- FcD: Faywood silty clay loam, 12 to 20 percent slopes
- FdD3: Faywood silty clay, 12 to 20 percent slopes, severely eroded
- LlD: Licking silty clay loam, 12 to 20 percent slopes
- Ln: Lindside silt loam (0 to 3 percent slopes, occasionally flooded)
- Nk: Newark silt loam (0 to 2 percent slopes, occasionally flooded), 2% hydric
- NIB: Nicholson silt loam, 2 to 6 percent slopes
- No: Nolin silt loam, 0 to 2 percent slopes, occasionally flooded, 1% hydric

Wetland Delineation and Protected Species Habitat Assessment
On October 13th-14th, 2025, a Burns & McDonnell wetland scientist and GIS specialist conducted a wetland delineation and protected species habitat assessment of the Survey Area and recorded the location and extent of features identified within the Survey Area. Upland habitat within the Survey Area consists primarily of forest. It also consisted of some maintained lawn within residential and commercial areas. Typical vegetation within forest upland habitat consists of Morrow's honeysuckle (*Lonicera morrowii*), birds-foot trefoil (*Lotus corniculatus*) box elder (*Acer negundo*), and poison ivy (*Toxicodendron radicans*). Typical vegetation within upland maintained lawn habitat consists of Kentucky bluegrass (*Poa pratensis*), tall fescue (*Schedonorus arundinaceus*) and wild teasel (*Dipsacus fullonum*).

Land cover and delineated features from the site visit are discussed in detail in the Delineated Areas section below.

Delineated Areas
Two wetlands and 17 streams were identified during the wetland delineation effort. The wetlands and streams are described by type below, and their locations are shown on Figure 4 (Appendix A). Two upland ditches (Appendix C, Photos 39 and 40) were identified in the Survey Area, however, they convey upland overland flow and did not exhibit stream or wetland characteristics; therefore they are considered non-jurisdictional and are not discussed further here. The USACE's Antecedent Precipitation Tool (APT) was used to determine that antecedent

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Duke Energy Kentucky, Inc.

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precipitation was within a normal range preceding and during the October 13th and 14th delineation and rainfall was within normal conditions for both days (Appendix E).

WETLANDS

Table 1 provides the size and type of each wetland delineated.

Table 1: Type and Size of Wetland Delineated within the Survey Area.

Wetland Number	Wetland Type[a]	Area of Wetland Delineated within Survey Area (acre)
W01	PEM	0.03
W02	PEM	0.06
	Total:	**0.09**

a - PEM = palustrine emergent wetland

Wetland (W)01

W01 is a PEM wetland, totaling 0.03 acres, delineated within the Survey Area (Photograph 1). Dominant vegetation within the PEM wetland was narrow-leaf cattail (*Typha angustifolia*). Observed indicators of wetland hydrology included geomorphic position (D2) and a positive FAC-Neutral test (D5). The observed hydric soil indicator was depleted matrix (F5). Data is in the sample plot (SP)01 determination form in Appendix B. W01 appears to drain towards the north through a non-jurisdictional ditch (D02), into W02, into a culvert under Madison Pike and eventually into Banklick Creek. Based on current regulations, it is our professional opinion that W01 is non-jurisdictional as it does not have a continuous surface connection to a relatively permanent water (RPW).

W02

W02 is a PEM wetland, totaling 0.06 acres, delineated within the Survey Area (Photograph 3). W02 continues outside of the survey area. Dominant vegetation within the PEM wetland was narrow-leaf cattail and green ash (*Fraxinus pennsylvanica*). Observed indicators of wetland hydrology included surface water (A1), geomorphic position (D2) and a positive FAC-Neutral test (D5). The observed hydric soil indicator was depleted matrix (F3). Data is in the SP03 determination form (Appendix B). W02 drains through a culvert under Madison Pike and

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eventually into Banklick Creek. Based on current regulations it is our professional opinion that W02 is non-jurisdictional as it does not have a continuous surface connection to a RPW.

STREAMS

Table 2 provides the type and size of each stream delineated.

Table 2: Type and Size of Streams Delineated within the Survey Area.

Stream Number	Stream Type	Length (feet)	OHWM Width (feet)	OHWM Depth (feet)	RPW[a]
S01	Ephemeral	274	3.00	0.25	No
S02 (Banklick Creek)	Perennial	763	85.36	4.00	Yes
S03	Perennial	192	23.10	1.50	Yes
S04	Intermittent	110	6.50	1.00	Yes
S05	Ephemeral	41	1.00	3.00	No
S06	Intermittent	80	4.00	2.50	Yes
S07	Ephemeral	246	3.00	0.50	No
S08	Ephemeral	159	2.50	0.50	No
S09	Ephemeral	206	2.00	1.00	No
S10 (Horse Branch Creek)	Perennial	560	27.8	3.00	Yes
S11	Intermittent	38	1.50	0.25	Yes
S12	Ephemeral	90	1.00	0.25	No
S13	Intermittent	588	2.50	0.50	Yes
S14	Ephemeral	382	1.50	2.50	No
S15	Ephemeral	54	4.50	3.00	No
S16	Ephemeral	507	3.00	1.00	No
S17	Ephemeral	370	2.50	0.50	No
Total Length	**Perennial**	**1,515**			

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Stream Number	Stream Type	Length (feet)	OHWM Width (feet)	OHWM Depth (feet)	RPW[a]
	Intermittent	816			
	Ephemeral	2,329			

a – RPW = Relatively Permanent Water = flows continuously at least 3 months

Stream (S)01
S01 is a non-RPW ephemeral stream located in the Survey Area (Photographs 5 and 6). A total of 274 feet of S01 was delineated within the Survey Area. S01 had an ordinary high-water mark (OHWM) width of 3.00 feet and an OHWM depth of 0.25 feet.

S02
S02, Banklick Creek, is a RPW perennial stream located within the Survey Area (Photographs 7 and 8). A total of 763 feet of S02 was delineated within the Survey Area. S02 had an OHWM width of 85.36 feet and an OHWM depth of 4.00 feet.

S03
S03 is a RPW perennial stream located within the Survey Area (Photographs 9 and 10). S03 is a tributary of S02. A total of 192 feet of S03 was delineated within the Survey Area. S03 had an OHWM width of 23.10 feet and an OHWM depth of 1.50 feet.

S04
S04 is a RPW intermittent stream located within the Survey Area (Photographs 11 and 12). S04 is a tributary of S02. A total of 110 feet of S04 was delineated within the Survey Area. S04 had an OHWM width of 6.50 feet and an OHWM depth of 1.00 feet.

S05
S05 is a non- RPW ephemeral stream located in the Survey Area (Photographs 13 and 14). S05 is a tributary of S02. A total of 41 feet of S05 was delineated within the Survey Area. S05 had an OHWM width of 1.00 feet and an OHWM depth of 3.00 feet.

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S06
S06 is a RPW intermittent stream located in the Survey Area (Photographs 15 and 16) S06 is a tributary of S02. A total of 80 feet of S06 was delineated within the Survey Area. S06 had an OHWM width of 4.00 feet and an OHWM depth of 2.50 feet.

S07
S07 is a non- RPW ephemeral stream located within the Survey Area (Photographs 17 and 18). A total of 246 feet of S07 was delineated within the Survey Area. S07 had an OHWM width of 3.00 feet and an OHWM depth of 0.50 feet.

S08
S08 is a non- RPW ephemeral stream located within the Survey Area (Photographs 19 and 20). S08 is a tributary to S07. A total of 159 feet of S08 was delineated within the Survey Area. S08 had an OHWM width of 2.50 feet and an OHWM depth of 0.50 feet.

S09
S09 is a non- RPW ephemeral stream located within the Survey Area (Photographs 21 and 22). A total of 206 feet of S09 was delineated within the Survey Area. S09 had an OHWM width of 2.00 feet and an OHWM depth of 1.00 feet.

S10
S10, Horse Branch Creek, is a RPW perennial stream located within the Survey Area (Photographs 23 and 24). A total of 560 feet of S10 was delineated within the Survey Area. S10 had an OHWM width of 27.80 feet and an OHWM depth of 3.00 feet.

S11
S11 is a RPW intermittent stream located within the Survey Area (Photographs 25 and 26). S11 is a tributary of S10. A total of 38 feet of S11 was delineated within the Survey Area. S11 had an OHWM width of 1.50 feet and an OHWM depth of 0.25 feet.

S12
S12 is a non- RPW ephemeral stream located within the Survey Area (Photographs 27 and 28). S12 is a tributary of S10. A total of 90 feet of S12 was delineated within the Survey Area. S12 had an OHWM width of 1.00 feet and an OHWM depth of 0.25 feet.

S13
S13 is a RPW intermittent stream located within the Survey Area (Photographs 29 and 30). S13 is a tributary of S10. A total of 588 feet of S13 was delineated within the Survey Area. S13 had an OHWM width of 2.50 feet and an OHWM depth of 0.50 feet.

S14
S14 is a non- RPW ephemeral stream located within the Survey Area (Photographs 31 and 32). S14 is a tributary of S10. A total of 382 feet of S14 was delineated within the Survey Area. S14 had an OHWM width of 1.50 feet and an OHWM depth of 2.50 feet.

S15
S15 is a non- RPW ephemeral stream located within the Survey Area (Photographs 33 and 34). A total of 54 feet of S15 was delineated within the Survey Area. S15 had an OHWM width of 4.50 feet and an OHWM depth of 3.00 feet.

S16
S16 is a non- RPW ephemeral stream located within the Survey Area (Photographs 35 and 36). A total of 507 feet of S16 was delineated within the Survey Area. S16 had an OHWM width of 3.00 feet and an OHWM depth of 1.00 feet.

S17
S17 is a non- RPW ephemeral stream located within the Survey Area (Photographs 37 and 38). A total of 370 feet of S17 was delineated within the Survey Area. S17 had an OHWM width of 2.50 feet and an OHWM depth of 0.50 feet.

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Duke Energy Kentucky, Inc.

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Protected Species
The USFWS IPaC report and the KDFWR Covington quadrangle list (Appendix D) were reviewed to determine the potential for threatened and endangered species to be present within and near the Survey Area. An IPaC was completed in October 2025. The IPaC identified no critical habitat for listed species within the Project area. However, determination keys have not been completed as of October 2025, as they require more detailed design plan information to complete species specific keys. These keys will be completed ahead of any project permitting. Listed species, and the designation of their listing, are identified in Table 4. If available, habitat types for the respective species are also listed in Table 4.

During the environmental field survey, Burns & McDonnell conducted a search for potential listed species suitable habitat. The Survey Area consists primarily of forested habitat with some maintained lawn, and scrub-shrub habitats within an urbanized area. Potential habitat that could support several state and federal listed mussel species was identified within the Project Area within Banklick Creek and Horse Branch Creek, as well it's intermittent tributaries. If in water work occurs, further coordination with USFWS and USACE would be necessary, along with species specific surveys. KDFWR does not have specific concerns regarding impacts to the listed mussel species due to the type of aquatic resources present. USFWS had no further comments and deferred to information from the IPaC on September 2nd, 2025 (Appendix F).

Migratory and winter habitat for the brown creeper and the red-breasted nuthatch may be present; however it is unlikely to be utilized as both species prefer coniferous and/or mixed forest habitat. It is unlikely impacts would occur to these two bird species as potential habitat identified is not nesting habitat and it is assumed these species would not be present during construction activities. There is potential for Kirtland's Snake habitat to exist within the Project Area near the identified perennial streams, therefore, if in water work occurs, necessary precautions should be taken to minimize impacts and disturbances. Please refer to photographs in Appendix C for more information.

Burns & McDonnell assessed forested habitat located throughout the Survey Area. Three potential roost trees (TE01, TE02, and TE03; Appendix A, Figure 4) were identified within the forested portions of the Survey Area during the onsite habitat assessment. These trees had characteristics suitable for roosting such as cracks, crevices, and exfoliating bark (Appendix C, Photographs 41-43). No bats were observed while on-site. No hibernaculum was identified within the Survey Area. During the presence/probable absence surveys for federal and state-listed species on the nights of July 17th through July 24th, 2025, it was concluded there is probable absence for Indiana bat and northern long-eared bat. USFWS found this decision acceptable on September 4th, 2025. The tricolored bat was considered present for the Project area based on the survey, however USFWS determined probable absence for the species on September 4th, 2025 (Appendix F). Although no impacts to species are anticipated, tree clearing

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activities are recommended by the KDFWR to be conducted during the winter season to avoid impacts to listed bat species. The KDFWR also recommends coordinating tree removal activities with USFWS.

Table 4: Threatened and Endangered Species with Potential to be within the Survey Area

Species	Status[a]	County, Quadrangle	Habitat Type	Habitat Observed
Fish				
Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis)*	PE	Kenton, Covington	Cool, permanent streams. Clear, fast-flowing rivers and streams.	No
Lake Sturgeon (*Acipenser fulvescens*)	SE	Kenton, Covington	Large freshwater lake and river ecosystems.	No
Alligator Gar (*Atractosteus spatula*)	SE	Kenton, Covington	Large rivers, lakes, and ponds.	No
Mussel				
Fanshell (*Cyprogenia stegaria*)	SE	Kenton, Covington	Medium to large rivers in gravel riffles.	Yes
Catspaw (*Epioblasma obliquata*)	SE	Kenton, Covington	Shallow, gravelly riffle zones in larger rivers.	No
Northern Riffleshell *(Epioblasma rangiana)*	SE	Kenton, Covington	Preferred habitat appears to require swiftly moving water. The high oxygen concentrations in swift streams may be necessary for survival. It is a species of riffle areas of smaller streams, and as such has fared better than larger river species, which have been heavily impacted by dredging and impoundment.	Yes
Longsolid *(Fusconaia subrotunda)*	FT, ST	Kenton, Covington	Sand and gravel in streams and small rivers, but also may be found in coarse gravel and cobble in larger rivers.	Yes

Species	Status[a]	County, Quadrangle	Habitat Type	Habitat Observed
Pink Mucket *(Lampsilis abrupta)*	FE, SE	Kenton, Covington	Mud and sand and in shallow riffles and shoals swept free of silt in major rivers and tributaries.	No
Creek Heelsplitter *(Lasmigona compressa)*	SE	Kenton, Covington	Rivers and streams of various sizes, even in very small creeks and is rare in lakes. Found on substrates of gravel, sand, or mud.	Yes
Ring Pink (*Obovaria retusa*)	SE	Kenton, Covington	Large rivers with gravel and sand bars present.	No
Round Hickorynut (*Obovaria subrotunda*)	SE	Kenton, Covington	Medium to large rivers. Prefers sand and gravel substrates with moderate flow.	Yes
Orangefoot Pimpleback (*Plethobasus cooperianus*)	SE	Kenton, Covington	This species is found in medium to large rivers in sand, gravel, and cobble substrates in riffles and shoals in deep water and steady currents as well as some shallower shoals and riffles.	Yes
Sheepnose Mussel (*Plethobasus cyphyus*)	SE	Kenton, Covington	Medium to large rivers in gravel or mixed sand and gravel.	Yes
Clubshell (*Pleurobema clava*)	SE	Kenton, Covington	Medium to large rivers in gravel or mixed sand and gravel.	Yes
Pyramid Pigtoe (*Pleurobema rubrum*)	SE	Kenton, Covington	This species is found in medium to large rivers in sand, gravel, and cobble substrates in shoals. It is occasionally found on flats and muddy sand.	Yes
Salamander Mussel (*Simpsonaias ambigua*)	PE, ST	Kenton, Covington	Under flat rocks or ledges of rock walls alongside mudpuppy salamanders	No

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Species	Status[a]	County, Quadrangle	Habitat Type	Habitat Observed
Rabbitsfoot (*Quadrula cylindrica cylindrica*)	FT, SE	Kenton, Covington	Typical habitat for this species is small to medium rivers with moderate to swift currents, and in smaller streams it inhabits bars or gravel and cobble close to the fast current. It is found in medium to large rivers in sand and gravel.	Yes
Mammal				
Indiana Bat (*Myotis sodalis*)	FE, SE	Kenton, Covington	Winter hibernacula includes caves or abandoned mines. Summer roosting habitat includes wooded areas containing dead or dying trees or living trees that have cracks, crevices, and/or exfoliating bark and a diameter-at-breast-height (dbh) of 5 inches or greater. Tend to forage within forest or along forest edges.	Yes
Gray Bat *(Myotis grisescens)*	FE	Kenton, Covington	Gray bats generally live in caves year-round in areas with limestone karst geology.	Yes
Little Brown Bat *(Myotis lucifugus)*	ST	Kenton, Covington	Little brown bats use a wide range of habitats and often use human-made structures for resting and maternity sites. They typically roost in caves and mines in the winter, and they can be found in trees, artificial structures, bat houses, under rocks and in piles of wood in the summer.	Yes

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Species	Status[a]	County, Quadrangle	Habitat Type	Habitat Observed
Tricolored Bat *(Perimyotis subflavus)*	PE, ST	Kenton, Covington	During the spring, summer and fall, tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. They have also been observed roosting during summer months among pine needles, eastern red cedar, and within artificial roosts likes barns, beneath porch roofs, bridges, concrete bunkers, and rarely within caves. During the winter, tricolored bats hibernate in caves and mines, road-associated culverts, as well as sometimes in tree cavities and abandoned water wells.	Yes
Reptile				
Kirtland's Snake (*Clonophis kirtlandii*)	ST	Kenton, Covington	Requires moist-soil environments to survive and is always found near a permanent or seasonal water source, including wetlands, streams, reservoirs, lakes, or ponds. Often found in or near crayfish burrows. When above ground, almost always found under natural or artificial cover objects.	Yes
Bird				
Spotted Sandpiper (*Actitis macularius*)	SE	Kenton, Covington	Nesting near streams, rivers, and lakes in open and wooded country, they require a shore for foraging and herbaceous cover for their nests. During migration and winter, they can be found almost anywhere near water, including mudflats, beaches, breakwaters, sewage ponds, and even in irrigation ditches.	No
Great Egret *(Ardea alba)*	ST	Kenton, Covington	Marshes, swampy woods, tidal estuaries, lagoons, mangroves, streams, lakes, and ponds; also fields and meadows.	No

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Species	Status[a]	County, Quadrangle	Habitat Type	Habitat Observed
Brown Creeper *(Certhia Americana)*	ST	Kenton, Covington	Preferred habitat includes forest, woodlands, forested floodplains and swamps. Scrub and parks are also used in winter and during migration. Most often found in coniferous and mixed forests.	Yes
Northern Harrier (*Circus hudsonius*)	ST	Kenton, Covington	Open habitats such as marshes, grasslands, and agricultural fields. Found in coastal areas during migration.	No
Little Blue Heron (*Egretta caerulea*)	SE	Kenton, Covington	Found in mainly freshwater areas such as marshes, ponds and lakes. They also inhabit flooded grasslands and wet meadows.	No
Least flycatcher (*Empidonax minimus*)	SE	Kenton, Covington	Mostly found in open woodlands and near clearings or the edges of forests. Nests are usually found in clusters in saplings or small trees.	No
Peregrine Falcon *(Falco peregrinus)*	SE	Kenton, Covington	Often nests on ledge or hole on face of rocky cliff or crag. Riverbanks, tundra mounds, open bogs, large stick nests of other species, tree hollows, and man-made structures.	No
American Coot *(Fulica Americana)*	SE	Kenton, Covington	Freshwater lakes, ponds, marshes, and larger rivers, wintering also on brackish estuaries and bays. Also, on land bordering these habitats. Calm open water with plenty of algae and other aquatic vegetation.	No
Hooded Merganser *(Lophodytes cucullatus)*	ST	Kenton, Covington	Streams, lakes, swamps, marshes, and estuaries; winters mostly in freshwater but also regularly in estuaries and sheltered bays.	No

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Species	Status[a]	County, Quadrangle	Habitat Type	Habitat Observed
Pied-billed Grebe *(Podilymbus Podiceps)*	SE	Kenton, Covington	Ponds, lakes, marshes; in winter, also salt bays. In breeding season, chooses sites with heavy marsh vegetation but with some open water also. In migration and winter, still most likely on marshy freshwater ponds, but also on more open waters, including estuaries and coastal bays.	No
Red-breasted Nuthatch *(Sitta canadensis)*	SE	Kenton, Covington	Nesting habitat almost always has many conifers, such as spruce, fir, hemlock, either in pure stands or mixed with deciduous trees. Mature forest preferred. In migration and winter may appear in any wooded habitat, but conifers always chosen if available.	Yes
Northern Shoveler *(Spatula clypeata)*	SE	Kenton, Covington	Nests near shallow freshwater lake, pond, marsh, etc. Nests on the ground, usually near edge of water. In migration and winter in both freshwater and brackish habitats, and in cultivated fields.	No
Blue-winged Teal *(Spatula discors)*	ST	Kenton, Covington	Marshes, ponds, sloughs, lakes, and sluggish streams. In migration and when not breeding, in both freshwater and brackish situations. Prefers freshwater marshes, ponds, and sloughs, but occurs also in river pools, salt ponds, coastal lagoons, estuaries, and flooded pastures.	No
Blackburnian Warbler	ST	Kenton, Covington	Mature coniferous forests. Migrate to humid montane forests in South America.	No
Insects				
Monarch Butterfly (*Danaus Plexippus*)	FT	Kenton, Covington	Milkweed and flowering plants in a variety of habitats. Adults roost in trees near water, such as maple and conifers in the northern USA, and pecan and oak trees in the southern USA.	No

Species	Status[a]	County, Quadrangle	Habitat Type	Habitat Observed
Six-banded Longhorn Beetle (*Dryobius sexnotatus*)	ST	Kenton, Covington	Old growth hardwood forests. Prefers habitats with large, overmature trees. Prefers elm, maple, and beech.	No

(a) PE = Proposed Endangered, FE = Federally Endangered, FT = Federally Threatened, SE = State Endangered, ST = State Threatened.

Sources: USFWS Information for Planning and Consultation, accessed October 23, 2025, at: https://ecos.fws.gov/ipac/location/index. Kentucky Department of Fish and Wildlife Resources, Threatened, Endangered, and Special Concern Species of Kentucky for Covington Quadrangle, accessed October 22, 2025.

SUMMARY

Burns & McDonnell conducted a wetland delineation and onsite habitat assessment within the Survey Area to identify protected species habitat, wetlands, and other waterbodies. Two wetlands totaling 0.09 acres and 17 streams totaling 4,660 linear feet were identified within the Survey Area.

USACE – Louisville District and the Kentucky Department of Water (KDOW) regulates impacts to jurisdictional wetlands and streams. If permanent fill will be placed in jurisdictional wetlands or streams that exceed 0.1 acres of impacts, a Pre-Construction Notification will need to be submitted to the USACE Louisville District to receive coverage under Nationwide Permit (NWP)12. General conditions of NWP 12 must be followed even if permanent impacts are less than 0.1 acres. Additionally, state permits may also be necessary. The KDOW has conditions listed in the General Certification for USACE NWP 12. Activities that do not meet the conditions of the General Certification document issued December 18, 2020 (General Certification – NWP 2021) require an Individual Section 401 Water Quality Certification (WQC). Additionally, as required by 401 KAR 4:060, Section 3, the applicant must provide pubic notice to all parties that might be affected by the construction associated with the permit. Under certain circumstances KDOW may waive the public notice requirement. At this time, it is assumed that stream impacts and Project activities will trigger the need for a USACE NWP 12.

On March 20, 2023, the “Revised Definition of WOTUS” rule became effective. On April 12, 2023, a district court judge in North Dakota issued an order preliminarily enjoining, in 24 States (not including Kentucky), the 2023 rule issued by EPA and the Department of the Army defining “waters of the United States.” On May 25, 2023, U.S. Supreme Court issued a decision in the Sackett v EPA case. The agencies are presently interpreting "waters of the United States" consistent with the Supreme Court’s decision in Sackett. The agencies are developing a rule to amend the final "Revised definition of ‘Waters of the U.S.’", published in the Federal Register

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on January 18, 2023, to be consistent with the Sackett ruling. This final rule was published in the Federal Register on September 8, 2023, with the same effective date.

On November 15, 2023, the U.S. Environmental Protection Agency and the USACE issued an update to the revised rules relevant for implementing either the 2023 rule or the pre-2015 regulatory regime. Based on this document, the USACE will use the "Relatively Permanent Standard" for determining if a tributary is jurisdictional. Relatively permanent waters (RPW) include tributaries that have flow or standing water year-round or continuously during certain times of year. RPWs do not include tributaries with flow or standing water for only a short duration in direct response to precipitation. "Direct response to precipitation" is intended to distinguish between episodic periods of flow associated with discrete precipitation events versus continuous flow for extended periods of time (USEPA 2023). With the new rules, the USACE no longer uses the term "ephemeral streams". However, ephemeral streams are those tributaries that flow for short durations as a direct response to rain events and as such, based on the current guidance, are not RPWs. A USACE jurisdictional determination is recommended if wetland and stream impacts will occur to verify jurisdictional status and boundaries.

Potential habitat for several listed freshwater mussel species was present in the perennial and intermittent steams within the Survey Area. Mussel avoidance and minimization measures should be considered in planning for this Project. If impacts to these streams are proposed, further agency coordination and potential surveys will be required. Furthermore, if in water work is anticipated within perennial or intermittent streams, work may need to be avoided from March 15-June 30 to avoid impacts to aquatic species and habitat.

Three potential roost trees capable of supporting protected bat species were identified in the Survey Area (TE01, TE02, and TE03). No hibernaculum was identified in the Survey Area. Necessary tree clearing should be conducted between October 1st and March 31st. Additionally, tree clearing activities in Kentucky should be coordinated with the USFWS Kentucky Field Office to avoid impacts to bats. If tree clearing activities are required during the summer it is possible that the USFWS could request additional surveys. If proposed impacts change further coordination may be necessary.

If you have any questions or require additional information, please contact Brooke Harrison by telephone at (380) 390-2516 or by email at bharrison@burnsmcd.com.

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Sincerely,

Brooke Harrison

Brooke Harrison
Project Manager

Attachments:

Appendix A - Figures
Appendix B - Wetland Determination Data Forms
Appendix C - Site Photographs
Appendix D - USFWS IPAC Report and County Species Lists
Appendix E - Antecedent Precipitation Tool
Appendix F - Agency Correspondence Letters

cc: Steve Lane, Duke Energy
Brittany Webb, Burns & McDonnell
Josh Pedersen, Burns & McDonnell

APPENDIX A - FIGURES

CONFIDENTIAL PROPRIETARY TRADE SECRET

CONFIDENTIAL EXHIBIT 3(j)
Pgs. 124-129

FILED UNDER SEAL

APPENDIX B – WETLAND DETERMINATION DATA FORMS

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: AM07 PH5 City/County: Kenton County Sampling Date: 2025-10-13
Applicant/Owner: Duke Energy State: Kentucky Sampling Point: SP01
Investigator(s): A. Hornstein and A. Cash Section, Township, Range:
Landform (hillside, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): Lat: 39.02597357 Long: -84.53492671 Datum: WGS 84
Soil Map Unit Name: Ln - Lindside silt loam (0 to 3 percent slopes, occasionally flooded) NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✔	No ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ✔ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

D2, D5

Remarks:

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

Sampling Point: SP01

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Herb Stratum (Plot size: 5 ft r)			
1. Typha angustifolia	100	✔	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00	20% of total cover:	20.00	

Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		100 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✔ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

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

Sampling Point: SP01

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
8.			
9.			
10.			
11.			
12.			
13.			
14.			
	=Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
	=Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
	100 =Total Cover		

50% of total cover: 50.00 20% of total cover: 20.00

Woody Vine Stratum			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		

50% of total cover: _____ 20% of total cover: _____

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
1 - 4	10YR 5/1	95	10YR 5/6	5	C	M	Clay Loam	Restrictive gravel layer at 4 inches.
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 4

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

F3

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: AM07 PH5 City/County: Kenton County Sampling Date: 2025-10-13
Applicant/Owner: Duke Energy State: Kentucky Sampling Point: SP02
Investigator(s): A. Hornstein and A. Cash Section, Township, Range:
Landform (hillside, terrace, etc.): Upland Local relief (concave, convex, none): Slope (%): 2
Subregion (LRR or MLRA): Lat: 39.0259696 Long: -84.53495633 Datum: WGS 84
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No ✔
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	No ✔	**Is the Sampled Area within a Wetland?** Yes No ✔
Hydric Soil Present?	Yes	No ✔	
Wetland Hydrology Present?	Yes	No ✔	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No ✔	Depth (inches):
Water Table Present?	Yes	No ✔	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No ✔	Depth (inches):

Wetland Hydrology Present? Yes No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

None

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

Sampling Point: SP02

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Lotus corniculatus	95	✔	FACU
2. Plantago major	15		FACU
3. Digitaria sanguinalis	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	115 =Total Cover		
50% of total cover: 57.50	20% of total cover: 23.00		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	115	x 4 =	460
UPL species	0	x 5 =	0
Column Totals:	115 (A)		460 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)

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

Sampling Point: SP02

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
8.			
9.			
10.			
11.			
12.			
13.			
14.			
	=Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
	=Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
	115 =Total Cover		

50% of total cover: 57.50 20% of total cover: 23.00

Woody Vine Stratum			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		

50% of total cover: _____ 20% of total cover: _____

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 4/2	100					Loam	
4 - 7	10YR 4/2	98	10YR 5/6	2	C	M	Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: gravel

Depth (inches): 7

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

None.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: AM07 PH5 City/County: Kenton County Sampling Date: 2025-10-13
Applicant/Owner: Duke Energy State: Kentucky Sampling Point: SP03
Investigator(s): A. Hornstein and A. Cash Section, Township, Range:
Landform (hillside, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): Lat: 39.0266431 Long: -84.53507804 Datum: WGS 84
Soil Map Unit Name: No - Nolin silt loam, 0 to 2 percent slopes, occasionally flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ✔
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✔	No ___	**Is the Sampled Area within a Wetland?** Yes ✔ No ___
Hydric Soil Present?	Yes ✔	No ___	
Wetland Hydrology Present?	Yes ✔	No ___	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✔	No ___	Depth (inches): .5
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A1, D2, D5

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

Sampling Point: SP03

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Fraxinus pennsylvanica	10	✔	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	10 =Total Cover		
50% of total cover: 5.00	20% of total cover: 2.00		
Herb Stratum (Plot size: 5 ft r)			
1. Typha angustifolia	100	✔	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50.00	20% of total cover: 20.00		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		120 (B)

Prevalence Index = B/A = 1.09

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✔ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

VEGETATION Continued (Four Strata) – Use scientific names of plants. Sampling Point: SP03

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
8.			
9.			
10.			
11.			
12.			
13.			
14.			
	=Total Cover		
50% of total cover:		20% of total cover:	
Sapling/Shrub Stratum			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
	10 =Total Cover		
50% of total cover:	5.00	20% of total cover:	2.00
Herb Stratum			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
	100 =Total Cover		
50% of total cover:	50.00	20% of total cover:	20.00
Woody Vine Stratum			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
50% of total cover:		20% of total cover:	

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 6	10YR 4/1						Clay Loam	
6 - 13	10YR 5/1	92	10YR 4/6	8	C	PL	Clay	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 13

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

F3

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: AM07 PH5 City/County: Kenton County Sampling Date: 2025-10-13
Applicant/Owner: Duke Energy State: Kentucky Sampling Point: SP04
Investigator(s): A. Hornstein and A. Cash Section, Township, Range:
Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 3
Subregion (LRR or MLRA): Lat: 39.02678239 Long: -84.53489954 Datum: WGS 84
Soil Map Unit Name: No - Nolin silt loam, 0 to 2 percent slopes, occasionally flooded NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✔	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

None.

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

Sampling Point: SP04

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft r)			
1. Lotus corniculatus	85	✔	FACU
2. Schedonorus arundinaceus	50	✔	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	135 =Total Cover		
50% of total cover: 67.50	20% of total cover: 27.00		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	135	x 4 =	540
UPL species	0	x 5 =	0
Column Totals:	135 (A)		540 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)

VEGETATION Continued (Four Strata) – Use scientific names of plants. Sampling Point: SP04

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
8.			
9.			
10.			
11.			
12.			
13.			
14.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
	135 =Total Cover		
50% of total cover: 67.50	20% of total cover: 27.00		
Woody Vine Stratum			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 5	10YR 4/2	100					Loam	
5 - 13	10YR 5/1	100					Clay	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 13

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

None

APPENDIX C – SITE PHOTOGRAPHS

Photo 1: View of Sample Plot (SP)01 located in PEM Wetland (W)01, facing north.

Photo 2: View of upland SP02, facing north.

Photo 3: View of SP03 located in PEM W02, facing north.

Photo 4: View of upland SP04, facing north.

Photo 5: View upstream of ephemeral stream (S)01, facing east.

Photo 6: View downstream of ephemeral S01, facing west.

Photo 7: View upstream of perennial S02 Banklick Creek, facing north.

Photo 8: View downstream of perennial S02 Banklick Creek, facing south.

Photo 9: View upstream of perennial S03, facing east.

Photo 10: View downstream of perennial S03, facing west.

Photo 11: View upstream of intermittent S04, facing west.

Photo 12: View downstream of intermittent S04, facing east.

Photo 13: View upstream of ephemeral S05, facing west.

Photo 14: View downstream of ephemeral S05, facing east.

Photo 15: View upstream of intermittent S06, facing west.

Photo 16: View downstream of intermittent S06, facing east.

Photo 17: View upstream of ephemeral S07, facing northwest.

Photo 18: View downstream of ephemeral S07, facing southeast.

Photo 19: View upstream of ephemeral S08, facing north.

Photo 20: View downstream of ephemeral S08, facing south.

Photo 21: View upstream of ephemeral S09, facing north.

Photo 22: View downstream of ephemeral S09, facing south.

Photo 23: View upstream of perennial S10 Horse Branch Creek, facing west.

Photo 24: View downstream of perennial S10 Horse Branch Creek, facing east.

Photo 25: View upstream of intermittent S11, facing southwest.

Photo 26: View downstream of intermittent S11, facing northeast.

Photo 27: View upstream of ephemeral S12, facing southeast.

Photo 28: View downstream of ephemeral S12, facing northwest.

Photo 29: View upstream of intermittent S13, facing northeast.

Photo 30: View downstream of intermittent S13, facing southwest.

Photo 31: View upstream of ephemeral S14, facing southeast.

Photo 32: View downstream of ephemeral S14, facing northwest.

Photo 33: View upstream of ephemeral S15, facing west.

Photo 34: View downstream of ephemeral S15, facing east.

Photo 35: View upstream of ephemeral S16, facing west.

Photo 36: View downstream of ephemeral S16, facing east.

Photo 37: View upstream of ephemeral S17, facing west.

Photo 38: View downstream of ephemeral S17, facing east.

Photo 39: View of ditch (D)01, facing north.

Photo 40: View of D02, facing north. Note SP02 in foreground.

Photo 41: View of potential roost tree TE01, facing northwest.

Photo 42: View of potential roost tree TE02, facing north.

Photo 43: View of potential roost tree TE03, facing southeast.

Photo 44: View of representative Road Right of Way along Rodgers Road, facing north.

Photo 45: View of general pipeline right of way, facing north.

Photo 46: View of representative maintained lawn, facing north.

APPENDIX D – IPAC AND QUADRANGLE SPECIES LIST

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0467 Fax: (502) 695-1024
Email Address: kentuckyes@fws.gov

In Reply Refer To: 10/23/2025 14:30:55 UTC
Project Code: 2025-0138780
Project Name: AM07 Phase 5 Pipeline Replacement Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do..

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
(502) 695-0467

PROJECT SUMMARY

Project Code: 2025-0138780
Project Name: AM07 Phase 5 Pipeline Replacement Project
Project Type: Pipeline - Onshore - Maintenance / Modification - Below Ground
Project Description: The project includes installation of approximately 2.08 miles of 24-inch steel pipeline with several road crossings. A single road bore across Horsebranch Road is anticipated, with a single HDD across Madison Pike. Two tie-ins are anticipated on each end of this new installation into the previously installed new AM07 24-inch pipeline.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.023491750000005,-84.54622650384403,14z

Counties: Kenton County, Kentucky

ENDANGERED SPECIES ACT SPECIES

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Bat *Myotis grisescens*	Endangered

No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:
- The project area includes potential gray bat habitat.

Species profile: https://ecos.fws.gov/ecp/species/6329
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/documents/generated/6422.pdf

Indiana Bat *Myotis sodalis*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
This species only needs to be considered under the following conditions:
- The project area includes 'potential' habitat. All activities in this location should consider possible effects to this species.

Species profile: https://ecos.fws.gov/ecp/species/5949
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/documents/generated/6422.pdf

Tricolored Bat *Perimyotis subflavus*	Proposed Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/10515

AMPHIBIANS

NAME	STATUS
Eastern Hellbender *Cryptobranchus alleganiensis alleganiensis*	Proposed Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9039

CLAMS

NAME	STATUS
Longsolid *Fusconaia subrotunda*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/9880

Pink Mucket (pearlymussel) *Lampsilis abrupta*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7829
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/documents/generated/5639.pdf

Rabbitsfoot *Quadrula cylindrica cylindrica*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/5165

NAME	STATUS
General project design guidelines: https://ipac.ecosphere.fws.gov/project/JF66N6AHEVEJJCFWSSVWJX2S4A/documents/generated/5639.pdf	
Salamander Mussel *Simpsonaias ambigua* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Burns & McDonnell
Name: Audrey Cash
Address: 530 W Spring St
City: Columbus
State: OH
Zip: 43215
Email aicash@burnsmcd.com
Phone: 3305544362

Class	ScientificName	CommonName	FederalStatus	KSNPCStatus	STWG	QuadName
Actinopterygii	Acipenser fulvescens	Lake Sturgeon	N	E	Y	Covington
Actinopterygii	Alburnops blennius	River Shiner	N	N		Covington
Actinopterygii	Alosa chrysochloris	Skipjack Herring	N	N		Covington
Actinopterygii	Ambloplites rupestris	Rock Bass	N	N		Covington
Actinopterygii	Ameiurus natalis	Yellow Bullhead	N	N		Covington
Actinopterygii	Ameiurus nebulosus	Brown Bullhead	N	N		Covington
Actinopterygii	Aplodinotus grunniens	Freshwater Drum	N	N		Covington
Actinopterygii	Atractosteus spatula	Alligator Gar	N	E	Y	Covington
Actinopterygii	Campostoma anomalum	Central Stoneroller	N	N		Covington
Actinopterygii	Carpiodes carpio	River Carpsucker	N	N		Covington
Actinopterygii	Carpiodes cyprinus	Quillback	N	N		Covington
Actinopterygii	Catostomus commersonii	White Sucker	N	N		Covington
Actinopterygii	Cyprinella spiloptera	Spotfin Shiner	N	N		Covington
Actinopterygii	Cyprinella whipplei	Steelcolor Shiner	N	N		Covington
Actinopterygii	Cyprinus carpio	Common Carp	N	N		Covington
Actinopterygii	Dorosoma cepedianum	Gizzard Shad	N	N		Covington
Actinopterygii	Dorosoma petenense	Threadfin Shad	N	N		Covington
Actinopterygii	Ericymba buccata	Silverjaw Minnow	N	N		Covington
Actinopterygii	Etheostoma blennioides	Greenside Darter	N	N		Covington
Actinopterygii	Etheostoma caeruleum	Rainbow Darter	N	N		Covington
Actinopterygii	Etheostoma flabellare	Fantail Darter	N	N		Covington
Actinopterygii	Etheostoma nigrum	Johnny Darter	N	N		Covington
Actinopterygii	Etheostoma spectabile	Orangethroat Darter	N	N		Covington
Actinopterygii	Etheostoma zonale	Banded Darter	N	N		Covington
Actinopterygii	Fundulus notatus	Blackstripe Topminnow	N	N		Covington
Actinopterygii	Gambusia affinis	Western Mosquitofish	N	N		Covington
Actinopterygii	Hiodon tergisus	Mooneye	N	N		Covington
Actinopterygii	Hybopsis amblops	Bigeye Chub	N	N		Covington
Actinopterygii	Hypentelium nigricans	Northern Hog Sucker	N	N		Covington
Actinopterygii	Hypophthalmichthys molitrix	Silver Carp	N	N		Covington
Actinopterygii	Ictalurus furcatus	Blue Catfish	N	N		Covington
Actinopterygii	Ictalurus punctatus	Channel Catfish	N	N		Covington
Actinopterygii	Ictiobus bubalus	Smallmouth Buffalo	N	N		Covington
Actinopterygii	Ictiobus niger	Black Buffalo	N	S	Y	Covington
Actinopterygii	Labidesthes sicculus	Brook Silverside	N	N		Covington
Actinopterygii	Lepisosteus osseus	Longnose Gar	N	N		Covington
Actinopterygii	Lepisosteus platostomus	Shortnose Gar	N	N		Covington
Actinopterygii	Lepomis cyanellus	Green Sunfish	N	N		Covington
Actinopterygii	Lepomis gibbosus	Pumpkinseed	N	N		Covington
Actinopterygii	Lepomis gulosus	Warmouth	N	N		Covington
Actinopterygii	Lepomis humilis	Orangespotted Sunfish	N	N		Covington
Actinopterygii	Lepomis macrochirus	Bluegill	N	N		Covington
Actinopterygii	Lepomis megalotis	Longear Sunfish	N	N		Covington
Actinopterygii	Lepomis microlophus	Redear Sunfish	N	N		Covington
Actinopterygii	Luxilus chrysocephalus	Striped Shiner	N	N		Covington
Actinopterygii	Lythrurus fasciolaris	Scarlet Shiner	N	N		Covington
Actinopterygii	Macrhybopsis storeriana	Silver Chub	N	N		Covington
Actinopterygii	Micropterus dolomieu	Smallmouth Bass	N	N		Covington
Actinopterygii	Micropterus nigricans	Largemouth Bass	N	N		Covington
Actinopterygii	Micropterus punctulatus	Spotted Bass	N	N		Covington
Actinopterygii	Minytrema melanops	Spotted Sucker	N	N		Covington
Actinopterygii	Morone americana	White Perch	N	N		Covington
Actinopterygii	Morone chrysops	White Bass	N	N		Covington
Actinopterygii	Morone chrysops x saxatilis	Hybrid Striped Bass	N	N		Covington
Actinopterygii	Moxostoma anisurum	Silver Redhorse	N	N		Covington
Actinopterygii	Moxostoma breviceps	Smallmouth Redhorse	N	N		Covington
Actinopterygii	Moxostoma carinatum	River Redhorse	N	N		Covington
Actinopterygii	Moxostoma erythrurum	Golden Redhorse	N	N		Covington
Actinopterygii	Notropis atherinoides	Emerald Shiner	N	N		Covington
Actinopterygii	Noturus flavus	Stonecat	N	N		Covington
Actinopterygii	Paranotropis buchanani	Ghost Shiner	N	N	Y	Covington
Actinopterygii	Paranotropis volucellus	Mimic Shiner	N	N		Covington
Actinopterygii	Paranotropis wickliffi	Channel Shiner	N	N		Covington
Actinopterygii	Percina caprodes	Logperch	N	N		Covington

Class	ScientificName	CommonName	FederalStatus	KSNPCStatus	STWG	QuadName
Actinopterygii	Percina copelandi	Channel Darter	N	N		Covington
Actinopterygii	Percina maculata	Blackside Darter	N	N		Covington
Actinopterygii	Percina phoxocephala	Slenderhead Darter	N	N		Covington
Actinopterygii	Percina shumardi	River Darter	N	N		Covington
Actinopterygii	Phenacobius mirabilis	Suckermouth Minnow	N	N		Covington
Actinopterygii	Pimephales notatus	Bluntnose Minnow	N	N		Covington
Actinopterygii	Pimephales promelas	Fathead Minnow	N	N		Covington
Actinopterygii	Pimephales vigilax	Bullhead Minnow	N	N		Covington
Actinopterygii	Polyodon spathula	Paddlefish	N	N	Y	Covington
Actinopterygii	Pomoxis annularis	White Crappie	N	N		Covington
Actinopterygii	Pomoxis nigromaculatus	Black Crappie	N	N		Covington
Actinopterygii	Pylodictis olivaris	Flathead Catfish	N	N		Covington
Actinopterygii	Rhinichthys obtusus	Western Blacknose Dace	N	N		Covington
Actinopterygii	Sander canadensis	Sauger	N	N		Covington
Actinopterygii	Sander canadensis x vitreus	Saugeye	N	N		Covington
Actinopterygii	Sander vitreus	Walleye	N	N		Covington
Actinopterygii	Semotilus atromaculatus	Creek Chub	N	N		Covington
Amphibia	Acris blanchardi	Blanchard's Cricket Frog	N	N	Y	Covington
Amphibia	Ambystoma barbouri	Streamside Salamander	N	N	Y	Covington
Amphibia	Ambystoma jeffersonianum	Jefferson Salamander	N	N		Covington
Amphibia	Ambystoma JJJL	Unisexual Ambystoma	N	N	Y	Covington
Amphibia	Anaxyrus americanus	American Toad	N	N		Covington
Amphibia	Cryptobranchus alleganiensis alleganiensis	Eastern Hellbender	PE	S	Y	Covington
Amphibia	Desmognathus fuscus	Northern Dusky Salamander	N	N	Y	Covington
Amphibia	Dryophytes chrysoscelis	Cope's Gray Treefrog	N	N		Covington
Amphibia	Eurycea cirrigera	Southern Two-lined Salamander	N	N		Covington
Amphibia	Eurycea lucifuga	Cave Salamander	N	N		Covington
Amphibia	Lithobates catesbeianus	American Bullfrog	N	N		Covington
Amphibia	Lithobates clamitans	Green Frog	N	N		Covington
Amphibia	Lithobates pipiens	Northern Leopard Frog	N	S	Y	Covington
Amphibia	Necturus maculosus	Mudpuppy	N	N		Covington
Amphibia	Notophthalmus viridescens	Eastern Newt	N	N		Covington
Amphibia	Plethodon cinereus	Eastern Red-backed Salamander	N	S	Y	Covington
Amphibia	Plethodon electromorphus	Northern Ravine Salamander	N	N		Covington
Amphibia	Plethodon glutinosus	Northern Slimy Salamander	N	N		Covington
Amphibia	Pseudacris crucifer	Spring Peeper	N	N		Covington
Amphibia	Pseudotriton montanus diastictus	Midland Mud Salamander	N	N	Y	Covington
Aves	Accipiter striatus	Sharp-shinned Hawk	N	S	Y	Covington
Aves	Actitis macularius	Spotted Sandpiper	N	E	Y	Covington
Aves	Agelaius phoeniceus	Red-winged Blackbird	N	N		Covington
Aves	Aix sponsa	Wood Duck	N	N		Covington
Aves	Ammodramus savannarum	Grasshopper Sparrow	N	N	Y	Covington
Aves	Anas platyrhynchos	Mallard	N	N		Covington
Aves	Anas rubripes	American Black Duck	N	N	Y	Covington
Aves	Antigone canadensis	Sandhill Crane	N	N		Covington
Aves	Archilochus colubris	Ruby-throated Hummingbird	N	N		Covington
Aves	Ardea alba	Great Egret	N	T	Y	Covington
Aves	Ardea herodias	Great Blue Heron	N	N		Covington
Aves	Astur cooperii	Cooper's Hawk	N	N		Covington
Aves	Aythya affinis	Lesser Scaup	N	N	Y	Covington
Aves	Aythya americana	Redhead	N	N		Covington
Aves	Aythya collaris	Ring-necked Duck	N	N		Covington
Aves	Aythya marila	Greater Scaup	N	N	Y	Covington
Aves	Aythya valisineria	Canvasback	N	N		Covington
Aves	Baeolophus bicolor	Tufted Titmouse	N	N		Covington
Aves	Bombycilla cedrorum	Cedar Waxwing	N	N		Covington
Aves	Branta canadensis	Canada Goose	N	N		Covington
Aves	Bubo scandiacus	Snowy Owl	N	N		Covington
Aves	Bubo virginianus	Great Horned Owl	N	N		Covington
Aves	Bucephala albeola	Bufflehead	N	N		Covington
Aves	Bucephala clangula	Common Goldeneye	N	N		Covington
Aves	Buteo jamaicensis	Red-tailed Hawk	N	N		Covington

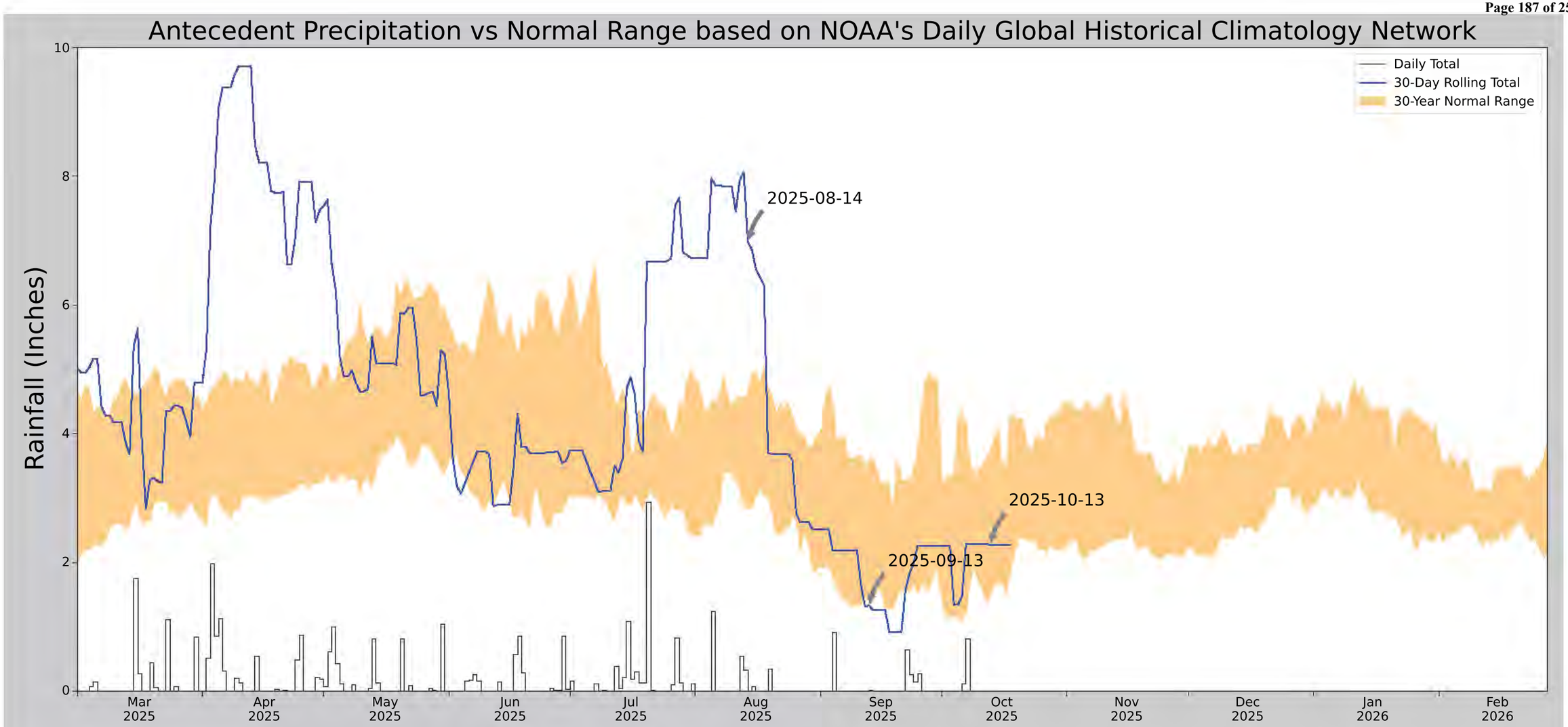
Class	ScientificName	CommonName	FederalStatus	KSNPCStatus	STWG	QuadName
Aves	Buteo lineatus	Red-shouldered Hawk	N	N		Covington
Aves	Buteo platypterus	Broad-winged Hawk	N	N		Covington
Aves	Butorides virescens	Green Heron	N	N	Y	Covington
Aves	Calidris pusilla	Semipalmated Sandpiper	N	N	Y	Covington
Aves	Cardinalis cardinalis	Northern Cardinal	N	N		Covington
Aves	Cathartes aura	Turkey Vulture	N	N		Covington
Aves	Catharus guttatus	Hermit Thrush	N	N		Covington
Aves	Catharus ustulatus	Swainson's Thrush	N	N		Covington
Aves	Certhia americana	Brown Creeper	N	T		Covington
Aves	Chaetura pelagica	Chimney Swift	N	N		Covington
Aves	Charadrius vociferus	Killdeer	N	N		Covington
Aves	Chlidonias niger	Black Tern	N	N	Y	Covington
Aves	Chordeiles minor	Common Nighthawk	N	N		Covington
Aves	Chroicocephalus philadelphia	Bonaparte's Gull	N	N		Covington
Aves	Circus hudsonius	Northern Harrier	N	T	Y	Covington
Aves	Clangula hyemalis	Long-tailed Duck	N	N		Covington
Aves	Coccyzus americanus	Yellow-billed Cuckoo	N	N	Y	Covington
Aves	Colaptes auratus	Northern Flicker	N	N		Covington
Aves	Columba livia	Rock Pigeon	N	N		Covington
Aves	Contopus virens	Eastern Wood-Pewee	N	N		Covington
Aves	Coragyps atratus	Black Vulture	N	N		Covington
Aves	Corvus brachyrhynchos	American Crow	N	N		Covington
Aves	Cyanocitta cristata	Blue Jay	N	N		Covington
Aves	Cygnus olor	Mute Swan	N	N		Covington
Aves	Dryobates pubescens	Downy Woodpecker	N	N		Covington
Aves	Dryobates villosus	Hairy Woodpecker	N	N		Covington
Aves	Dryocopus pileatus	Pileated Woodpecker	N	N		Covington
Aves	Dumetella carolinensis	Gray Catbird	N	N		Covington
Aves	Egretta caerulea	Little Blue Heron	N	E		Covington
Aves	Empidonax minimus	Least Flycatcher	N	E	Y	Covington
Aves	Empidonax traillii	Willow Flycatcher	N	N	Y	Covington
Aves	Empidonax virescens	Acadian Flycatcher	N	N		Covington
Aves	Falco peregrinus	Peregrine Falcon	N	E	Y	Covington
Aves	Falco sparverius	American Kestrel	N	N	Y	Covington
Aves	Fulica americana	American Coot	N	E		Covington
Aves	Gallinago delicata	Wilson's Snipe	N	N	Y	Covington
Aves	Geothlypis trichas	Common Yellowthroat	N	N		Covington
Aves	Haemorhous mexicanus	House Finch	N	N		Covington
Aves	Haemorhous purpureus	Purple Finch	N	N		Covington
Aves	Haliaeetus leucocephalus	Bald Eagle	N	S	Y	Covington
Aves	Helmitheros vermivorum	Worm-eating Warbler	N	N		Covington
Aves	Hirundo rustica	Barn Swallow	N	N		Covington
Aves	Hydrocoloeus minutus	Little Gull	N	N		Covington
Aves	Hylocichla mustelina	Wood Thrush	N	N	Y	Covington
Aves	Icteria virens	Yellow-breasted Chat	N	N		Covington
Aves	Icterus galbula	Baltimore Oriole	N	N		Covington
Aves	Icterus spurius	Orchard Oriole	N	N		Covington
Aves	Junco hyemalis	Dark-eyed Junco	N	S		Covington
Aves	Lanius ludovicianus	Loggerhead Shrike	N	S	Y	Covington
Aves	Larus argentatus	Herring Gull	N	N		Covington
Aves	Larus delawarensis	Ring-billed Gull	N	N		Covington
Aves	Leiothlypis peregrina	Tennessee Warbler	N	N		Covington
Aves	Leiothlypis ruficapilla	Nashville Warbler	N	N		Covington
Aves	Leucophaeus atricilla	Laughing Gull	N	N		Covington
Aves	Lophodytes cucullatus	Hooded Merganser	N	T	Y	Covington
Aves	Loxia curvirostra	Red Crossbill	N	N		Covington
Aves	Mareca americana	American Wigeon	N	N		Covington
Aves	Megaceryle alcyon	Belted Kingfisher	N	N		Covington
Aves	Megascops asio	Eastern Screech-Owl	N	N		Covington
Aves	Melanerpes carolinus	Red-bellied Woodpecker	N	N		Covington
Aves	Melanerpes erythrocephalus	Red-headed Woodpecker	N	N	Y	Covington
Aves	Melanitta americana	Black Scoter	N	N		Covington
Aves	Melanitta deglandi	White-winged Scoter	N	N		Covington
Aves	Melanitta perspicillata	Surf Scoter	N	N		Covington

Class	ScientificName	CommonName	FederalStatus	KSNPCStatus	STWG	QuadName
Aves	Meleagris gallopavo	Wild Turkey	N	N		Covington
Aves	Melospiza melodia	Song Sparrow	N	N		Covington
Aves	Mergus serrator	Red-breasted Merganser	N	N		Covington
Aves	Mimus polyglottos	Northern Mockingbird	N	N		Covington
Aves	Mniotilta varia	Black-and-white Warbler	N	N		Covington
Aves	Molothrus ater	Brown-headed Cowbird	N	N		Covington
Aves	Morus bassanus	Northern Gannet	N	N		Covington
Aves	Myiarchus crinitus	Great Crested Flycatcher	N	N		Covington
Aves	Oxyura jamaicensis	Ruddy Duck	N	N		Covington
Aves	Parkesia motacilla	Louisiana Waterthrush	N	N	Y	Covington
Aves	Passer domesticus	House Sparrow	N	N		Covington
Aves	Passerella iliaca	Fox Sparrow	N	N		Covington
Aves	Passerina caerulea	Blue Grosbeak	N	N		Covington
Aves	Passerina cyanea	Indigo Bunting	N	N		Covington
Aves	Pelecanus erythrorhynchos	American White Pelican	N	N		Covington
Aves	Petrochelidon pyrrhonota	Cliff Swallow	N	N		Covington
Aves	Phalacrocorax auritus	Double-crested Cormorant	N	S		Covington
Aves	Phalaropus fulicarius	Red Phalarope	N	N		Covington
Aves	Pheucticus ludovicianus	Rose-breasted Grosbeak	N	S		Covington
Aves	Pipilo erythrophthalmus	Eastern Towhee	N	N		Covington
Aves	Piranga olivacea	Scarlet Tanager	N	N		Covington
Aves	Piranga rubra	Summer Tanager	N	N		Covington
Aves	Podiceps auritus	Horned Grebe	N	N	Y	Covington
Aves	Podiceps grisegena	Red-necked Grebe	N	N		Covington
Aves	Podilymbus podiceps	Pied-billed Grebe	N	E	Y	Covington
Aves	Poecile carolinensis	Carolina Chickadee	N	N		Covington
Aves	Polioptila caerulea	Blue-gray Gnatcatcher	N	N		Covington
Aves	Progne subis	Purple Martin	N	N		Covington
Aves	Protonotaria citrea	Prothonotary Warbler	N	N	Y	Covington
Aves	Pterodroma hasitata	Black-capped Petrel	N	N		Covington
Aves	Quiscalus quiscula	Common Grackle	N	N		Covington
Aves	Regulus calendula	Ruby-crowned Kinglet	N	N		Covington
Aves	Regulus satrapa	Golden-crowned Kinglet	N	N		Covington
Aves	Riparia riparia	Bank Swallow	N	S	Y	Covington
Aves	Sayornis phoebe	Eastern Phoebe	N	N		Covington
Aves	Scolopax minor	American Woodcock	N	N	Y	Covington
Aves	Seiurus aurocapilla	Ovenbird	N	N		Covington
Aves	Selasphorus rufus	Rufous Hummingbird	N	N		Covington
Aves	Setophaga americana	Northern Parula	N	N		Covington
Aves	Setophaga castanea	Bay-breasted Warbler	N	N		Covington
Aves	Setophaga cerulea	Cerulean Warbler	N	N	Y	Covington
Aves	Setophaga coronata	Yellow-rumped Warbler	N	N		Covington
Aves	Setophaga discolor	Prairie Warbler	N	N	Y	Covington
Aves	Setophaga dominica	Yellow-throated Warbler	N	N		Covington
Aves	Setophaga fusca	Blackburnian Warbler	N	T		Covington
Aves	Setophaga magnolia	Magnolia Warbler	N	N		Covington
Aves	Setophaga palmarum	Palm Warbler	N	N		Covington
Aves	Setophaga pensylvanica	Chestnut-sided Warbler	N	N		Covington
Aves	Setophaga petechia	Yellow Warbler	N	N		Covington
Aves	Setophaga pinus	Pine Warbler	N	N		Covington
Aves	Setophaga ruticilla	American Redstart	N	N		Covington
Aves	Setophaga striata	Blackpoll Warbler	N	N	Y	Covington
Aves	Setophaga tigrina	Cape May Warbler	N	N	Y	Covington
Aves	Setophaga virens	Black-throated Green Warbler	N	N	Y	Covington
Aves	Sialia sialis	Eastern Bluebird	N	N		Covington
Aves	Sitta canadensis	Red-breasted Nuthatch	N	E		Covington
Aves	Sitta carolinensis	White-breasted Nuthatch	N	N		Covington
Aves	Somateria spectabilis	King Eider	N	N		Covington
Aves	Spatula clypeata	Northern Shoveler	N	E		Covington
Aves	Spatula discors	Blue-winged Teal	N	T		Covington
Aves	Sphyrapicus varius	Yellow-bellied Sapsucker	N	N		Covington
Aves	Spinus pinus	Pine Siskin	N	N		Covington
Aves	Spinus tristis	American Goldfinch	N	N		Covington
Aves	Spiza americana	Dickcissel	N	N	Y	Covington

Class	ScientificName	CommonName	FederalStatus	KSNPCStatus	STWG	QuadName
Aves	Spizella passerina	Chipping Sparrow	N	N		Covington
Aves	Spizella pusilla	Field Sparrow	N	N	Y	Covington
Aves	Spizelloides arborea	American Tree Sparrow	N	N		Covington
Aves	Stelgidopteryx serripennis	Northern Rough-winged Swallow	N	N		Covington
Aves	Strix varia	Barred Owl	N	N		Covington
Aves	Sturnella magna	Eastern Meadowlark	N	N	Y	Covington
Aves	Sturnus vulgaris	European Starling	N	N		Covington
Aves	Tachycineta bicolor	Tree Swallow	N	N		Covington
Aves	Thryothorus ludovicianus	Carolina Wren	N	N		Covington
Aves	Toxostoma rufum	Brown Thrasher	N	N		Covington
Aves	Troglodytes aedon	House Wren	N	N		Covington
Aves	Turdus migratorius	American Robin	N	N		Covington
Aves	Tyrannus tyrannus	Eastern Kingbird	N	N		Covington
Aves	Vermivora cyanoptera	Blue-winged Warbler	N	N	Y	Covington
Aves	Vireo gilvus	Warbling Vireo	N	N		Covington
Aves	Vireo griseus	White-eyed Vireo	N	N		Covington
Aves	Vireo olivaceus	Red-eyed Vireo	N	N		Covington
Aves	Vireo solitarius	Blue-headed Vireo	N	N		Covington
Aves	Zenaida macroura	Mourning Dove	N	N		Covington
Aves	Zonotrichia albicollis	White-throated Sparrow	N	N		Covington
Aves	Zonotrichia leucophrys	White-crowned Sparrow	N	N		Covington
Bivalvia	Actinonaias ligamentina	Mucket	N	N		Covington
Bivalvia	Amblema plicata	Threeridge	N	N		Covington
Bivalvia	Corbicula fluminea	Chinese Basket Clam	N	N		Covington
Bivalvia	Cyclonaias nodulata	Wartyback	N	N		Covington
Bivalvia	Cyclonaias pustulosa	Pimpleback	N	N		Covington
Bivalvia	Cyclonaias tuberculata	Purple Wartyback	N	N		Covington
Bivalvia	Cyprogenia stegaria	Fanshell	E	E	Y	Covington
Bivalvia	Dreissena polymorpha	Zebra Mussel	N	N		Covington
Bivalvia	Ellipsaria lineolata	Butterfly	N	N	Y	Covington
Bivalvia	Elliptio crassidens	Elephantear	N	S	Y	Covington
Bivalvia	Epioblasma obliquata	Catspaw	E	E	Y	Covington
Bivalvia	Epioblasma rangiana	Northern Riffleshell	E	E	Y	Covington
Bivalvia	Fusconaia flava	Wabash Pigtoe	N	N		Covington
Bivalvia	Fusconaia subrotunda	Longsolid	T	T	Y	Covington
Bivalvia	Lampsilis abrupta	Pink Mucket	E	E	Y	Covington
Bivalvia	Lampsilis cardium	Plain Pocketbook	N	N		Covington
Bivalvia	Lampsilis siliquoidea	Fatmucket	N	N		Covington
Bivalvia	Lampsilis teres	Yellow Sandshell	N	N		Covington
Bivalvia	Lasmigona complanata	White Heelsplitter	N	N		Covington
Bivalvia	Lasmigona compressa	Creek Heelsplitter	N	E	Y	Covington
Bivalvia	Ligumia recta	Black Sandshell	N	S	Y	Covington
Bivalvia	Megalonaias nervosa	Washboard	N	N		Covington
Bivalvia	Musculium transversum	Long Fingernailclam	N	N		Covington
Bivalvia	Obliquaria reflexa	Threehorn Wartyback	N	N		Covington
Bivalvia	Obovaria olivaria	Hickorynut	N	N	Y	Covington
Bivalvia	Obovaria retusa	Ring Pink	E	E	Y	Covington
Bivalvia	Obovaria subrotunda	Round Hickorynut	T	T	Y	Covington
Bivalvia	Plethobasus cooperianus	Orangefoot Pimpleback	E	E	Y	Covington
Bivalvia	Pleurobema clava	Clubshell	E	E	Y	Covington
Bivalvia	Pleurobema cordatum	Ohio Pigtoe	N	N	Y	Covington
Bivalvia	Pleurobema rubrum	Pyramid Pigtoe	PT	E	Y	Covington
Bivalvia	Pleurobema sintoxia	Round Pigtoe	N	N		Covington
Bivalvia	Potamilus alatus	Pink Heelsplitter	N	N		Covington
Bivalvia	Potamilus fragilis	Fragile Papershell	N	N		Covington
Bivalvia	Potamilus ohiensis	Pink Papershell	N	N		Covington
Bivalvia	Pyganodon grandis	Giant Floater	N	N		Covington
Bivalvia	Quadrula quadrula	Mapleleaf	N	N		Covington
Bivalvia	Reginaia ebenus	Ebonyshell	N	N		Covington
Bivalvia	Theliderma metanevra	Monkeyface	N	N		Covington
Bivalvia	Truncilla donaciformis	Fawnsfoot	N	N		Covington
Chelonia	Chelydra serpentina	Snapping Turtle	N	N		Covington
Chelonia	Chrysemys picta	Painted Turtle	N	N		Covington
Chelonia	Sternotherus odoratus	Eastern Musk Turtle	N	N		Covington

Class	ScientificName	CommonName	FederalStatus	KSNPCStatus	STWG	QuadName
Chelonia	Terrapene carolina	Eastern Box Turtle	N	N		Covington
Chelonia	Trachemys scripta elegans	Red-eared Slider	N	N		Covington
Gastropoda	Campeloma decisum	Pointed Campeloma	N	N		Covington
Gastropoda	Cepaea nemoralis	Grovesnail	N	N		Covington
Gastropoda	Ferrissia rivularis	Creeping Ancylid	N	N	Y	Covington
Gastropoda	Lioplax sulculosa	Furrowed Lioplax	N	S	Y	Covington
Gastropoda	Planorbella trivolvis	Marsh Rams-horn	N	N		Covington
Insecta	Dryobius sexnotatus	Six-banded Longhorn Beetle	N	T		Covington
Malacostraca	Cambarus bartonii cavatus	Appalachian Brook Crayfish	N	N	Y	Covington
Malacostraca	Cambarus tenebrosus	Cavespring Crayfish	N	N		Covington
Malacostraca	Faxonius rusticus	Rusty Crayfish	N	N	Y	Covington
Mammalia	Eptesicus fuscus	Big Brown Bat	N	N		Covington
Mammalia	Myotis lucifugus	Little Brown Bat	N	T	Y	Covington
Mammalia	Perimyotis subflavus	Tricolored Bat	PE	T	Y	Covington
Mammalia	Peromyscus leucopus	White-footed Mouse	N	N		Covington
Mammalia	Tamias striatus	Eastern Chipmunk	N	N		Covington
Reptilia	Clonophis kirtlandii	Kirtland's Snake	N	T	Y	Covington
Reptilia	Diadophis punctatus edwardsii	Northern Ringneck Snake	N	N		Covington
Reptilia	Hemidactylus turcicus	Mediterranean Gecko	N	N		Covington
Reptilia	Heterodon platirhinos	Eastern Hog-nosed Snake	N	N		Covington
Reptilia	Lampropeltis triangulum	Eastern Milksnake	N	N		Covington
Reptilia	Nerodia sipedon	Common Watersnake	N	N		Covington
Reptilia	Opheodrys aestivus	Rough Greensnake	N	N		Covington
Reptilia	Pantherophis alleghaniensis	Central Ratsnake	N	N		Covington
Reptilia	Podarcis muralis	Common Wall Lizard	N	N		Covington
Reptilia	Regina septemvittata	Queensnake	N	N		Covington
Reptilia	Storeria dekayi	Dekay's Brownsnake	N	N		Covington
Reptilia	Thamnophis sirtalis	Common Gartersnake	N	N		Covington

APPENDIX E – ANTECDENT PRECIPITATION TOOL



Coordinates	39.02423, -84.542
Observation Date	2025-10-13
Elevation (ft)	824.873
Drought Index (PDSI)	Not available (2025-09)
WebWIMP H_2O Balance	Wet Season

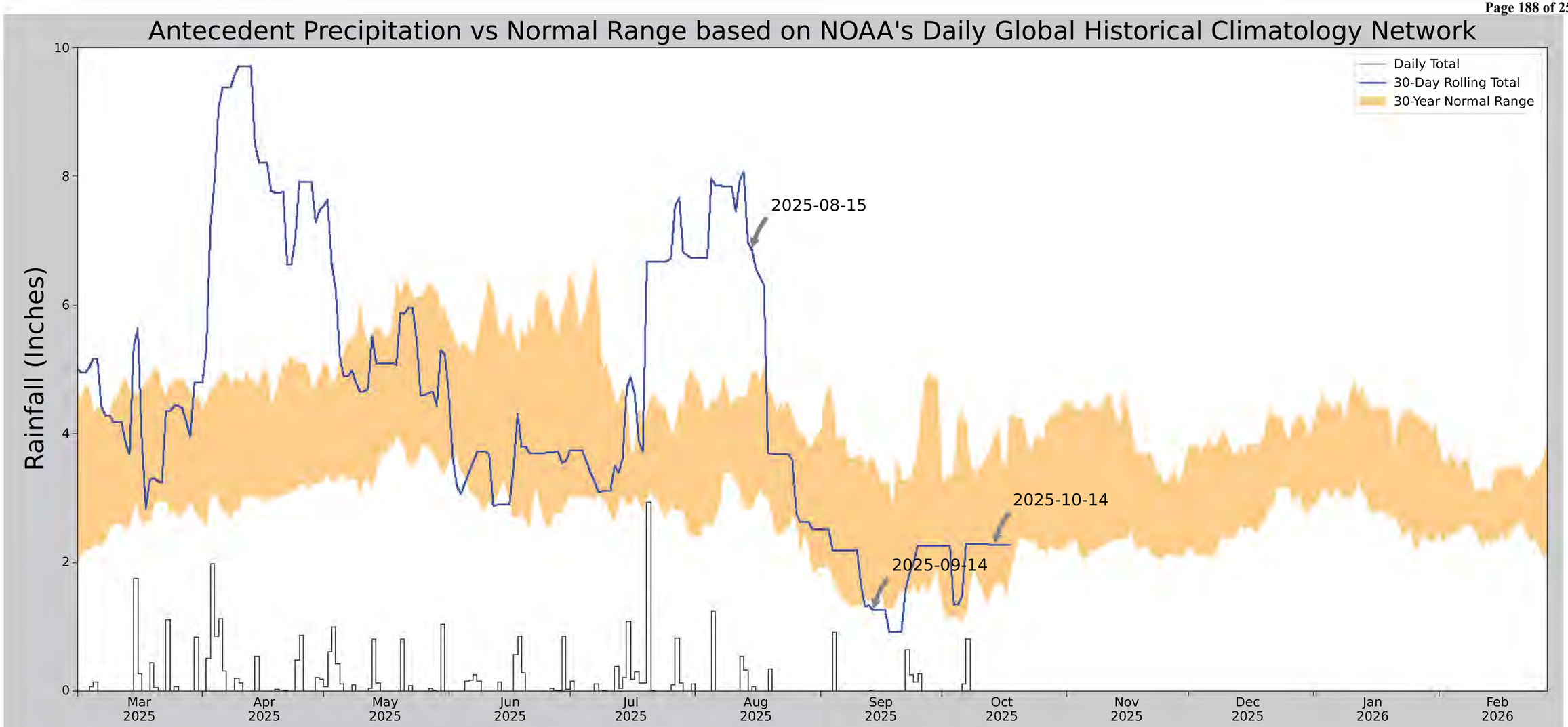
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-10-13	1.487008	3.712992	2.275591	Normal	2	3	6
2025-09-13	1.412992	3.615354	1.330709	Dry	1	2	2
2025-08-14	2.86063	4.636221	6.972441	Wet	3	1	3
Result							Normal Conditions - 11

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

US Army Corps of Engineers.
ERDC

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CINCINNATI/NORTHERN KENTUCKY I	39.0444, -84.6725	860.892	7.141	36.019	3.471	11353	90



Coordinates	39.02423, -84.542
Observation Date	2025-10-14
Elevation (ft)	824.873
Drought Index (PDSI)	Not available (2025-09)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-10-14	1.636221	3.944095	2.275591	Normal	2	3	6
2025-09-14	1.456299	3.623622	1.259843	Dry	1	2	2
2025-08-15	2.827559	4.951181	6.862205	Wet	3	1	3
Result							Normal Conditions - 11

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

US Army Corps of Engineers.
ERDC

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation ▲	Weighted ▲	Days Normal	Days Antecedent
CINCINNATI/NORTHERN KENTUCKY I	39.0444, -84.6725	860.892	7.141	36.019	3.471	11353	90

APPENDIX F – AGENCY CORRESPONDENCE

KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES

Rich Storm
Commissioner

#1 Sportsman's Lane
Frankfort, Kentucky 40601
Phone (502) 564-3400
Fax (502) 564-0506

Gabe Jenkins
Deputy Commissioner

September 12, 2025

Brooke Harrison,
Burns & McDonnell
530 West Spring Street, Suite 100
Columbus, OH 43215
Sent via e-mail

RE: Project Review Request
AM07 Phase 5 Pipeline Replacement Project
Kenton County, Kentucky

Dear Ms. Harrison:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has reviewed the proposed AM07 Phase 5 Pipeline Replacement Project in Kenton County, Kentucky for possible effects to listed species, designated critical habitat, and KDFWR-managed properties. KDFWR offers the following comments and recommendations:

Federally-listed species

Our records[1] indicate the following federally listed species[2] occur within ten (10) miles of the proposed project. Be advised that the KDFWR does not have the authority to confirm compliance with the Endangered Species Act. Please coordinate with the U.S. Fish and Wildlife Service for specific recommendations and compliance requirements for these federally listed species.

[1] Be advised that the KDFWR database is dynamic and only represents the Department's current knowledge of various species distributions. The database is a compilation of collection records made available by individuals and resource agencies, and therefore does not conclusively determine that a listed species is present/absent at a given location.
[2] Federal status designations are as follows: *N=None, C=Candidate, T=Threatened, E=Endangered, PT=Proposed Threatened, PE=Proposed Endangered*.

Scientific Name	Common Name	Class	Federal Status	State Status	SGCN Species
Cyprogenia stegaria	Fanshell	Bivalvia	E	E	Yes
Fusconaia subrotunda	Longsolid	Bivalvia	T	T	Yes
Lampsilis abrupta	Pink Mucket	Bivalvia	E	E	Yes
Plethobasus cyphyus	Sheepnose	Bivalvia	E	E	Yes
Pleurobema rubrum	Pyramid Pigtoe	Bivalvia	PT	E	Yes
Myotis sodalis	Indiana Bat	Mammalia	E	E	Yes
Perimyotis subflavus	Tricolored Bat	Mammalia	PE	T	Yes

State-listed species and Kentucky Wildlife Action Plan Species of Greatest Conservation Need (SGCN)

A review of KDFWR records for state-listed[3] and SGCN species[4] identified the following within one (1) mile of the proposed project area.

Scientific Name	Common Name	Class	Federal Status	State Status	SGCN Species
Ambystoma barbouri	Streamside Salamander	Amphibia	N	N	Yes
Desmognathus fuscus	Northern Dusky Salamander	Amphibia	N	N	Yes
Plethodon cinereus	Eastern Red-backed Salamander	Amphibia	N	S	Yes
Accipiter striatus	Sharp-shinned Hawk	Aves	N	S	Yes
Butorides virescens	Green Heron	Aves	N	N	Yes
Coccyzus americanus	Yellow-billed Cuckoo	Aves	N	N	Yes
Empidonax traillii	Willow Flycatcher	Aves	N	N	Yes
Falco sparverius	American Kestrel	Aves	N	N	Yes
Hylocichla mustelina	Wood Thrush	Aves	N	N	Yes
Lanius ludovicianus	Loggerhead Shrike	Aves	N	S	Yes

[3] State-listed species are assigned status designations by the Office of Kentucky Nature Preserves (OKNP). Designations are as follows: *N=None, E=Endangered, T=Threatened, S=Special Concern, H=Historic, X=Extirpated*.

[4] The KDFWR recently updated the Kentucky State Wildlife Action Plan (SWAP) under a federal grant from the U.S. Fish and Wildlife Service. The updated SWAP is a user-friendly guide for conservation of species of greatest conservation need (SGCN) in the state. The KDFWR invites you to review the updated SWAP on its website (https://app.fw.ky.gov/kyswap/). Species experts from the public and private sectors helped develop the SWAP by determining which species were rare, vulnerable, declining in population, or for which there was not enough information to determine status, and therefore had the greatest need for conservation actions. The SWAP is intended to provide guidance to developers, regulators, resource agencies, the public, and other stakeholders to conserve SGCN by prioritizing threats and recommending conservation actions for each species. The KDFWR is promoting the use of the SWAP to prevent declines in SGCN thereby preventing the need to list them in the Endangered Species Act. SGCN status does not invoke regulatory restrictions or requirements. However, the KDFWR encourages project sponsors to consider actions that provide conservation benefits to these species such as minimization of habitat encroachment, using buffer areas near projects to provide habitat, or other measures.

Melanerpes erythrocephalus	Red-headed Woodpecker	Aves	N	N	Yes
Scolopax minor	American Woodcock	Aves	N	N	Yes
Setophaga discolor	Prairie Warbler	Aves	N	N	Yes
Sitta canadensis	Red-breasted Nuthatch	Aves	N	E	No
Spiza americana	Dickcissel	Aves	N	N	Yes
Spizella pusilla	Field Sparrow	Aves	N	N	Yes
Sturnella magna	Eastern Meadowlark	Aves	N	N	Yes
Perimyotis subflavus	Tricolored Bat	Mammalia	PE	T	Yes

KDFWR Comments and Guidance:

The KDFWR asks that you coordinate any tree removal activities with the U.S. Fish and Wildlife Service Kentucky Field Office. Due to the presence of federally listed bat species near the project site, the USFWS may have seasonal requirements for removing trees, especially those greater than 3" dbh. Removing these trees during the winter months would reduce possible direct impacts to tree-roosting bat species.

Given the nature of the project location and type of aquatic resources present (or lack thereof), KDFWR does not have specific concerns regarding direct impacts to the listed mussel species. However, to protect aquatic species downstream of the proposed project area, KDFWR recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways. Additionally, KDFWR recommends avoiding and minimizing parallel alignments adjacent to streams.

While state-listed and SGCN species are not afforded specific protections, the KDFWR asks that appropriate measures be taken to reduce impacts to these species. The Streamside Salamander utilizes headwater streams, ditches, and small ponds/pools for breeding sites. The Eastern Red-Backed Salamander typically occurs in mesic woodlands but can be found in suburban yards. Therefore, minimizing the area of disturbance to the extent practicable is recommended. To reduce the risk of bird take, KDFWR recommends scheduling all vegetation removal and maintenance activities (e.g., general landscaping activities, mowing, grubbing) outside of the peak bird breeding season. Breeding seasons can be determined using online tools (e.g., Avian Knowledge Network [AKN], Information for Planning and Conservation system [IPaC], Birds of North America Online) or by contacting qualified experts (e.g., local Audubon or birding groups, KDFWR avian specialist Michael Patton). When vegetation removal activities cannot avoid the bird breeding season, conduct nest clearance surveys:

- Surveys should be conducted no more than five (5) days prior to the scheduled activity to ensure recently constructed nests are identified;

- Timing and dimensions of the area to be surveyed should depend on the nature of the project, location, and expected level of vegetation disturbance; and

- If active nests are identified within or in the vicinity of the project site, the site should be avoided until nestlings have fledged or the nest fails. If the activity must occur, a buffer

zone should be established around the nest and no activities should occur within that zone until nestlings have fledged. The dimension of the buffer zone depends on the proposed activity, habitat type, and species present. The buffer should be a distance that does not elicit a flight response by the adult birds and can be 0.5 – 1 mile for hawks and eagles. *Please note that KDFWR records did not identify any documented osprey/eagle nests within one (1) mile of the proposed project at the time of this review.*

Thank you for coordinating with the KDFWR. Please contact me at emilym.lawson@ky.gov if you have any questions.

Sincerely,

Emily Lawson
Environmental Coordinator

ATTACHMENT 6 – VICINITY MAP

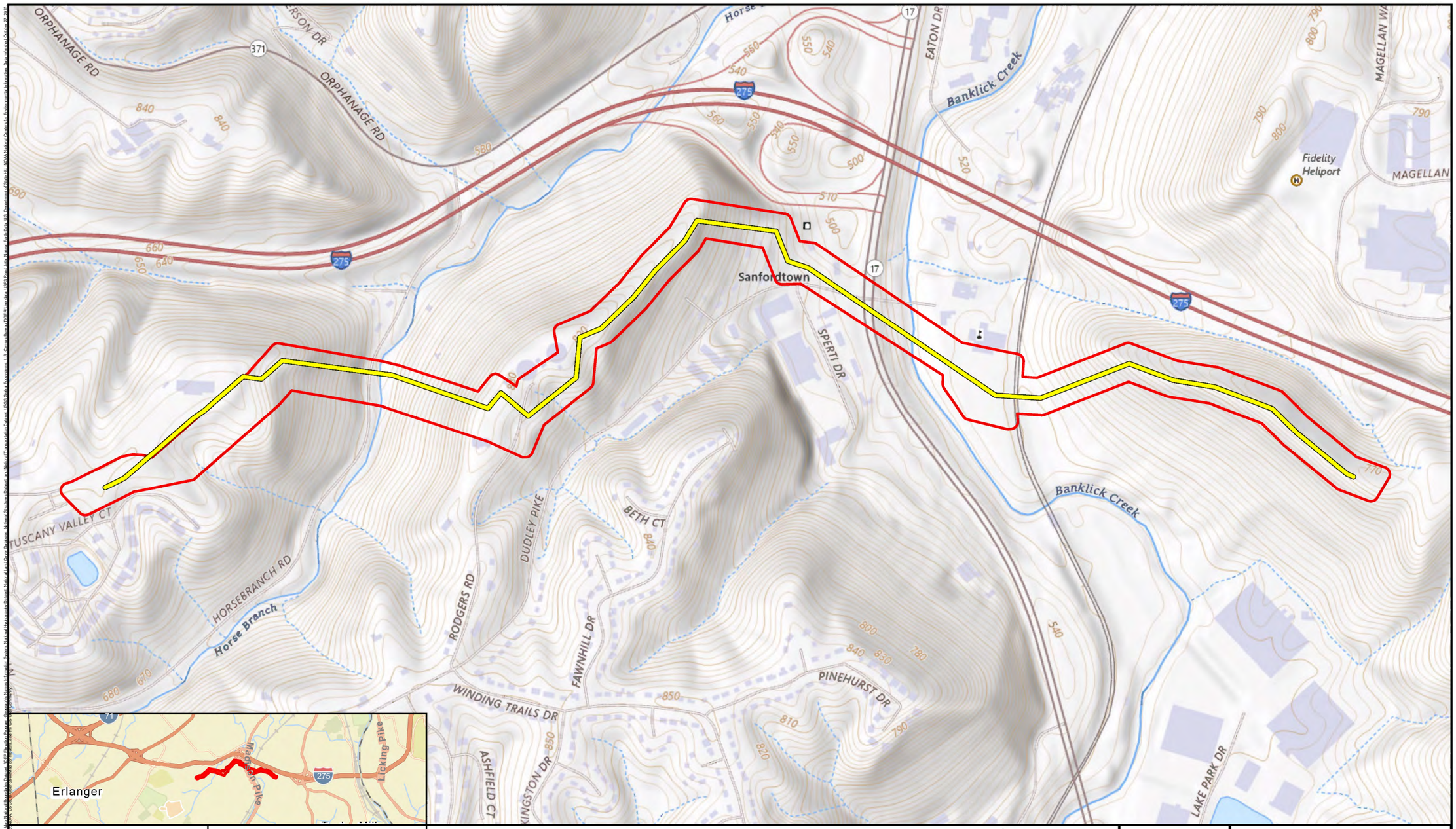


Figure 1: Site Location Map
AM07 Phase 5 Pipeline Replacement Project
Duke Energy Kentucky, Inc.
Kenton County, KY

Issued: 3/3/2026

ATTACHMENT 7 – DESIGN DRAWINGS

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Pgs. 197-232

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ATTACHMENT 8 – SURVEY AREA PHOTOGRAPHS

Photo 1: View of Sample Plot (SP)01 located in PEM Wetland (W)01, facing north.

Photo 2: View of upland SP02, facing north.

Photo 3: View of SP03 located in PEM W02, facing north.

Photo 4: View of upland SP04, facing north.

Photo 5: View upstream of ephemeral stream (S)01, facing east.

Photo 6: View downstream of ephemeral S01, facing west.

Photo 7: View upstream of perennial S02 Banklick Creek, facing north.

Photo 8: View downstream of perennial S02 Banklick Creek, facing south.

Photo 9: View upstream of perennial S03, facing east.

Photo 10: View downstream of perennial S03, facing west.

Photo 11: View upstream of intermittent S04, facing west.

Photo 12: View downstream of intermittent S04, facing east.

Photo 13: View upstream of ephemeral S05, facing west.

Photo 14: View downstream of ephemeral S05, facing east.

Photo 15: View upstream of intermittent S06, facing west.

Photo 16: View downstream of intermittent S06, facing east.

Photo 17: View upstream of ephemeral S07, facing northwest.

Photo 18: View downstream of ephemeral S07, facing southeast.

Photo 19: View upstream of ephemeral S08, facing north.

Photo 20: View downstream of ephemeral S08, facing south.

Photo 21: View upstream of ephemeral S09, facing north.

Photo 22: View downstream of ephemeral S09, facing south.

Photo 23: View upstream of perennial S10 Horse Branch Creek, facing west.

Photo 24: View downstream of perennial S10 Horse Branch Creek, facing east.

Photo 25: View upstream of intermittent S11, facing southwest.

Photo 26: View downstream of intermittent S11, facing northeast.

Photo 27: View upstream of ephemeral S12, facing southeast.

Photo 28: View downstream of ephemeral S12, facing northwest.

Photo 29: View upstream of intermittent S13, facing northeast.

Photo 30: View downstream of intermittent S13, facing southwest.

Photo 31: View upstream of ephemeral S14, facing southeast.

Photo 32: View downstream of ephemeral S14, facing northwest.

Photo 33: View upstream of ephemeral S15, facing west.

Photo 34: View downstream of ephemeral S15, facing east.

Photo 35: View upstream of ephemeral S16, facing west.

Photo 36: View downstream of ephemeral S16, facing east.

Photo 37: View upstream of ephemeral S17, facing west.

Photo 38: View downstream of ephemeral S17, facing east.

Photo 39: View of ditch (D)01, facing north.

Photo 40: View of D02, facing north. Note SP02 in foreground.

Photo 41: View of potential roost tree TE01, facing northwest.

Photo 42: View of potential roost tree TE02, facing north.

Photo 43: View of potential roost tree TE03, facing southeast.

Photo 44: View of representative Road Right of Way along Rodgers Road, facing north.

Photo 45: View of general pipeline right of way, facing north.

Photo 46: View of representative maintained lawn, facing north.

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