

PEL Environmental Technical Report US 60 Connectivity Study

Item 1-80250

Prepared for:



Prepared by:



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Acronyms & Abbreviations

ADT Average Daily Traffic

AMU Adjusted Mitigation Unity

ASTM American Society for Testing and Materials

BGEPA Bald and Golden Eagle Protection Act

CEQ Council on Environmental Quality

CFR Code of Federal Regulations

CWA Clean Water Act

CWCS Comprehensive Wildlife Conservation Strategy

DEIS Draft Environmental Impact Statement

EDR Environmental Data Resources
EIS Environmental Impact Statement

ESA Environmental Justice
ESA Endangered Species Act

FEIS Final Environmental Impact Statement
FEMA Federal Emergency Management Agency

FHWA Federal Highway Administration

FILO Fee In Lieu Of

FPE Floodplain Easement

FY Fiscal Year

GAP Gap Analysis Program

GHG Greenhouse Gas

GIS Geographic Information System
IAS Inventory of Archaeological Sites
IBCF Imperiled Bat Conservation Fund

IDNR Illinois Department of Natural Resources
IDOT Illinois Department of Transportation

IPaC Information for Planning and Consultation

IWAP Illinois Wildlife Action Plan

KAR Kentucky Administrative Regulations

KDFWR Kentucky Department of Fish and Wildlife Resources

KDOW Kentucky Division of Water
KNLT Kentucky Natural Land Trust
KRS Kentucky Revised Statute

1-80250 | US 60 Connectivity Study Ballard County, Kentucky PEL Environmental Technical Report Acronyms & Abbreviations

KYTC Kentucky Transportation Cabinet

LDAP Louisville District Assessment Protocol
LWCF Land and Water Conservation Fund

MBTA Migratory Bird Treaty Act

MPH Miles Per Hour

MPO Metropolitan Planning Organization

MSAT Mobile Source Air Toxics

NAAQS National Ambient Air Quality Standards (NAAQS)

NEPA National Environmental Policy Act

NFHL National Flood Hazard Layer
NHD National Hydrography Dataset

NOI Notice of Intent

NRCS Natural Resources Conservation Service

NRHP National Register of Historic Places

NWI National Wetlands Inventory

NWR National Wildlife Refuge

T&E Threatened and Endangered TNIA Traffic Noise Impact Analysis

OKNP Office of Kentucky Nature Preserves

OSA Office of State Archaeology

OSRW Outstanding State Resource Water

OWR Office of Water Resources

PACE Purchase of Agriculture Conservation Easements
PAD-US Protected Areas Database of the United States

PEL Planning and Environmental Linkages

PIP Public Information Plan

PM Particulate Matter

RAC Resource Agency Coordination RBP Rapid Bioassessment Protocol

REC Recognized Environmental Conditions

RMI River Mile Index
ROD Record of Decision

SGCN Species of Greatest Conservation Need

SNP State Nature Preserve

SQT Stream Quantification Tool

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SWAP State Wildlife Action Plan

SWPPP Stormwater Pollution Prevention Plan

USGS United States Geological Survey

USACE United States Army Corps of Engineers

USC United States Code

USDA United States Department of Agriculture
USDOT United States Department of Transportation
USEPA United States Environmental Protection Agency

USFWS Unites States Fish & Wildlife Service

WMA Wildlife Management Area
WOTUS Waters of the United States
WQC Water Quality Certification

WRPE Wetland Reserve Program Easement

1. Introduction

Kentucky Transportation Cabinet (KYTC) Item Number 1-80250, **US 60 Connectivity Study**, is being completed as a *Planning and Environmental Linkages Study* (PEL Study), which takes a collaborative and integrated approach to the transportation decision-making process by considering potential environmental benefits and impacts during the planning phase.

The **US 60 Connectivity Study** will fully examine the feasibility, costs, and impacts of a potential extension of the US 60 corridor over the Ohio River. The intent is to determine if the development of a more direct linkage between US 60 at Barlow (Ballard County, Kentucky) and Interstate 57 (I-57) near Future City (Alexander County, Illinois) would offer more long-term value to the Commonwealth than the ongoing US 51 bridge replacement project (KYTC Item No. 1-1140) at Wickliffe, Kentucky (south of the **US 60 Connectivity Study** area).²

The intent of this *PEL Environmental Technical Report* is to document the environmental review process completed for the PEL Study; identify potential benefits and impacts (direct and indirect) to environmental resources; and provide recommendations for future avoidance, minimization, and/or mitigation efforts that could influence the environmental and overall decision-making process. Attached to this report are the subject area studies that further detail the identified human and natural environmental resources, associated protections, potential impacts, and future project considerations.

The *National Environmental Policy Act* (NEPA) requires to the fullest extent practicable, that federal actions be interpreted and administered in accordance with its environmental protection goals. It requires an interdisciplinary approach in planning and decision-making for any action that adversely affects the environment. The potential environmental impacts and need for safe and efficient transportation must be considered to reach a decision that is in the best overall public interest. This documentation was developed to support that effort.

¹ https://www.environment.fhwa.dot.gov/env_initiatives/PEL.aspx

² https://us51bridge.com/project-overview

1.1. Planning & Environmental Linkages Study

This PEL Study process follows Federal Highway Administration (FHWA) PEL guidance regarding the integration of transportation planning documentation to be incorporated into the future NEPA process. Specifically, the study process included the following,³

- Pursuant to 23 United States Code (USC) Section 168, this planning study was developed through a process conducted pursuant to applicable Federal law.
- This planning study was developed in consultation with the appropriate Resource Agencies.
- The planning process included broad multidisciplinary consideration of regional transportation needs and potential effects, including effects on the human and natural environment.
- The planning process included public notice that the resulting planning study recommendations may be adopted during a subsequent environmental review process in accordance with Section 168.
- The planning documents will be made available for public review and comment.

NEPA-related terms (e.g., purpose and need, alternatives, and logical termini) are used in this planning-level document to enhance its usefulness as a resource and to enable its further development during the NEPA process. In accordance with 23 USC 168, 4 environmental studies completed during a PEL study may be adopted during a subsequent environmental review process. These studies are intended to inform future analyses and document the project history and decision-making process, particularly regarding the corridor screening process, resource agency coordination, public involvement, and development of the project's purpose and need.

Future project-specific analyses would be required should a future project advance from this study. Environmental documentation developed through this PEL process may be applied to future NEPA documentation within a 5-year period from the approval of this document.

³ https://www.fhwa.dot.gov/hep/guidance/pel/pelfaq16nov.cfm

⁴ https://www.fhwa.dot.gov/map21/docs/title23usc.pdf

1.2. Study Overview

The **US 60 Connectivity Study** area is primarily in Kentucky and encompasses 16,167 total acres (see **Figure 1**). The study is listed in Kentucky's current *Fiscal Year (FY) 2022–2028 Highway Plan*; and described as "a planning study for extending US 60 from Barlow, Kentucky, west to I-57 near Future City, Illinois." ⁵

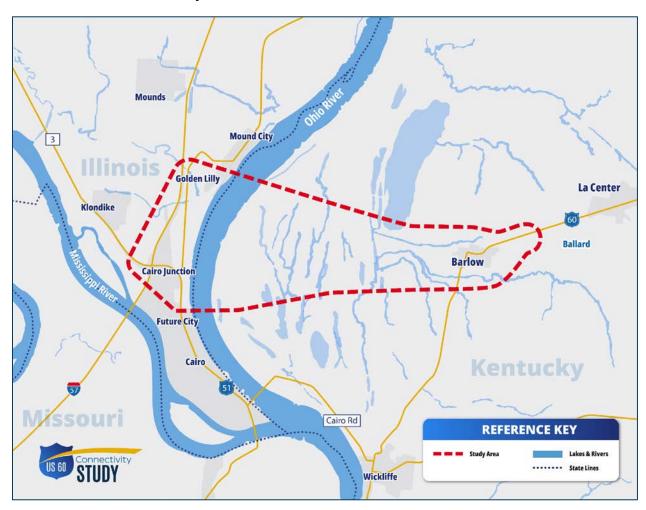


Figure 1. Study Area

⁵ https://transportation.ky.gov/PrograManagement/2022%20Enacted%20Highway%20Plan/2022%20Enacted%20Highway%20Plan%20Combined%20Book%20June%2028%202022.pdf

South of the **US 60 Connectivity Study** area is ongoing KYTC Item No. 1-1140 to address the existing US 51 Ohio River Bridge crossing between Kentucky and Illinois. Its primary purpose is to:

- Rehabilitate or replace the deficient US 51 Ohio River Bridge.
- Maintain cross river connectivity between Wickliffe, Kentucky, and Cairo, Illinois.
- Improve safety on the bridge and its approaches.

A northern corridor within the **US 60 Connectivity Study** area was considered during the US 51 bridge project's planning phase. However, it was eliminated because, while it maintained cross river connectivity between the states, the estimated travel times and distances were more than double those of the existing conditions and there were other viable options that better addressed the goals and objectives.

2. Project Setting

The US 60 Connectivity Study area is predominantly in Ballard County, Kentucky, and Alexander County, Illinois. A small portion of Pulaski County, Illinois, overlaps the northwestern study limits.

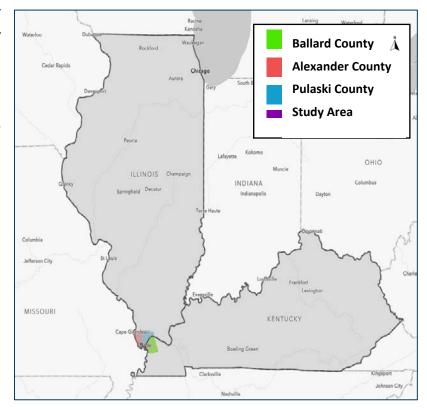


Figure 2. Study Area Location Map

Ballard County is in far western Kentucky, at the confluence of the Ohio and Mississippi rivers. The land use in the study area is primarily undeveloped or agricultural (**Figure 3**). The area is frequently flooded, and much is preserved for conservation. The area primarily serves as a Wildlife Management Area (**Figure 4**).



Figure 3. Representative Aerial View of Ballard County

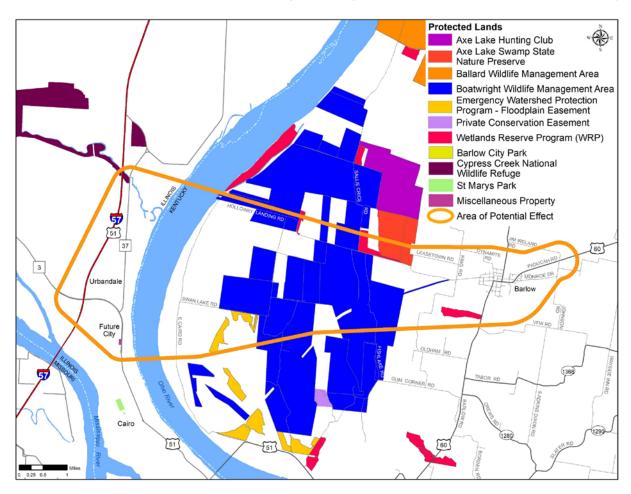


Figure 4. Protected Lands

Alexander County is the southernmost county within Illinois. The Mississippi River borders it to the west and south. Its eastern border includes the Ohio River, Cache River State Natural Area, and Pulaski County. Cairo serves as the county seat. Alexander County, which is more developed than Kentucky's study area, has several small residential communities as well as commercial and industrial developments—especially within the city of Cairo, south of the study area. Cairo has been an historically disadvantaged area with high concentrations of minority persons present.

Pulaski County is directly east of Alexander County. The Ohio River borders it to the east and is in the portion of the state locally known as "Little Egypt." Its county seat is Mound City. A small portion of the study area includes Pulaski County, but none of the potential corridors would directly impact it. Thus, it is mentioned here for location context only.

2.1. Roads

As shown in **Figure 5**, the primary regional routes in this portion of far western Kentucky include I-24 providing the primary east-west connection, and I-69 connecting this area to the north. In Missouri and Illinois, I-55 and I-57 provide north-south connections.

Regarding the local road network in Kentucky, US 60/US 62 provides the primary east-west connection from Wickliffe to Paducah and farther east.

A representative future US 60 connection to the west is illustrated on **Figure 6**, with existing average daily traffic (ADT) shown on nearby routes. US 51 provides the primary north-south connection with an existing Ohio River crossing into Cairo, Illinois. US 60, US 62, and US 51 are two-lane routes, with lane widths varying from 11 to 12 feet and narrow shoulders. They are classified as rural prinicipal arterials on the National Highway System, and as state desginated truck routes with 40-ton gross vehicle weight limits. Near the Ohio River, US 51 is susceptible to flooding and the roadway shows signs of subsidence in areas where the embankment has been undercut by water.

In Illinois, US 51 provides the primary north-south connection in the study area. It is a principal areterial, has four lanes, and is the main throughfare through Cairo, with approximately 2 miles of closely spaced, stop-controlled intersections in town.

⁶ https://alexandercounty.illinois.gov/about/



Figure 5. Regional Roadway Network

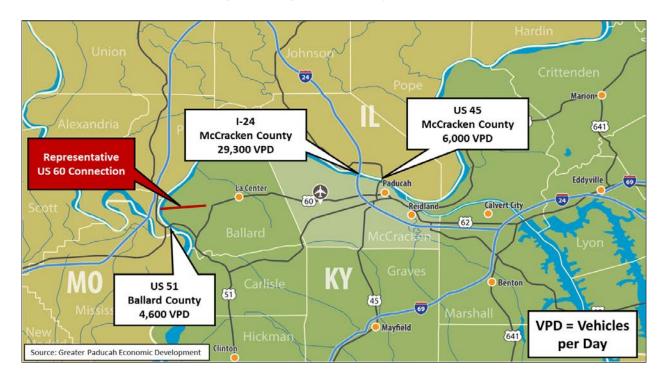


Figure 6. Local Roadway Network

2.2. Logical Termini

A project's logical termini are rational end points for a transportation improvement (typically points of major traffic generation at intersecting roadways). The eastern terminus would connect with US 60 near Barlow, Kentucky. The western terminus would be along I-57 north of Cairo, Illinois.

US 60 provides the only east-west designated truck route west of Paducah, Kentucky. It currently diverts south at Barlow, connecting to the US 51 Ohio River Bridge at Wickliffe, which provides the westernmost Ohio River crossing between Kentucky and Illinois.

Kentucky has historically invested in US 60 improvements. Ongoing projects include **KYTC Item #1-115.00**, **1-115.10**, **and 1-118.00**, which collectively would reconstruct approximately 6 miles of US 60 near the Ballard/McCracken County line, from east of LaCenter to the existing four-lane section east of Kevil. Evolving from a planning study completed in 2001, this long-planned improvement is currently in the Right-of-Way and Utility phases. The FY 2022–2028 *State Highway Plan* has construction funds programmed in FY 2024.⁷

I-57 is the longest interstate highway in Illinois. It starts at the southernmost point of Illinois in Cairo, runs concurrently with US 51, and then parallels IL-37 as it travels north through the center of the state. Illinois has also been investing in improvements along I-57.⁸

⁷ https://transportation.ky.gov/ProgramManagement/2022%20Enacted%20Highway%20Plan/2022%20Enacted%20Highway%20Plan%20Combined%20Book%20June%2028%202022.pdf

⁸ https://idot.illinois.gov/news/press-release.26002.html

3. Purpose, Needs, Goals, & Objectives

The transportation planning process can be utilized to develop a project's purpose and need statement.

3.1. Goals & Objectives of PEL

Project goals and objectives measure the effectiveness of proposed transportation system improvements. They identify the scope of a problem to be addressed by a project. The goals of a project within the **US 60 Connectivity Study** area are to:

- Enhance Regional Mobility
- Provide Economic Development Opportunities
- Remain Sensitive to Environmental Resources

3.1.1 Enhance Regional Mobility

As shown in **Figure 7**, several major freight generators are east and south of the study area along US 60 in Kentucky. US 60 currently provides the only eastwest designated truck route west of Paducah, connecting to US 51 near the Ohio River at Wickliffe. The US 51 Ohio River Bridge carries 35% trucks. The current route, south to the US 51 bridge, hinders regional mobility:

 Travel times are increased by diverting south before traveling east-west. The existing US 51 connection between Barlow and I-57 is 17.5 miles long and the travel time is 24 minutes at the posted mph.⁹

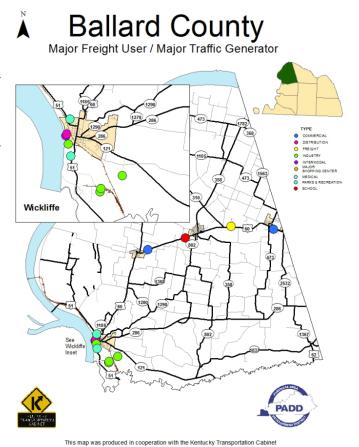


Figure 7. Traffic Generators

⁹ US 60 (Jim Ireland Road, Barlow, KY) to I-57 (Exit 1, Kessler Road, IL)

- Travel speeds are reduced from 55 mph to 25 mph through Wickliffe and 30 mph through Cairo.
 - o Approximately 1,400 semi-trucks travel through Wickliffe daily.
 - o Approximately 900 semi-trucks travel through Cairo daily.

3.1.2 Provide Economic Development Opportunities

As shown in **Figure 8**, a more direct east-west connection would expand the accessible area within a 60-minute travel time, which could:

- Expand opportunities for available jobs and labor pool between Kentucky, Illinois, and Missouri by decreasing travel times.
- Increase accessibility for regional destinations and industrial parks.
- Improve freight movement.
- Support existing industries and future development.

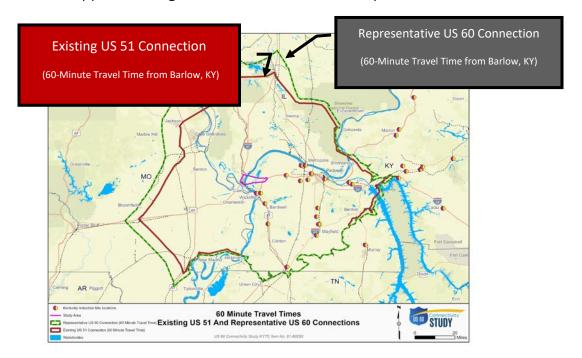


Figure 8. Radius of 60-Minute Travel Times for US 51 and Representative US 60 Connection

3.1.3 Remain Sensitive to Environmental Resources

The study area encompasses a highly environmentally sensitive area; therefore, a future project should avoid, minimize, and mitigate, as warranted, project impacts to resources within the area. Coordination initiated with Resource Agencies during the planning phase should continue to inform project team decisions.

3.2. Draft Purpose and Need Statement

A project's *Statement of Purpose and Need* relies on the goals and objectives developed during the planning process. ¹⁰ It may be further refined as more information is realized and through consultation with Resource Agencies and input from the public and other stakeholders. It is a living statement until a document required by NEPA is signed.

The purpose and need statement identifies the merits of the project. By defining why the expenditure of public funds is necessary and worthwhile, the document allows decision makers to weigh the proposed action against the potential impacts.

This **US 60 Connectivity Study's** goals and objectives would inform a future project's purpose and need statement, which may evolve from this draft statement.

DRAFT PURPOSE & NEED STATEMENT

The **purpose** of the US 60 Connectivity project is to **improve regional mobility** by providing a more direct east-west cross-river corridor between I-24 in Kentucky and I-57 in Southern Illinois.

Insufficient east-west mobility support the **need** for this project.

¹⁰ https://www.federalregister.gov/documents/2016/05/27/2016-11964/statewide-and-nonmetropolitan-transportation-planning-metropolitan-transportation-planning

4. Alternative Concepts

Conceptual corridors were explored within the **US 60 Connectivity Study** area in a two-phase screening effort. The No-Build option was considered alongside Build concepts within the study area.

Wide (2,000') initial corridors were identified to serve as a screening tool for estimating potential impacts before refining corridors to better assess potential benefits and impacts. Environmental resources, local officials, and resources agencies informed the screening process, which resulted in refined corridors that could better avoid as many potential areas of concern as possible. These refined corridors were developed to approximately 15% design level to ensure reasonable quantity estimations for planning purposes. The screening process of these alternative concepts could be referenced in a future NEPA document.

4.1. No-Build

The No-Build option would involve no action to construct a new connection between US 60 at Barlow, Kentucky, and Future City, Illinois. The ongoing US 51 bridge replacement project at Wickliffe (south of the **US 60 Connectivity Study** area) would advance as currently planned. ¹¹

4.2. Initial Study Corridor Concepts

As shown in **Figure 9**, three initial study corridors were identified, striving to avoid as many environmental features as possible. These corridors focus on areas where a roadway may be constructed within the 2,000-foot-wide buffers.

Initial Corridor A encompasses 2,317 acres and would provide the **northernmost connection** to I-57 in Illinois, between Urbandale and Golden Lily. **Initial Corridor B** encompasses 2,201 acres and would provide the **most direct connection** to I-57 in Illinois at existing Exit 1, between Future City and Urbandale. **Initial Corridor C** encompasses 2,395 acres and would provide the **southernmost connection** into Illinois near Future City.

¹¹ https://us51bridge.com/

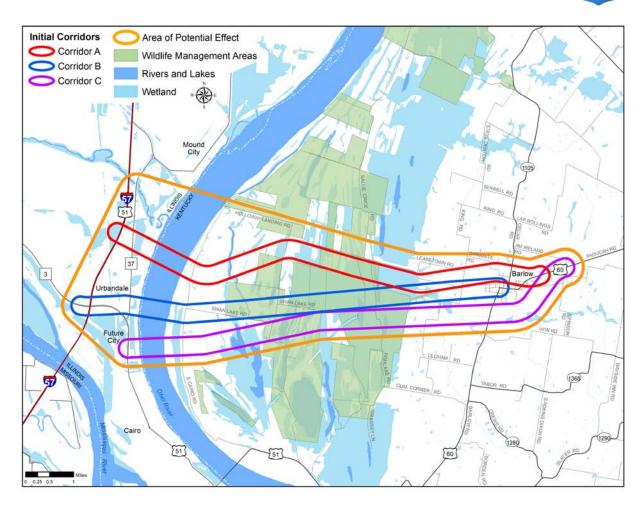


Figure 9. Initial Corridor Concepts

Environmental resources were quantified within the corridors as summarized in **Table 1**. Bold text emphasizes the highest quantities. Additional research and coordination with Resource Agencies identified several properties within the study area that had either deed or funding restrictions intended to protect them in perpetuity. This information informed corridor refinement.

Table 1. Environmental Resources within Initial Corridors

Initial Corridor	Α	В	С
Study Area (acres)	2,317	2,201	2,395
Residences	159	162	36
Businesses	4	45	3
Community Resources		Yes	
Cultural Historic Resources	9	6	13
Archaeological Resources	0	1	4
Cemeteries	1	0	0
Prime & Unique Farmland (acres)	323	385	301
State & Local Important Farmland (acres)	76	74	130
Axe Lake Swamp State Nature Preserve (acres)	0	0	0
Boatwright Wildlife Management Area (acres)	347	893	603
Cypress Creek National Wildlife Refuge (acres)	0	0	0
NRCS FPE 1052068 (acres)	0	0	2
NRCS FPE 959343 (acres)	0	2	66
NRCS WRPE 957664 (acres)	0	0	0
NRCS WRPE 986308 (acres)	0	0	0
NRCS WRPE 967117 (acres)	0	0	68
Barlow City Park (acres)	0	0.35	0
Public Hunting Lands & Public Fishing Areas (acres)	360	881	607
USACE-Owned Lands (acres)	35	0	0
IDNR Property (acres)	0	0	3
Length of Streams (feet)	63,124	49,548	78,728
Wetlands (acres)	904	932	891
100-Year Floodplain (acres)	1,325	1,287	1,434
Forested Area (acres)	840	756	819
ADDDEVIATIONS: NDCS-Natural Descurses Consequation Service El	DE Flandal	_:_	

<u>ABBREVIATIONS</u>: **NRCS**=Natural Resources Conservation Service, **FPE**=Floodplain Easement, **WRPE**=Wetland Reserve Program Easement, **USACE**=United States Army Corps of Engineers, **IDNR**=Illinois Department of Natural Resources

4.3. Refined Study Corridor Concepts

As shown in **Figure 10**, the three initial corridors were refined to analyze two potential conceptual corridors. These were narrower than the initial corridors. As presented in the Figures in this report, they represent a 500-foot-wide buffer (1,000-foot total width). Within those 1,000-foot buffers, conceptual corridors were developed to an approximately 15% mock design for better estimation purposes. The quantities presented herein reflect the 15% mock design, not the representative corridors.

Initial Corridor A was adjusted to avoid identified properties protected in perpetuity, evolving into Corridor 1 (representative buffer encompasses 1,200 acres).

Similarly, due to the number of properties protected in perpetuity in the central and southern portions of the study area, Initial Corridors B and C were combined to create Corridor 2 (representative buffer encompasses 1,336 acres).

Considering the 15% design, **Conceptual Corridor 1** encompasses 233 acres and would provide the **northernmost connection** to I-57 in Illinois, between Urbandale and Golden Lily.

Conceptual Corridor 2 encompasses 180 acres and would provide the **southernmost connection** into Illinois at Exit 1, between Future City and Urbandale near Cairo Junction.

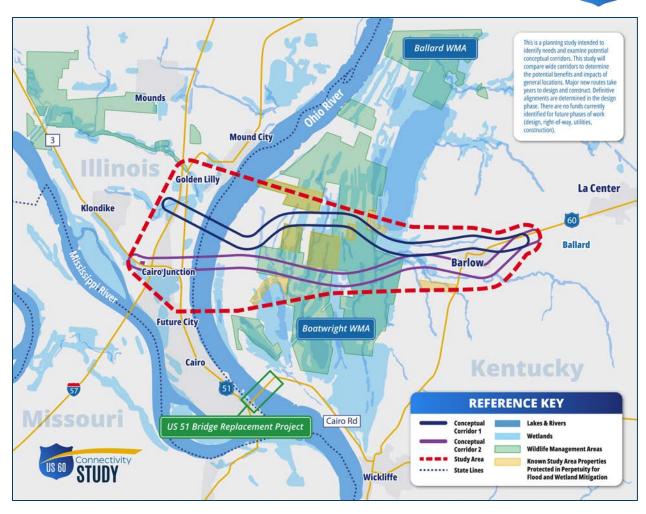


Figure 10. Refined Corridor Concepts

5. Affected Environment & Potential Impacts

Table 2 and **Figure 11** show how the refined conceptual corridors avoid or minimize impacts to some environmental resources. Bold text highlights the corridor having greater impacts. Known properties protected in perpetuity were completely avoided.

Table 2. Environmental Resources within Refined Conceptual Corridors

Environmental Resource	Conceptual Corridor 1	Conceptual Corridor 2
Study Area (acres)	233	180
Residences	6	4
Businesses	0	3
Cultural Historic Resources	0	0
Archaeological Resources	0	1
Cemeteries	0	0
Farmland (acres)	177	137
Forested Area (acres)	83	56
Streams (linear feet)	4,972	4,118
Wetlands (acres)	91	55
100-Year Floodplain (acres)	196	113
Parks (acres)	0	0
Boatwright WMA (acres)	23	68
Boatwright Properties (acres) - Protected in Perpetuity	0	0
IDNR Property (acres)	0	0
NRCS Properties (acres) - Protected in Perpetuity	0	0
Public Hunting Lands (acres)	23	68
USACE-Owned Lands (acres)	0	0

Geographic Information System (GIS) databases, research, windshield surveys, and limited field assessments within accessible areas of public-owned right-of-way were performed to identify environmental resources within the area. Future NEPA reviews would require additional field assessments. It is expected that resources would be identified beyond those known at the planning level. This information was prepared to facilitate the screening process, develop reasonable cost estimates, and support future project planning efforts. This information should inform the scale of a future NEPA review and support the analyses of the No-Build versus Build alternatives.

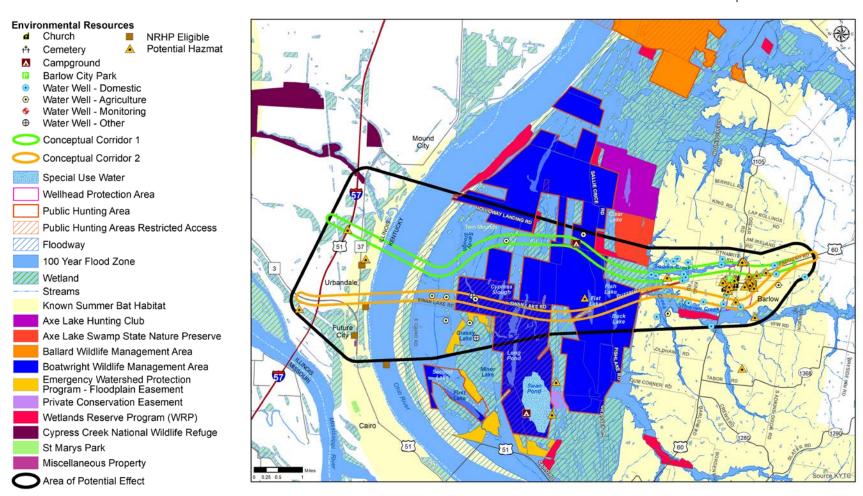


Figure 11. Environmental Resources and Refined Corridors

5.1. Land Use

As a predominantly new corridor and Ohio River crossing, **land use impacts within either corridor would be significant**—around 200 acres.

As shown in **Figure 4** (p.5), **much of the study area is preserved for recreational or conservation purposes**. Protected properties include Barlow Park, Axe Lake Swamp State Nature Preserve (SNP), Boatwright Wildlife Management Area (WMA), Cypress Creek National Wildlife Refuge (NWR), Illinois Department of Natural Resources (IDNR) protected property, Natural Resources Conservation Service (NRCS) Emergency Watershed Protection Program Floodplain Easements (FPE), and NRCS Wetlands Reserve Program Easements (WRPE). Various protections are afforded to each.

The refined corridor concepts avoid all those protected properties **except the Boatwright WMA**. Should a future project consider additional concepts, continued avoidance of these properties would be prudent. The *Socioeconomic Analysis* (see **Appendix A**) provides additional details and protections applicable to the various lands within the study area.

5.1.1 Protected Properties - Boatwright WMA

The Boatwright Wildlife Management Area (WMA) is publicly owned, primarily by the Kentucky Department of Fish and Wildlife Resources (KDFWR). Located in Ballard County, the WMA is composed of 8,847 acres and intersects the center of the study area. ¹² It is open to the public and has many access points for fishing, boating, and hunting. KDFWR revenues are provided through licenses and permits for fishing, hunting, boating, and trapping. ¹³

Public Hunting Lands

Lands within the WMA are protected by various laws, funding stipulations, and land ownership (some are federally owned and were purchased as mitigation to offset impacts from Civil Works projects). As shown in Figure 12, the entire WMA is public hunting lands. ¹⁴ Seasonal restrictions occur where areas serve as waterfowl refuge from mid-October to mid-March. ¹⁵ Public hunting lands within the study area total 3,600 acres.

¹² https://app.fw.ky.gov/Public Lands Search/detail.aspx?Kdfwr id=222

¹³ https://fw.ky.gov/More/Pages/About-Us.aspx

¹⁴ https://fw.ky.gov/More/Documents/Boatwright_waterfowl.pdf

¹⁵ https://app.fw.ky.gov/Public Lands Search/detail.aspx?Kdfwr id=222

No Net Loss

Per Kentucky Revised Statue (KRS) 150.0241, Kentucky has a "No Net Loss" policy that requires the state to "maintain at least the same level of available public hunting land that currently exists."¹⁶ This statute further specifies:

Commission land management decisions and actions, including decisions made by private owners to close land managed by the commission, shall not result in any net loss of habitat land acreage available for hunting opportunities on commission-managed lands that exists on July 15, 2010. The commission shall **expeditiously find replacement acreage** for hunting to compensate for closures of any existing hunting land. Replacement **lands shall, to the greatest extent possible, be located within the same commission district and shall be consistent with the hunting discipline that the commission allowed on the closed land...State agencies shall cooperate with the commission to open new, additional hunting lands to replace lost hunting acreage. Lands officially designated as units within the state park system may be considered for replacement hunting lands and may be open for hunting when necessary as a wildlife control or management tool as determined by the Department of Parks....No agency shall subdivide land it owns or manages into parcels under fifty (50) acres in an attempt to avoid compliance with the provisions of this section.¹⁷**

As the Boatwright WMA intersects the central portion of the study area, impacts to it would be unavoidable. Corridor 2 would impact nearly three times more acres of public hunting land than Corridor 1.

Early coordination with KDFWR noted the statutory requirement of "no net loss" (i.e., 1:1) replacement may not be sufficient to offset the adverse impacts to public hunting lands within the WMA. At the study level, replacement ratios and lands have not yet been identified. However, considering the quantity of impact, this mitigation cost could be costly. Coordination with the KDFWR should occur for potential project impacts.

 $[\]frac{16}{\text{https://apps.legislature.ky.gov/CommitteeDocuments/262/20784/Oct%2020%202022%20KDFWR\%20No\%20Net\%20Loss}}{\text{\%20of\%20Hunting\%20Land\%20Report.pdf}}$

¹⁷ https://apps.legislature.ky.gov/law/Statutes/statute.aspx?id=52187

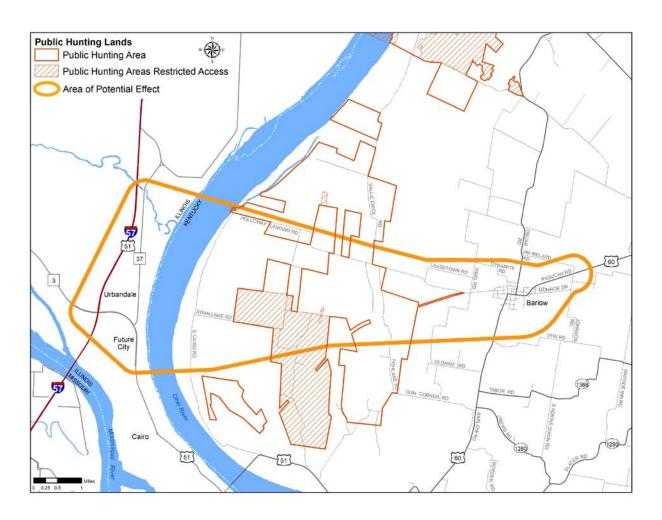


Figure 12. Public Hunting Lands

5.1.2 Protected Properties - Section 4(f)

Section 4(f) of the *U.S. Department of Transportation Act of 1966* (USDOT) provides for protection of publicly owned park and recreation lands, historic properties, and wildlife and waterfowl refuges during transportation project development (see **Section 5.7**, p.43). All protected properties except the NRCS conservation easements would be considered Section 4(f) protected. **Complete avoidance of Section 4(f) properties is not achievable** within the study area as the Boatwright WMA is Section 4(f) protected and is unavoidable. Mitigation to offset impacts to this Section 4(f) protected property is likely but has not been quantified at the study level.

5.1.3 Protected Properties - Eminent Domain

According to the Fifth Amendment to the *Constitution of the United States*, the government cannot seize **private property** without just compensation. Rentucky's eminent domain law (KRS 416.540) defines "condemn" as a "means to take **private property** for a public use...." According to case law, a property already devoted to a public use usually cannot be taken for another public use that will totally destroy or materially impair or interfere with the former use. Thus, because all the protected properties, except the NRCS conservation easements, are publicly owned and it is assumed a roadway through these conservation areas would interfere with the former use, **eminent domain could not be exercised to acquire the publicly owned lands**.

5.1.4 Tax and Revenue Impacts

Considering both positive and negative revenue impacts of the proposed project, the following issues were identified: tax revenue and a short-term construction income surge.

The project would require direct conversion of private taxable property to non-taxable government-owned right-of-way. These acquisitions would result in permanent removal of taxable lands from the tax rolls and the city/county when these acquisitions were made would experience a tax revenue loss.

Public hunting lands and private hunting club areas would be expected to experience a tax revenue loss from fewer membership sales as available hunting areas would be reduced or bisected and the introduction of a new highway in this primarily undisturbed area may have long-term impacts to various species habitats and migration patterns.

The **short-term economic benefit of this proposed construction** project would be expected to stimulate the local economy in terms of jobs, sales, income, government revenue and expenditures, and other variables.

The regional traveling public would benefit from an improved economy of travel by lowering operating and safety costs.

¹⁸ https://constitution.congress.gov/constitution/amendment-5/

¹⁹ https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=45368

²⁰ https://casetext.com/case/state-ex-rel-md-heights-etc-v-campbell

5.1.5 Agricultural

The US Department of Agriculture (USDA) NRCS soil survey mapping was reviewed to identify soil farmland classifications in the study area. Farmland classifications by corridor are summarized in **Table 3**. **Farmland impacts would be unavoidable**. Impact would be commensurate, with Corridor 1 having slightly higher impacts. No Purchase of Agriculture Conservation Easements (PACE) or agricultural districts were identified in the study area. Formal consultation with the USDA-NRCS for compliance with the *Farmland Protection Policy Act of 1981* would be required for a future project, should a Build corridor be recommended.

Table 3. Farmland Classifications by Corridor

	Corridor 1		Corridor 2	
	Acres	%	Acres	%
Not Prime Farmland	56	24%	43	24%
Farmland of Statewide Importance	16	7%	11	6%
All Areas are Prime Farmland	30	13%	36	20%
Prime farmland if protected from flooding or not frequently flooded during the growing season	76	33%	44	24%
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season Prime farmland if drained	36 19	16% 8%	32 12	18% 7%
Total	233	100%	179	100%

5.1.6 Commercial

Creating a more direct regional connection would directly affect these facilities by requiring relocations for roadway construction. Corridor 1 would not require any business displacements. Corridor 2 would directly impact three businesses in Alexander County, including the Dollar General and two unidentified businesses on Patterdale Road.

Indirect impacts could include reduced business in Cairo and Wickliffe, which would be bypassed if a more direct US 60 connection were to be constructed and the current US 51 bridge closed. Contrastingly, businesses in Barlow and Cairo Junction may experience an uptick in business as traffic would be attracted to those areas from a more direct connection. Indirect effects to businesses in Environmental Justice (EJ) communities (low-income and minority) should be further explored in future EJ analyses.

5.1.7 Residential

Residential relocations would occur. As currently aligned, Corridor 1 may relocate six residences in Ballard County. Corridor 2 may relocate three residences in Alexander County and one in Ballard County. Considering US Census data and field assessments, **it is likely that some of the relocations would be to members of an EJ community.** A future EJ analysis should collect data on the potential relocatees to better assess potential project impacts. **Residential clusters may also be present.**

Rural residential areas may also experience visual impacts (see **Section 5.10**, p.48 for further discussion).

5.2. Community Impacts

A Build concept would have both positive and negative community impacts to consider. **The** concepts may shorten travel distances for some communities, lengthen travel distances for others, or bypass communities.

There is limited residential development within the study area as it is predominantly conserved land. There are a few incorporated and unincorporated communities near the outskirts of the study area, primarily concentrated in Illinois, as shown in **Figure 13** and discussed in the *Socioeconomic Analysis* (**Appendix A**). Since this study is exploring regional benefits and impacts of a more direct connection, communities within and outside of the study area may be impacted by this potential connection.

5.2.1 Community Resources

Community resources within the study area are sparse (as identified in **Figure 14**, p.28) and are primarily concentrated within Barlow. There are small variety stores and no gas stations. The closest gas stations are located just outside the project area and in neighboring communities. The nearest grocery stores in Kentucky are in LaCenter and Wickliffe, less than 10 miles from the study area.

Small grocery stores like Dollar Generals and local markets are available in Illinois, while larger grocery stores are available to the west in Cape Girardeau, Missouri.

While emergency response services are on both sides of the river, **emergency responders** indicated they rely on the US 51 bridge to reach larger regional facilities; therefore, there was concern that, were the bridge to be closed, providing services to the communities of Cairo and Wickliffe would be negatively affected.

The Boatwright WMA is a significant community resource providing recreational opportunities and servicing as a prime hunting destination. Private hunting clubs are also prevalent in the area. As discussed in Section 5.1.1, p.19, a roadway through the study area would directly and indirectly impact these resources.

If the US 51 bridge were to be closed, small businesses in Wickliffe and Cairo may be negatively impacted by loss of pass-through traffic. Local officials indicated many of these businesses rely on the traffic to stay in business. Alternatively, by providing a more direct connection, the economy of travel on a regional scale would be improved and could reduce travel costs for area businesses. A more direct transportation network may also support ongoing local economic development efforts to attract new businesses to the area.

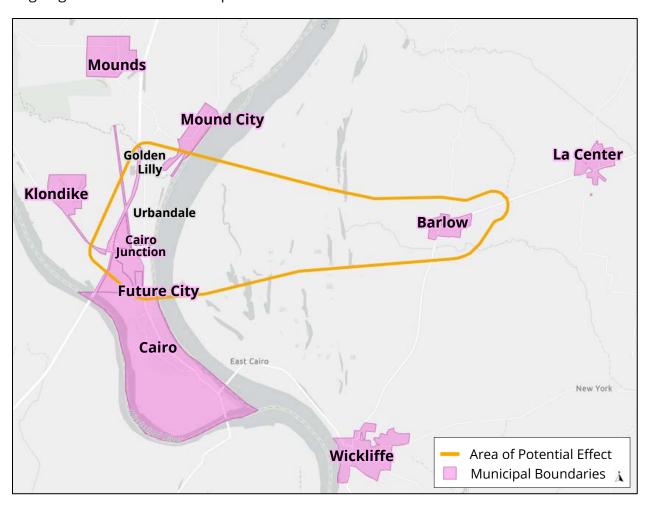


Figure 13. Municipalities

5.2.2 Communities

Due to their immediate proximity to the study area and the current US 51 bridge, **Illinois** communities would likely experience more adverse impacts as a result of the project compared to Kentucky residents.

Communities Linked

Currently, Illinois residents of Mound City, Golden Lily, Urbandale, and Future City travel south to Cairo to cross the US 51 Ohio River Bridge into Kentucky and access Barlow via US 60. A Build concept would shorten all their travel distances.

Similarly, residents of Barlow, Kentucky, and the neighboring LaCenter would likely benefit from a more direct connection to I-57 in Illinois.

Communities Diverted

In contrast, other communities may be diverted. Cairo is the closest community to the US 51 bridge and would likely experience the most adverse direct impacts. Cairo is primarily a minority and low-income community. Should that bridge be closed, the direct connection into the already disadvantaged city of Cairo would be lost, and with it would go convenient access to cross-river destinations plus economic benefits derived from pass-through traffic going to/coming from Kentucky.

On the Kentucky side, across from Cairo is Wickliffe, which would also likely experience similar adverse effects due to the closure of the US 51 bridge. Overall, a new connection could require further travel to area resources and job opportunities, and sales from current pass-through traffic would be greatly reduced.

Community Cohesion

Due to their relative size, proximity to one another, and distance to area resources, the communities in Kentucky and Illinois likely experience a sense of community cohesion within their respective states. Additionally, the communities of Cairo, Illinois, and Wickliffe, Kentucky, no doubt experience a sense of cohesion due to the connection via the US 51 bridge. It is assumed that these communities may rely on one another for area resources.

If a Build concept is recommended and should the US 51 bridge be closed at a later date, the communities of Cairo and Wickliffe would likely experience adverse effects. The travel distance and time between these communities would be increased and community dependencies such as shopping, work, etc., may shift to other communities that would become more easily accessible.

18%

5.2.3 Environmental Justice

Tract 9710

A *Socioeconomic Analysis* (see **Appendix A**) was completed to identify areas of low-income and minority EJ populations within the study area, including a review of US Census data, project mapping, and field observations. As shown in **Table 4**, **EJ populations are present**. Red text indicates areas where tract populations are greater than their respective counties.

% Minority **% Below Poverty** Kentucky 16 16% **Ballard County** 8 14% **Tract 9502** 4 16% Illinois 40 12% **Alexander County** 25% 37 **Tract 9578** 67 38% Pulaski County 36 18%

Table 4. EJ Characteristics

The Alexander County study area census tract has the highest minority population at nearly 70%. Study area census tracts in Ballard and Alexander counties have a higher percentage of persons living below the poverty line than their respective counties. Current estimated housing values in the area indicate most are likely low-income.

24

All Corridor 1 relocations would be in Ballard County. Most Corridor 2 relocations would be in Alexander County, with one in Ballard County. EJ populations would likely be impacted by either. Considering there is a higher potential for the presence of low-income and minority populations in Alexander County, EJ populations may be disproportionately impacted. Housing and relocation resources would be made available to the relocatee(s) without regard to race, creed, color, national origin, or income status.

Should a project advance from this study, avoidance, minimization, and mitigation commitments regarding these populations may be required. Additional coordination would be necessary to engage these populations and better understand impacts.

Early coordination with local officials in Cairo and Wickliffe indicates they believe any Build alternative would adversely affect their communities. Similarly, the Illinois Department of Transportation has indicated concern for a project within this study area to disproportionately affect the EJ community of Cairo, noting its residents rely on the US 51 bridge to reach necessities such as healthcare and gas. An *Environmental Justice Impact Analysis* would be recommended to fully assess potential disproportionately high and adverse EJ impacts.

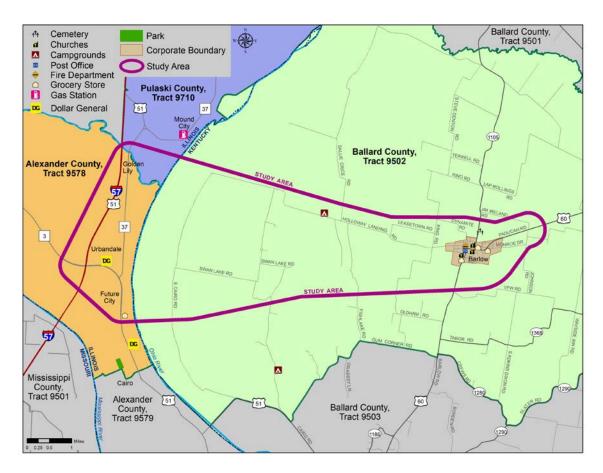


Figure 14. Census Tracts and Community Resources

Regarding indirect effects to EJ populations, the benefits of improved mobility (e.g., access to residences and community resources, decreased emergency response times, reduced travel time and costs, and improved safety) would be made available to some EJ populations. However, if a Build alternative is recommended, and the US 51 bridge were to be closed, the EJ populations in other areas may experience increased travel costs from longer travel distances to work and community resources, as well as longer emergency response times to some areas.

5.3. Air Quality

The US Environmental Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: ozone, lead, nitrogen dioxide, carbon monoxide, and particulate matter ($PM_{2.5}$ and PM_{10}). According to USEPA's nonattainment and maintenance population tool, Ballard and Alexander counties are in attainment for all criteria pollutants.

Any federally funded project would need to be included in the respective state's fiscally constrained, statewide transportation improvement program (STIP) to ensure *Clean Air Act* Section 176 (c) (42 USC 7506 (c)) air quality conformity requirements are satisfied. Considering the project type, setting, and FHWA's 2023 Mobile Source Air Toxics (MSAT) guidance, a future project would likely require at least a qualitative MSAT analysis.

On January 9, 2023, the Council on Environmental Quality (CEQ) issued NEPA Guidance on *Consideration of Greenhouse Gas Emissions (GHG) and Climate Change*. This interim guidance assists agencies in analyzing greenhouse gas and climate change effects of their proposed actions under NEPA.²¹ It indicates NEPA reviews should quantify proposed actions' GHG emissions, place GHG emissions in appropriate context, disclose relevant GHG emissions and climate impacts, and identify alternatives and mitigation measures to avoid or reduce GHG emissions. The CEQ encourages agencies to mitigate GHG emissions to the greatest extent possible, consistent with national, science based GHG reduction policies established to avoid the impacts of climate change, particularly to EJ populations. Depending on the status of this interim guidance, a future project may need to quantify GHG and assess climate change effects.

5.4. Noise

There are noise sensitive receptors in the vicinity of potential future improvements.

Based on project type, this project would be considered a Type I project (construction of a highway on new location) in accordance with 23 Code of Federal Regulations (CFR) 772; therefore, a *Traffic Noise Impact Analysis* (TNIA) would be required. Noise sensitive receptors include all outdoor areas of frequent human use such as residential areas, parks, cemeteries, hospitals, churches, schools, and some commercial properties with exterior use.

²¹ https://ceq.doe.gov/guidance/ceq_guidance_nepa-ghg.html

Noise sensitive receptors are primarily located within Barlow and Cairo Junction. Areas of frequent outdoor human use within the WMA may also be considered a noise sensitive site. **The impact of noise on wildlife would also be a concern for the study area within the WMA**. However, 23 CFR 772's TNIA requirement only applies to humans. FHWA offers a *Synthesis of Noise Effects on Wildlife Populations* for consideration.²²

5.5. Section 7 - Aquatic & Terrestrial Ecosystems

An *Ecological Report* (see **Appendix B**) was prepared to identify potential direct and indirect changes (benefits and impacts) to the aquatic and terrestrial environment. The report addresses protections afforded conservation lands, wildlife management areas (WMAs), threatened and endangered (T&E) species, migratory birds, bald and golden eagles, and water resources (floodplain, stream, open water, wetlands); as well as consideration of the *Clean Water Act* and the *Endangered Species Act* (ESA) Section 7 stipulations regarding federal, state, and local permits. This report included a desktop review to identify known ecological resources, including but not limited to data from:

- Office of Kentucky Nature Preserves (OKNP): KY-Biological Assessment Tool (K-BAT); and A Distributional Atlas of the Freshwater Mussels of Kentucky, 2016, Technical Series No. 8
- KDFWR: Ballard County Species List and Wildlife Action Plan
- IDNR: Wildlife Action Plan
- Kentucky Geological Services (KGS): Kentucky Karst Potential Map
- Federal Emergency Management Agency (FEMA): National Flood Hazard Layer (NFHL)
- NRCS: Soils Report for Ballard County in Kentucky
- USACE: Regulatory In-lieu Fee & Bank Info Tracking System (RIBITS)
- USFWS: Information for Planning and Consultation (IPaC), known northern long-eared bat habitat in Kentucky, known Indiana bat habitat in Kentucky, and National Wetlands Inventory Mapper for surface waters and wetlands (NWI)
- US Geological Survey (USGS): National Hydrography Dataset (NHD), Gap Analysis Program (GAP) land cover, and Protected Areas Database of the United States (PAD-US)

²² https://www.fhwa.dot.gov/environment/noise/noise effect on wildlife/

As shown in Figure 15, the study area intersects an ecologically rich area.

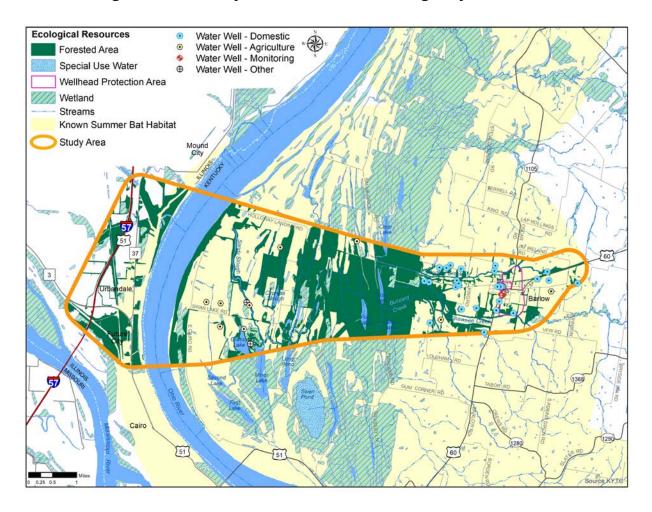


Figure 15 . Ecological Resources

5.5.1 Listed Species

The USFWS's federally listed (IPaC) T&E species potentially occurring in the study area are included in **Table 5**. **There are also numerous state-listed species and species of greatest conservation concern within the study area** (see **Appendix B**). Both states have wildlife action plans to consider.

Table 5. Federally Listed Species

	Name		Listing Status
Bats	Gray bat	Myotis grisescens	Endangered
	Indiana bat	Myotis sodalis	Endangered
	Northern long-eared bat	Myotis septentrionalis	Endangered
	Tricolored bat	Perimyotis subflavus	Proposed Endangered
Birds	Whooping crane	Grus americana	Endangered,
			Experimental
			Population, Non-
			Essential
Reptiles	Alligator snapping turtle	Macrochelys	Proposed Threatened
		temminckii	
Fishes	Pallid sturgeon	Scaphirhynchus albus	Endangered
Mussels	Clubshell	Pleurobema clava	Endangered
	Fanshell	Cyprogenia stegaria	Endangered
	Fat pocketbook	Potamilus capax	Endangered
	Longsolid	Fusconaia subrotunda	Threatened
	Northern riffleshell	Epioblasma torulosa rangiana	Endangered
	Orangefoot pimpleback	Plethobasus	Endangered
	(pearlymussel)	cooperianus	3. 0 . 2.
	Pink Mucket (pearlymussel)	Lampsilis abrupta	Endangered
	Rabbitsfoot	Theliderma cylindrica	Threatened
	Ring pink	Obovaria retusa	Endangered
	Rough Pigote	Pleurobema plenum	Endangered
Insects	Monarch butterfly	Danaus plexippus	Candidate

The Endangered Species Act of 1973, as amended, provides a law enacted for the conservation of federally listed T&E plants and animals and their habitats (16 USC 1531–1544). **Numerous bat species have high potential for occurrence within the project area.** Much of the study area is forested. Snags or loose bark on trees provide summer habitat and maternity roosting. Based on the August 2019 USFWS habitat maps in Kentucky and within 20 miles²³, the study area primarily includes "Known Summer 1" habitat for the northern long-eared bat and "Known Summer 1" habitat for the Indiana bat. Some "Known Summer 2" habitat for the Indiana bat is also within the study area.

Kentucky is ranked in the top three states for freshwater mussel species diversity, which highlights the need to protect both these aquatic organisms and their habitats. A new Ohio River crossing would be located approximately 1 mile downstream from the Olmsted mussel bed and has potential for significant adverse impacts should local populations be identified at or adjacent downstream of the proposed bridge footprint.

Proposed and candidate species are not protected by the "take" prohibitions of ESA Section 9.²⁴ ESA Section 3(18) defines "take" as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." However, there is high potential for these species to occur within the study area.

The monarch butterfly is also a species of special concern and is included in the Illinois *Wildlife Action Plan*. The alligator snapping turtle is ranked as state-endangered in both Illinois and Kentucky and is included in both states' action plans.

The whooping crane is a state and federally listed endangered species and the study area is located within a federally designated experimental population area for the species. ²⁵ Specifically, it is within the Eastern Migratory population of the species. According to the USFWS, "Whooping cranes continue to face threats from alteration and destruction of habitat—including migratory habitat and winter habitat—from wetland drainage, increased development and conversion of suitable habitat to agriculture."²⁶

Considering the project scale, setting, and potential impacts, a Biological Assessment would

²³ https://www.fws.gov/office/kentucky-ecological-services/protected-bats-kentucky

²⁴ https://ipac.ecosphere.fws.gov/status/list

²⁵ https://www.federalregister.gov/documents/2001/03/09/01-5821/endangered-and-threatened-wildlife-and-plants-proposal-to-establish-a-nonessential-experimental

²⁶ https://www.fws.gov/species/whooping-crane-grus-americana

likely be required as part of the ESA Section 7 consultation process with the USFWS. This assessment would evaluate the potential effects of the project on federally listed species. The multiple seasonal survey restrictions and hunting seasons would affect field assessment timeframes. Figure 16 (p.36) summarizes the seasonal restrictions to be considered. Since there is likely potential for the project to adversely affect listed species, a *Biological Opinion* would probably be required. This review process would also add review times for project schedule considerations.

Corridor 1 would likely impact more potential forested habitat (83 acres) than Corridor 2, which is estimated to impact 56 acres of forested habitat.

5.5.2 Migratory Birds

The *Migratory Bird Treaty Act of 1918* (MBTA) implements four international treaties that the United States entered with Canada, Mexico, Japan, and Russia, and requires prior authorization by the US Department of the Interior's USFWS for the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species.

The *Bald and Golden Eagle Protection Act* (BGEPA) was introduced in 1940. The BGEPA protects bald eagles and golden eagles and provides these species with additional protections not covered by the MBTA). In the BGEPA, "take" is defined as, "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (50 CFR 22.3). The BGEPA authorizes take permits for otherwise lawful projects. As part of an eagle take permit, the USFWS would require an *Eagle Conservation Plan* to avoid and minimize take of eagles. Although an eagle take permit is authorized by the Secretary of the Interior, coordination with each state's wildlife resource agency's avian staff should be anticipated.

Though no longer a T&E-listed species, the bald eagle remains protected under the BGEPA and MBTA. Both breeding and wintering populations occur in Kentucky, with bald eagles usually laying eggs from January to March but can begin nest building and repair as early as October. Three bald eagles' nests were identified during initial field surveys within this project study corridor.

The study area is a critical hotspot for migrating waterfowl and neotropical songbirds, attracting dozens of species such as snow geese, white pelicans, bald eagles, wood ducks, scarlet tanagers, and Kentucky warblers. Birds serve a significant role in both public and private hunting ventures within western Kentucky. Resident and migratory populations also bring visitors to the area for ecotourism activities such as birdwatching, wildlife photography, and trail hiking.

Corridor 2 would impact 40 acres of the Swan Lake Unit of Boatwright WMA. This unit has established use restrictions designated in Kentucky Administrative Regulations 301 (KAR) 4:050, which requires the WMA to be closed to all public access from October 15 through March 31 to serve as a waterfowl refuge. With the western Kentucky region and Boatwright WMA property serving as a major flyway for numerous migratory bird species, especially waterfowl, this waterfowl refuge is providing strong ecological services to numerous waterfowl populations and an umbrella protection for other species that share in use of this type of habitat.

Coordination with KDFWR's' aviation staff is often required for development of avoidance and minimization measures or requests for permit to take regarding any bird species in Kentucky. Avian take permits are acquired from the Secretary of the Interior via the USFWS Atlanta Office.

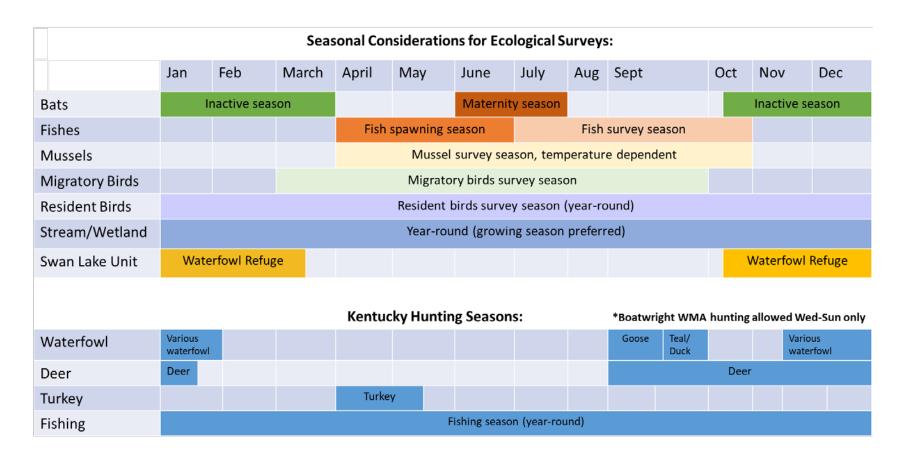


Figure 16. Seasonal Survey Restrictions & Hunting Seasons

5.5.3 Karst

Based on information from the USGS *Karst Occurrence Map*, the study area is underlain by bedrock with limited or no potential for karst development. The Kentucky Biological Assessment Tool data report and the KyGovMaps Open Data Portal²⁷ identified zero sinkhole polygons within the study area.

5.5.4 Waters

The NHD²⁸ Waterbody (a layer in the dataset) reported 382 acres of swamp/marsh within the study area. Bald-cypress-water tupelo forest is a unique ecological community type that is assumed associated with these swamp/marsh areas. According to the OKNP summary, Axe Lake Swamp SNP "protects a portion of Kentucky's best-known example of a large, intact bald cypress-tupelo swamp." ²⁹ The KY-Biological Assessment Tool report recorded the water hickory tree (*Carya aquatica*, a Kentucky state-threatened species) and Bald-cypress (*Taxodium distichum*) - Water tupelo (*Nyssa aquatica*) Forest (a Kentucky state-endangered community type) within the study area. Water hickory, Bald-cypress and water tupelo species are often associated with bottomlands and floodplain swamps.

The area is commonly referred to as Barlow Bottoms and is frequently flooded. In addition to the Ohio River, **there is an abundance of water resources within the area.**

Streams

The study area contains a total of 398,283 linear feet of mapped NHD streams including artificial paths, canals/ditchs, connectors, intermittent streams, and perennial streams.

Kentucky Division of Water (KDOW) designations³⁰ identified by river mile index (RMI) within the study area include (**Table 6**):

²⁷ KyGovMaps Open Data Portal. Ky Water Resources Polygons Sinkholes. Accessed July 19, 2023. https://opengisdata.ky.gov/datasets/kygeonet::ky-water-resources-polygons-sinkholes/explore?location =37.069509%2C-89.091666%2C12.44

²⁸ The National Hydrography Dataset (NHD) is a feature-based database that interconnects and uniquely identifies the stream segments or reaches that make up the nation's surface water drainage system.

²⁹ Kentucky Energy and Environment Cabinet. Office of Kentucky Nature Preserves. Accessed July 14, 2023. https://eec.ky.gov/Nature-Preserves/Locations/Pages/Axe-Lake.aspx

³⁰ Kentucky Energy and Environment Cabinet. Kentucky Division of Water (DOW) Water Maps Portal. Water Health Portal and Water Quality Certification Viewer Maps. Accessed July 27, 2023. https://watermaps.ky.gov/

Table 6. KDOW Water Resource Designations

Water Resource	RMI	Use Designation Type	
Ohio River	974.1 – 952.7	Outstanding State Resource Water (OSRW)	
		Exceptional Use Water	
		T&E Species: Plethobasus cyphyus, & Quadrula cylindrica cylindrica	
Ohio River	981.3 – 938.9	Warm Water Aquatic Life Full Support	
		Primary Contact Recreation Full Support	
		Fish Consumption Partial Support	
		Domestic Water Supply Full Support	
Fish Lake		Warm Water Aquatic Life Full Support	
		Secondary Contact Recreation Full Support	
		Fish Consumption Partial Support	
Shawnee Creek	0.0 - 3.4	Warm Water Aquatic Life Non-Support Water; Habitat Impaired by Impacts and/or Alterations	
		Primary Contact Recreation Partial Support	
		Fish Consumption Full Support	
Shawnee Creek	3.4 – 12.9	Warm Water Aquatic Life Non-Support Water; Habitat Impaired by Impacts and/or Alterations	
		Fish Consumption Full Support	

Corridor 1 would impact more linear feet (LF) of streams than would Corridor 2—4,972 LF versus 4,118 LF, respectively.

Wetlands

USFWS National Wetland Inventory (NWI) identified 703 acres of palustrine (i.e., freshwater) emergent wetland (PEM), 3,568 acres of freshwater forested/shrub wetland (PFO/PSS), 170 acres of freshwater pond, 255 acres of lakes, and 1,696 acres of riverine (Ohio River) habitat.

The NHD Waterbody identified 382 acres of swamp/marsh within the study area. Bald-cypress-water tupelo forest is a unique ecological community type that is assumed associated with these swamp/marsh areas.

Corridor 1 would impact 91 acres of wetlands. Corridor 2 would have fewer impacts, 55 acres.

Based on current regulatory programs, acquisition of sufficient compensatory mitigation for this volume of wetlands impacts would be difficult to identify and coordinate.

Open Waters, Lakes, and Ponds

NHD Waterbody totaled 775 acres (386 acres lake/pond; 7 acres reservoir; 382 acres swamp/marsh) in the study area. It is not uncommon for open waters, lakes, ponds, and reservoirs to also provide wetland fringe around their perimeter; field surveys would be necessary to determine any potential wetland fringe features.

Floodplains

Within the 16,167 acres study area, 11,702 acres (72%) are located within FEMA's NFHL floodplains. Floodplain areas include 1,027 acres in Zone A, 10,631 acres in Zone AE, and 44 acres in Zone AH. A substantial length of the approach roadway within Kentucky would need to be constructed on structure to avoid raising the floodplain within the area.

Corridor 1 (196 acres) would impact more 100-year floodplain acres than Corridor 2 (113 acres).

Table 7. FEMA NFHL Designation Type

FEMA NFHL Designation Type	Acreage	Percentage of Study Area
Zone A	1,027	6.4%
Zone AE	10,631	65.8%
Zone AH	44	0.2%
Non-Floodplain	4,465	27.6%
Totals	16,167	100%

5.5.5 Additional Impacts

Additional potential ecological impacts to consider include those from human disturbance and ecotourism in the area.

Human Disturbance Impacts

Conversion of land into a transportation corridor would also aid in deforestation and habitat fragmentation within the region. The further fragmentation of mature bottomland forest is of particular concern, and negative impacts are likely for species that require large contiguous tracts of mature forest habitats. Fragmentation could also change size and available habitat areas for migratory waterfowl species. Additionally, the significant alteration or loss of major aquatic habitat features could include various lakes within Boatwright WMA that provide both wildlife habitat and ecotourism value.

A US 60 corridor route would increase public access to the area. Adding new or more frequent human encounters via fragmented habitat could result in sensitive species experiencing a 'fight or flight' response, possibly resulting in species' abandonment of the area or negative impacts to species' reproduction. The introduction of additional vehicular traffic also increases the general risk of collisions with wildlife.

In addition, highway roadsides are often subject to increased trash and debris. **Plastics and other non-compostable materials can be harmful to wildlife including birds, mammals, fishes, reptiles, and amphibians.**

Ecotourism Impacts

The International Ecotourism Society defines ecotourism as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" (TIES, 2015). A few examples of common ecotourism activities include hiking, horseback riding, cycling, kayaking, wildlife viewing and birdwatching, wildlife photography, and observation of astronomical phenomena.

As boasted on the County's website, "Ballard County is home to over 30,000 acres of land for outdoor enthusiasts ... [and] within a 6-hour drive for 60% of the total population of the United States who are looking for an outdoor challenge and other recreational pursuits." According to Kentucky Department of Tourism's 2020 studies, Kentucky's Western Waterlands Region generated \$664.9 million economic impact by tourism to the region.

³¹ https://www.discoverballardcounty.com/things-to-do/

Nearly 5.9 million total visits were made in 2020 (an 8.5% decline from previous year, possibly related to pandemic conditions) with approximately 7% related to outdoors purposes³².

A US 60 corridor route would increase public access to, and potentially awareness of the ecological value within this study area, possibly increasing ecotourism revenue; however, the route may more likely be a connector that acts primarily as a pass-through rather than a destination. Although ecotourism aligns well with a "leave no trace" mentality, highway roadsides are often subject to increased trash and debris. Plastics and other non-compostable materials can be harmful to wildlife including birds, mammals, fishes, reptiles, and amphibians. The introduction of additional vehicular traffic also increases the general risk of collisions with wildlife.

Further fragmentation of mature bottomland forest is of particular concern, and negative impacts are likely for species that require large contiguous tracts of mature forest habitats. Fragmentation could also change size and available habitat areas for migratory waterfowl species. Additionally, the significant alteration or loss of major aquatic habitat features within the study area could include various lakes within Boatwright WMA that provide both wildlife habitat and ecotourism value.

5.6. Section 106 - Cultural Historic & Archaeological Resources

The *National Historic Preservation Act of 1966* (NHPA), as amended (16 U.S.C. 470f), requires federal agencies to consider the effects their activities and programs have on historic properties (e.g., districts, sites, buildings, structures, objects) listed in or eligible for the National Register of Historic Places (NRHP).

Pursuant to 36 CFR Part 800, regulations implementing NHPA Section 106, a *Cultural Resources Literature Review / Archaeological Overview* was completed for the **US 60 Connectivity Study** (see **Appendix C**). Information about previously conducted cultural historic resource investigations and documented archaeological resources was gathered, and an environmental and cultural context of the region was created to assess the potential for discovering undocumented archaeological sites within the project area.

³²Travel USA Visitor Profile for Western Waterlands. 2020 Study by Longwoods Travel USA for KY State Government. Accessed: July 24, 2023. https://www.kentuckytourism.com/docs/default-source/research/2020-ww-day-trip-visitation-report0ec163fb-6a24-4e66-bf77-eef7557b874f.pdf?sfvrsn=8a7f9c24_1

The area has a rich history, with both NRHP listed and potentially eligible sites located in the study area. The initial review of **cultural historic resources** identified two NRHP-listed sites: the Barlow House (S. 5th Street) and Twin Mounds site (also known as the Nolan site), both in Kentucky. The Twin Mounds site is owned and protected by the Archaeological Conservancy. ³³ The review also noted a potential historic district in downtown Barlow, the Ohio



Figure 17. Trail of Tears National Historic Trail

River Levee System, and several properties in Illinois may be NRHP eligible. In addition, a section of the Trail of Tears National Historic Trail runs through the study area, likely requiring consultation with several Native American tribes should a future project identify any impacts to the resource. ³⁴ South of the study area, the US 51 bridge is eligible, and Cairo has several NRHP-listed properties.

Archaeological records on file at the Kentucky Office of State Archaeology (OSA) and the Illinois Inventory of Archaeological Sites (IAS) were reviewed in February 2023 to determine the extent of previous archaeological surveys completed in and around the project area within Ballard County, Kentucky, and Alexander County, Illinois. The OSA research focused on a 2.0 km (1.24 mi) study area around the project area. The IAS research focused on a 1.6 km (1 mi) study area of the project area. In addition to the OSA and IAS records, historic map data were reviewed to assist with identification of the Area of Potential Effects (APE). This review provided information on previous structures, cemeteries, roads, and railroad alignments, all of which are tools for identifying the location of potential historic-period archaeological sites, the knowledge of which facilitated identification of the APE. ³⁵

³³ The Archaeological Conservancy is a 501 non-profit organization that acquires and preserves archaeological sites in the United States.

³⁴ https://www.nps.gov/trte/planyourvisit/maps.htm

³⁵ Per 36 CFR 800.16(d), the area of potential effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.

Based on the results of these planning-level reviews, there is a moderate to high probability for both prehistoric and historic archaeological sites to be identified within the area. A separate survey, report, determination of eligibility and effects, and coordination with the respective State Historic Preservation Officers (SHPOs) would be required to fully assess potential impacts should a Build alternative advance.

NRHP eligible or listed properties would also be considered Section 4(f) properties and the same protections and processes discussed in **Section 5.7** (p. 43) would apply.

5.7. Section 4(f)

Section 4(f) of the *U.S. Department of Transportation Act of 1966* (USDOT) provides for protection of publicly owned park and recreation lands, NRHP listed/eligible cultural historic and archaeological sites, and publicly owned wildlife and waterfowl refuges during the development of transportation projects. (Refer to **Appendix A**, *Socioeconomic Analysis*, **Section 4(f) Process**, **pp.17.**)

Known resources in the project area that would be considered for protection under Section 4(f) — as codified in 49 USC 303^{36} and 23 USC 138^{37} and implemented by FHWA through 23 CFR 774^{38} — are Barlow Park, Axe Lake Swamp State Nature Preserve, Boatwright WMA, and Cypress Creek National Wildlife Refuge.

https://www.govinfo.gov/app/details/USCODE-2009-title49/USCODE-2009-title49-subtitle1-chap3-subchap1-sec303

³⁷ https://www.govinfo.gov/app/details/USCODE-2011-title23/USCODE-2011-title23-chap1-sec138

³⁸ https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774

Before approving project that uses Section 4(f) properties, FHWA must determine there is no **feasible** and **prudent** avoidance alternative and the project includes all possible planning to minimize harm, or FHWA makes a *de minimis* impact determination. 39 When multiple alternatives use Section 4(f) properties and the evaluation of avoidance alternatives concludes that there is no feasible and prudent avoidance alternative, then FHWA may approve only the <u>alternative</u> that causes the least overall harm in light of the preservation purpose of the statute.40

Section 4(f) Key Terms

- ➤ A **USE** occurs when: (1) land is permanently incorporated into a transportation project; (2) a temporary occupancy of land is adverse in terms of the statute's preservation purpose; (3) there is a constructive use (a project's proximity impacts are so severe that protected activities, features, or attributes of a property are substantially impaired).
- An alternative is **FEASIBLE** if it can be constructed as a matter of sound engineering.
- ➤ An alternative is **NOT PRUDENT** if: it compromises the project to a degree that is unreasonable to proceed with the project in light of its stated purpose and need; it results in unacceptable safety or operational problems; after reasonable mitigation, it still causes: severe social, economic, or environmental impacts; severe disruption to established communities; severe disproportionate impacts to minority or low income populations; or severe impacts to environmental resources protected under other Federal statues; it results in additional construction, maintenance, or operational cost of an extraordinary magnitude; it causes other unique problems or unusual factors; or it involves multiple factors previously listed—that while individually minor—cumulatively cause unique problems or impacts of extraordinary magnitude.
- For publicly owned public parks, recreation areas, and wildlife and waterfowl refuges, a *DE MINIMIS* impact is one that will not adversely affect the activities, features, or attributes of the Section 4(f) property. For historic sites, a *de minimis* impact means FHWA has determined (in accordance with 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act) either no historic site is affected by the project or the project will have "no adverse effect" on the historic site. A *de minimis* impact determination does not require analysis of feasible and prudent avoidance alternatives.
- ➤ LEAST OVERALL HARM is determined by balancing: the ability to mitigate adverse impacts to each Section 4(f) property; the relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection; the relative significance of each Section 4(f) property; the views of the official(s) with jurisdiction over each Section 4(f) property; after mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and substantial differences in costs among alternatives.

³⁹ https://www.ecfr.gov/current/title-23/chapter-l/subchapter-H/part-774/section-774.17

⁴⁰ https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774/section-774.3

Any project concept within the study area would impact Section 4(f) protected properties. Assuming no feasible and prudent avoidance alternative exists, minimization efforts (alignment adjustments, commitments to off-season construction—this could consider recreational use and refuge timeframes, reduction of design speed, etc.) should be pursued to reduce the impact to Section 4(f) properties.

Considering the potential magnitude of impacts, a *de minimis* determination is not anticipated and current Programmatic Evaluations would not apply to this project type. Thus, based on the anticipated costs of a project of this magnitude, it is assumed that any transportation project through the area would utilize federal transportation dollars and an Individual Section 4(f) Evaluation would be required. The documentation requires legal sufficiency review by FHWA's legal counsel. Finalization of the NEPA document and use of Section 4(f) property cannot proceed without FHWA approval (49 USC 303 [c]⁴¹).⁴²

Complete avoidance of Section 4(f) properties is not achievable within the study area as the Boatwright WMA is Section 4(f) protected and is unavoidable. Mitigation to offset impacts to this Section 4(f) protected property is likely but has not been quantified at the study level. Coordination with the KDFWR should occur to identify potential mitigation opportunities.

⁴¹ https://www.govinfo.gov/app/details/USCODE-2009-title49/USCODE-2009-title49-subtitleI-chap3-subchapI-sec303

⁴² https://transportation.ky.gov/EnvironmentalAnalysis/Environmental%20Resources/DEA%20Guidance%20Manual.pdf

5.8. Section 6(f)

Section 6(f) of the Land and Water Conservation Fund Act of 1965 (LWCF) establishes a grant program for states and local governments to acquire and develop public outdoor recreation sites and facilities. Section 6(f) protects property acquired or developed with assistance under LWCF from conversion to another use unless the US Department of Interior (DOI)/National Park Service (NPS) approves a replacement land of at least equal value, location, and usefulness.

A review of the Trust for Public Land/LWCF past projects mapping tool indicated the Cypress Creek National Wildlife Refuge received LWCF monies and would be protected by Section 6(f).⁴³ The refuge is avoided by the conceptual corridors.

Direct coordination with the Department of Local Government would need to occur for a future project to verify this is the only Section 6(f) protected property. If 6(f) properties were to be impacted and converted to a use other than recreation, in accordance with 36 CFR 59.3, ⁴⁴ the NPS would require that replacement lands of equal value, location, and usefulness be provided as a condition of approval.

⁴³ https://lwcf.tplgis.org/mappast/?fbclid=lwAR1bnUFm0LBu4abV1Y--3ZT9uL6cyGk10AhzTbLl1ZA47DTWavR7ZsNgzxA

⁴⁴ https://www.ecfr.gov/current/title-36/chapter-I/part-59

5.9. UST/Hazardous Materials

A *Phase I Environmental Site Assessment* (see **Appendix D**) was completed for the study area to document current and historical information about properties and surrounding areas within the project corridor in order to identify the presence of recognized environmental conditions (RECs). Environmental Data Resources Lightbox (EDR), a commercial provider of environmental risk information, provided the electronic review of applicable environmental database searches consisting of approximately 23 federal, state, and local records. Registered sites were identified. Field observations supplemented this research effort.

There are potential hazmat sites within either corridor. A future project should reevaluate the project area to satisfy all the requirements set forth in the provisions of the American Society for Testing and Materials' (ASTM) *Standard Practice for Environmental Site Assessments (ASTM E1527-13)* and compliant with the *Standards and Practices for All Appropriate Inquires (40 CFR Part 312)* to see if any the identified sites/properties of concern need further investigation.

5.10. Visual Impacts

"Aesthetics" refers to the visual qualities and scenic nature of an area. Studies show there can be individual and regional preferences over what qualifies as "scenic."

Either project corridor would primarily traverse preserved lands, which have few rural residential pockets. It is probable that these residents appreciate the rural, undisturbed, serene lands that surround their residences (**Figure 18**). These properties' viewsheds would drastically change should a new highway be constructed near them. It is expected that tree clearing and other habitat removal would be required to construct a new highway.



Figure 18. Representative Aerial Imagery of Kentucky Viewshed

Considering hundreds of acres of the conserved lands are dedicated to the preservation of nature and wildlife, as well as to recreation (e.g., hunting, fishing, hiking), these properties are not only scenic but also visually sensitive resources. Loss of or changes to habitat, the addition of lighting for a roadway, and other impacts would diminish the visual appeal of these lands for the public, but also have long-term consequences for the species that currently flock to this the mostly undisturbed area.

5.11. Construction Impacts

Build concepts would be anticipated to produce a beneficial short-term economic impact by stimulating the local economy in terms of construction-related jobs, sales, income, government revenue and expenditures, and other variables. Furthermore, it could be expected to produce a beneficial long-term impact by providing the necessary infrastructure for more efficient and safe mobility and improving access to the region.

Highway construction activities would also have temporary air, water quality, noise, and traffic flow impacts within the project area. A project would need to minimize or avoid these temporary impacts. Construction activities, including traffic maintenance and construction sequence, would be planned during the



Figure 19. Drone Aerial Imagery of Barges on Ohio River

final design phase, and scheduled to minimize traffic delays. The Ohio River experiences a large volume of barge traffic. Construction phasing should be coordinated with the barge industry to ensure the safe passage of cargo and safe construction of an Ohio River crossing.

Per KYTC policy, the local news media would be notified in advance of road closings and other construction-related activities that could excessively inconvenience residents, allowing motorists to plan travel routes in advance. Property access would be maintained to the maximum extent practical through controlled construction scheduling. Traffic delays would be controlled to the maximum extent possible where many construction operations are in progress simultaneously. The contractor would be required to designate detour routes or always maintain one-lane of traffic in each direction, and to comply with Best Management Practices. Given the ecology of the region, the wildlife refuge, and frequent flooding cycles, additional construction considerations would be required.

6. Agency Coordination & Public Involvement

Resource Agency coordination and public involvement activities conducted during the development of this study are described herein.

6.1. Resource Agency Coordination

The *Resource Agency Coordination Plan* (RAC Plan) prepared for the **US 60 Connectivity Study** is compliant with USC Title 23 Section 139,⁴⁵ the environmental review process as described in FHWA's environmental regulations 23 CFR Section 771,⁴⁶ and NEPA requirements.

The goal of the RAC Plan is to support efficient environmental reviews for project decision-making and comply with the *One Federal Decision Act of 2021*⁴⁷ *via the following steps:*

- Identifying the early agency coordination efforts to minimize potential duplication of planning and NEPA processes.
- Establishing the timing and form of agency involvement.
- Defining the purpose and need for the project.
- Determining the range of alternatives to be investigated.
- Reviewing environmental impact assessment methodologies and findings, as well as informing the study team of potential avoidance, minimization, and mitigation activities, as appropriate.
- Forming a strong line of communication between the study team and Resource Agencies to accelerate any subsequent environmental reviews and permitting processes.

The agencies invited to engage throughout course of the **US 60 Connectivity Study** are identified in **Table 8** (p.54). There were two hybrid meetings and a final online survey effort to review key study findings and provide feedback to the team.

⁴⁵ https://uscode.house.gov/view.xhtml?req=%28title:23%20section:139%20edition:prelim%29

⁴⁶ https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-771

⁴⁷ This bill provides statutory authority for the policy that requires federal agencies to coordinate environmental reviews and authorization decisions for major infrastructure projects.

6.1.1 Existing Conditions Review

In March 2023, the first RAC meeting was held in LaCenter (Zoom option) to introduce the Resource Agencies to the study and review existing conditions within the study area. Forty-three (43) Resource Agency representatives attended and were asked to help identify additional resources and associated requirements.

Key information was shared regarding land ownership, mitigation, and funding stipulations within the Boatwright WMA. Appropriate contacts and regulating agencies were updated based on feedback. Ecological concerns, archaeological potential, and conservation areas were discussed. This information informed the development of the initial study corridors.

6.1.2 KDFWR & USFWS

In August 2023, the study team met with the KDFWR and USFWS representatives in Frankfort, Kentucky, to discuss Boatwright WMA protections, specifically those regarding funds used, funding stipulations, replacement of hunting land requirements, and any other elements not already identified.

Funding information was provided to the project team. The process for working through mitigation for impacts to these public hunting lands, ecotourism impacts, and habitat impacts to the many species of greatest conservation need were discussed. Due to the magnitude of impacts, the statutory 1:1 mitigation requirement to offset public hunting land impacts would not likely offset project impacts. Should a project advance, coordination with KDFWR would be needed to determine what level of mitigation would be appropriate.

6.1.3 Initial Corridor Review

The second RAC meeting was held during August 2023 in LaCenter (Zoom option) to verify the environmental "red flags" and understand the benefits and impacts of potential initial corridors (Initial Corridor Concepts A, B, & C). Fourteen (14) resource agency representatives attended. Resource Agencies were asked to share their opinions on the project goals and objectives and initial corridors as presented. No surveys were returned. Constructability and flooding concerns were mentioned.

After the meeting, KDFWR shared additional information about the species and unique habitat present, ongoing work within the Boatwright WMA, and serious concern about the potential significant adverse impacts to fish and wildlife, public property, and the sportsmen and women of Kentucky.

The Boatwright WMA contains unique wetland and related wildlife resources, and offers the gold standard in opportunity for waterfowl hunters in Kentucky. In light of these considerations, we hope that other alternatives are pursued for enhancing transportation connectivity. ~Kentucky Department of Fish and Wildlife Resources

The USACE Louisville District Regulatory Division emphasized that a project should minimize impacts to aquatic resources, endangered species, and historic properties as much as possible. It was also noted that other planned area projects may be negatively impacted by the mitigation requirements of a project of this scale.

6.1.4 Refined Corridor Review

The final RAC occurred in January 2024 after results from the public engagement were available and included an email flyer update of study findings. An online survey was provided to encourage responses regarding the refined corridors. The purpose of this engagement was to collect Resource Agency opinions on potential Conceptual Corridor 1 and Conceptual Corridor 2's ability to meet study goals (enhance regional mobility, enhance economic development opportunities, and to remain sensitive environmental resources); preferred concept; and any avoidance, minimization, or mitigation efforts to be considered.

Eleven responses were received. The following Resource Agencies represented include:

- Ballard County Extension Office
- Kentucky Department of Fish & Wildlife Resources
- Kentucky Division of Water
- Kentucky Transportation Cabinet Division of Environmental Analysis
- U.S. Army Corps of Engineers
- U.S. Department of Agriculture Natural Resources Conservation Service
- U.S. Fish & Wildlife Service

Opinions on the ability of a relocated Ohio River crossing corridor to enhance economic development opportunities was divided. Most believe the relocation of the Ohio River crossing to the would enhance regional mobility but **would not** remain sensitive to environmental resources. The majority preferred the US 51 bridge replacement project advance to construction. If a corridor were to advance from this study, the Resource Agencies recommended the following avoidance, minimization, and/or mitigation efforts be considered:

- Outstanding State Resource Waters are present and mussel surveys should be completed for any concepts that advance.
- Avoidance of the Emergency Watershed Protection Program Floodplain Easements (EWPP-FPE) held by U.S. Natural Resources Conservation Service (NRCS).
- Complete avoidance of the study area was recommended, noting concern for the potential catastrophic negative effects to the ecology, specifically considering the interconnections of the wetland habitat and recreational public lands.
- Avoidance and minimization of impacts to aquatic resources, wildlife habitat, and historic/cultural resources. Specifically:
 - o Endangered Species habitats (forested, wetland, and riparian)
 - o Waters of the U.S. (rivers, streams, wetlands)
- Wetland/waterfowl habitat restoration and mitigation.

About half of the responses noted mitigation for the significant environmental impacts would be challenging, if even feasible.

Table 8. Resource Agencies

	Agency
Lead	Federal Highway Administration
	Kentucky Transportation Cabinet
	US Army Corps of Engineers, Regulatory and Property Branches
	US Fish and Wildlife Service
	US Coast Guard
	US Environmental Protection Agency
	Natural Resources Conservation Service
	National Park Service
	Federal Emergency Management Agency
	Kentucky Energy and Environment Cabinet
	Kentucky Department of Fish & Wildlife Resources
	KDFWR – Boatwright Wildlife Management Area
	Kentucky Geological Survey
	Kentucky Department for Environmental Protection
	Kentucky Heritage Council – Historic Preservation
	Purchase Area Development District
	Barlow House Museum Foundation
es	Illinois Department of Natural Resources
enci	Horseshoe Lake State Fish & Wildlife Area
Age	Illinois State Water Survey
Participating Agencies	Pulaski-Alexander Soil & Water
	Illinois Environmental Protection Agency
tici	Illinois Division of Water Resource Management
Pa	Illinois Historic Preservation Division

6.2. Public Involvement

A public information meeting was held Wednesday, November 29, 2023, in Barlow, Kentucky, and Thursday, November 30, 2023, in Cairo, Illinois, to share information and gather public feedback on the **US 60 Connectivity Study**. The open house format allowed attendees to view various exhibits and speak directly with KYTC representatives about the study.

Collectively, 331 people attended the meetings and each attendee was encouraged to submit their thoughts and feedback on the study. Attendees could submit written comment forms on-site at the meetings or mail the forms to the project team at a later date. Comment forms were also available for submission on the project's website, US60ConnectivityStudy.com. The public comment period for this study lasted through December 2023.

KYTC received 815 total responses about the project (251 Written Comment Forms, 504 Online Forms, 40 Emails/Letters/Website Submissions, 20 Elected Officials Comment Forms).

A significant portion of feedback came from non-property owners (70%). Most do visit the Kentucky portion of the **US 60 Connectivity Study** area for recreation (84%). Most submitting commentors did not think relocating the Ohio River crossing to this study area would enhance economic development opportunities or regional mobility. Instead, most (85%) favored advancing the US 51 Bridge Replacement project to construction rather than pursuing the routes listed in this study.

Additional comments against the **US 60 Connectivity Study** alternatives shared common themes concerning local wildlife preservation and recreational use within the study area (256 responses combined). Project cost and overall economic impact to the region were cited as a recurring negative theme in the additional comments section of the form (113 responses).

7. Future Environmental Recommendations

This section recommends future environmental analyses, coordination, permitting, and mitigation measures based the information available from this PEL process and the level of environmental studies already prepared.

7.1. NEPA Documentation

Considering the **environmental resources present**, the **potential for significant adverse impacts to the human and natural environment**, and **known public opposition**, should a major project advance from this study, the level of NEPA documentation is anticipated to be an **Environmental Impact Statement (EIS)**, resulting in a Record of Decision. **Supporting NEPA documentation** would likely include:

- Environmental Justice and Community Impact Analysis
- Air Quality Impact Analysis, including:
 - o Qualitative Mobile Source Impact Analysis
 - o Quantitative Greenhouse Gas and Climate Change Impact Analysis
- Traffic Noise Impact Analysis
 - Traffic Noise Impact to Wildlife Considerations
- Biological Assessment, likely resulting in a Biological Opinion
- Waters of the US Jurisdictional Determination
- Phase I Archaeology Survey. Considering the area's rich history and known sites, there is high potential for:
 - Phase II Archaeology Testing
 - o Phase III Data Recovery
- Historic Architectural Eligibility and Effects Analysis
- Individual Section 4(f) Evaluation
- Reevaluation of the UST Phase I Environmental Site Assessment

An EIS is the highest level of NEPA documentation. Federal agencies prepare an EIS if a proposed major federal action is determined to significantly affect the quality of the environment.

The regulatory requirements for an EIS are detailed and rigorous. The process begins with publication of a notice of intent (NOI) in the *Federal Register*, requires preparation of a Draft EIS (DEIS) and Final EIS (FEIS), and concludes with issuance of a Record of Decision (ROD). The FHWA and participating agencies would ultimately determine the range of alternatives and studies necessary for completion of an adequate evaluation. The items listed above have been identified by the study team and have not yet been coordinated with the FHWA or participating agencies.

In accordance with 40 CFR 1501.7, a future project would require an Environmental Scope Verification meeting with the FHWA to ultimately determine the appropriate scope. Environmental documents of this scale typically take multiple years to complete. Public involvement is a necessary component throughout this process, especially at key decision points.

7.2. Enhanced Public Involvement

In addition to the above assessments, **enhanced public involvement would be expected to navigate known public opposition and the EIS process.** This could include multiple public meetings and/or hearings, targeted educational/outreach efforts to concerned groups/organizations, Citizens' Advisory Committee meetings, Resource Agency Coordination meetings, stakeholder meetings, property owner meetings, newsletters, social media, and/or project website throughout the project development process. A project-specific *Public Involvement Plan* (PIP) would be necessary.

7.3. Enhanced EJ Coordination

The communities of Cairo and Wickliffe may be negatively impacted by a Build alternative if the US 51 bridge were to be closed. The closing of this connection could increase travel times to area resources and allow for these communities to be bypassed. In accordance with KYTC's 2021 Guidance for Environmental Justice Analysis, EJ-specific enhanced public involvement should occur to further understand impacts to these underserved populations and how they may be offset. This involvement should be tailored to effectively engage the EJ populations and it should be developed, implemented, and integrated into the project's PIP. Effective outreach may require a non-traditional approach or strategy. This strategy should consider access, timing, location, language, literacy, and the availability of technology. Consideration of employment shifts, childcare needs, public transit schedules, areas of frequent access, etc., may be appropriate.

7.4. Seasonal Survey Restrictions

Considering the project scale, setting, and potential impacts, a *Biological Assessment* would be required as part of the Section 7 ESA consultation process with the USFWS. Both the Kentucky and Illinois extent of this project study area is regulated by the USFWS Kentucky Field Office. This assessment would evaluate the potential effects of the project on federally listed species. There are **multiple seasonal survey restrictions and hunting seasons which would affect field assessment timeframes** (**Figure 16**, p.36). Since there is **potential for the project to adversely affect listed species**, a *Biological Opinion* would probably be required.

This review process would also add review times for project schedule considerations. From the date the lead federal agency (FHWA) initiates formal consultation, USFWS regulations allow up to 135 days for its issuance of the *Biological Opinion* (i.e., 90 days for consultation +45 days for preparation and submittal); however, any requests for additional information may temporarily pause this timeclock.

In addition to the Ohio River mainstem, its tributaries and connected backwater sloughs may also serve as suitable habitat conditions for freshwater mussel species. With the large expanse of the Ohio River system, an initial bathymetric survey may assist in identification of habitat potential and help guide the technical mussel survey's distribution of quantitative and qualitative efforts across the landscape to confirm less suitable areas and focus primary efforts towards areas displaying more suitable habitat conditions. With potential for migration between the Ohio River and perennial wetlands in flooding, selection of a survey area would need to be coordinated with the USFWS and may include focus on the Ohio River and its adjacent perennial tributaries.

A plane flyover survey would be recommended to identify all bald eagle nests and egret or heron rookies within the study area or corridor(s). Avoidance and minimization measures should be anticipated for any corridor actions that would occur in the vicinity of an eagle nest or known rookery.

7.5. Indirect and Cumulative Impact Analyses

In accordance with 40 CFR 1500-1508, indirect (secondary) and cumulative analyses should be considered for each environmental subject area. These analyses would be especially important for considering WMA impacts.

State Wildlife Action Plans, prepared by states and approved by USFWS, examine the health of wildlife and habitats in order to develop action items to conserve these resources before they become too rare or costly to protect. Each state identifies its own list of Species of Greatest Conservation Need (SGCN). Analyses of indirect and cumulative impacts to these state-protected species would likely also be required.

Kentucky

The KDFWR manages the *Kentucky State Wildlife Action Plan* (SWAP) via the Kentucky Comprehensive Wildlife Conservation Strategy (CWCS). The 2013 version of the SWAP lists approximately 300 species; however, the 2023 10-year planned update will increase the species listed to over 500 ⁴⁸ species, include expansion of existing categories, and add new species categories (insects and plants).

Illinois

The IDNR leads the *Illinois Wildlife Action Plan* (IWAP), which is comprised of two documents: the Illinois *Comprehensive Wildlife Conservation Plan and Strategy* and the *IWAP Implementation Guide*.

Key Terms

Indirect effects are caused by the action and are later in time or farther removed in distance but are reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the of land pattern population density growth rate, and related effects on air and water and other natural systems, including ecosystems.

Cumulative impact is the impact on the environment, which results from the incremental impact of the action when added to other past, present, and foreseeable reasonably future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

⁴⁸ July 2023. Kentucky Department of Fish and Wildlife Resources, personal communication.

7.6. Permits

The project would impact jurisdictional waters of the US. The anticipated permits from federal and state agencies are summarized herein. The Louisville District USACE Regulatory Branch would be the lead for federal permitting.

7.6.1 Section 9 Permit

Section 9 of the *Rivers and Harbor Act of 1899* requires authorization from the Secretary of the Army, via the US Coast Guard, for the construction of any bridges or causeways in or over any navigable water of the US. The Ohio River is a Section 9 Navigable Water; therefore, **a Section 9 permit is anticipated for this project.** The US Coast Guard would comment on the construction phasing and timeline as well as boater traffic and safety management.

7.6.2 Section 10 Permit

Section 10 of the *Rivers and Harbor Act of 1899* requires authorization from the Secretary of the Army via the USACE for the construction of any structure in or over any navigable water of the US. The Ohio River is designated as a Section 10 Navigable Water; therefore, **a Section 10 permit is anticipated for this project.** It is notable that the Section 10 permit is typically reviewed and issued by USACE in combination with the Section 404 permit.

7.6.3 Section 404 Permit

Jurisdictional waters of the US, including wetlands, are defined by 33 CFR Part 328.3, and are protected by Section 404 of the *Clean Water Act* (33 USC 1344), which is administered and enforced by the USACE. **A Section 404 permit will be required before dredged or fill material may be discharged into waters of the US.** An Individual Permit is likely based on current estimated impacts. This permit type requires USACE to post formal public notice with typically a 15- to 30-day comment period. Generally, USACE requires compensatory mitigation for impacts authorized under an Individual Permit.

7.6.4 Section 401 Permit

Section 401 permits for water resource impacts would be required from each state for the waters within their jurisdiction.

Kentucky

The KDOW is the Kentucky's certifying authority for *Clean Water Act* Section 401 Water Quality Certification (WQC). Based on the size of the Kentucky project corridor and water resources estimated, <u>a Kentucky Section 401 Individual Water Quality Certification is anticipated.</u>

Illinois

The Illinois EPA, Illinois Department of Natural Resources' Office of Water Resources (IDNR/OWR) is the state's certifying authority for *Clean Water Act* Section 401 WQC. Illinois EPA prefers initial review to occur via the USACE District Office, and only coordinates on projects acknowledged to require an Individual WQC from IDNR/OWR.

Interstate/Neighboring Jurisdictional Review

In accordance with the *Clean Water Act's* 401(a)(2) current regulation for Neighboring Jurisdictional Review, the USEPA is granted 30 days to determine whether a discharge "may affect" water quality in a neighboring state or authorized tribe. Where Illinois EPA has determined that a discharge from an activity subject to certification from another jurisdiction "may affect" their water quality, the neighboring jurisdiction has an opportunity to object to issuance of the license or permit and request a public hearing. It is recommended that Kentucky and Illinois state WQC entities are aware of the full project scope.

7.6.5 Section 408 Permit

A Section 408 permit would be required if a project were to alter a USACE Civil Works project (e.g., levee, dam, navigable waterway, property). Section 14 of the *River and Harbors Act 1899* has been amended and codified as 33 USC 408 (Section 408), which provides the USACE permission to grant another party access to alter or occupy a Civil Works project (infrastructure and/or property). This process⁴⁹ is an extra review that can be concurrent with the Section 404 permit process and included in the submittal for the Section 404 application.⁵⁰ The process results in a determination that the alteration proposed will not be injurious to the public interest and will not impair the usefulness of the previous investment.

⁴⁹ Section 408 Request links, https://www.lrl.usace.army.mil/Missions/Civil-Works/Levee-Safety/Alterations/.

⁵⁰ Contact info for Section 408, https://www.lrl.usace.army.mil/Missions/Regulatory/Obtain-a-Permit/Section-408/.

This process⁵¹ requires project and alteration descriptions, including drawings, sketches, maps, and plans that meet current USACE design and construction standards. Based on the complexity of the proposed project, a hydrologic and hydraulic system analysis would be required. Alteration to Civil Works project(s) is considered a federal action and subject to NEPA requirements and all applicable environmental laws. A Section 401 Water Quality Certification must be obtained prior to receiving Section 408 authorization. Maps depicting "existing real property" and "additional real property required" must be provided with the request. *Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual* requirements must be provided for the projected life of the alteration. There is also a public notice period that typically takes 30 days to complete. The four steps to the Section 408 permit review process are provided below for reference, as this is typically a lengthy process that should be planned for. Once a project's impacts are better understood, the need for a Section 408 permit should be determined as early as possible in the NEPA process.

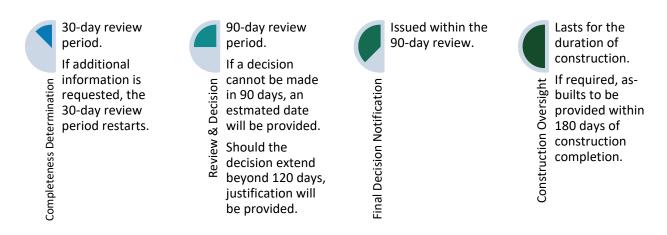


Figure 20. Section 408 Review Process

7.6.6 Stormwater Pollution Prevention Plan

With construction impacts greater than 1 acre, a *Stormwater Pollution Prevention Plan* (SWPPP) must be developed including an erosion and sediment control plan. <u>The SWPPP requires submission and approval by KDOW and/or IDNR.</u>

https://www.publications.usace.army.mil/Portals/76/Publications/EngineerCirculars/EC 1165-2-220.pdf?ver=2018-09-07-115729-890.

⁵¹ Section 408 Policy and Procedural Guidance,

7.6.7 USFWS Avian 'Take' Permit

Since the area primarily serves as waterfowl refuge and three bald eagles' nests were identified during this study effort, there is high potential that an avian 'take' permit would need to be acquired from the Secretary of the Interior via the USFWS Atlanta Office.

Coordination with KDFWR's avian staff is often required for development of avoidance and minimization measures or requests for a permit to take in regard to any bird species in Kentucky.

7.7. Mitigation Measures

Various mitigation measures would likely be required for unavoidable adverse impacts from a future project. They should be identified through coordination with governing resources agencies, representatives, and impacted persons/properties. Some suggested minimization and mitigation measures for a future project to consider are provided herein.

7.7.1 Mitigation Estimates

Preliminary compensatory estimates for tree, stream, and wetland impacts are provided for the refined corridors in **Table 9**. It is noteworthy that Kentucky is currently in initial development of a Kentucky-specific Stream Quantification Tool (SQT) which are similarly already available in numerous states across the US. **Based on the scale of this proposed project, it would be possible for a new mitigation tool and guidelines to become required.**

It is expected that there will be additional mitigation costs that cannot be quantified at the planning level. Adverse impacts to public hunting lands, the Boatwright WMA, ecotourism, other species protected under Section 7, NRHP-eligible properties, etc. may also likely require compensatory mitigation which could not accurately be defined without more thorough analyses and agency coordination.

Table 9. Estimated Mitigation Costs

	Corridor 1	Corridor 2
Tree Mitigation ¹	\$487,625	\$329,000
Stream Mitigation ²	\$6,111,054	\$4,764,816
Wetland Mitigation³	\$21,684,000	\$14,352,000
TOTAL	\$28,282,679	\$19,445,8116

- **1.** Imperiled Bat Conservation Fund Contribution Estimate using the 2020 Programmatic Agreement Equation: (# forested acres) * (# habitat rate multiplier) * (\$ standard land acreage value). Standard land acreage value is updated annually by USFWS and posted at \$4,700/acre as of August 1, 2023.
- **2.** Assumes All Waters have 'Average' quality rating Rapid Bioassessment Protocol (RBP) in low-gradient streams according to LDAP guidelines; additionally assumes 'Artificial Path' and 'Connector' water resources are jurisdictional WOTUS features. Based on 2023 KDFWR Fee In Lieu Of (FILO) Cost per Adjusted Mitigation Unit (AMU) Credit for Streams in the 'Jackson Purchase' Service Area. Stream Team Program Webpage Accessed October 23, 2023.
- **3.** Ratio Multipliers assumed based on past project coordination experiences within the Corps Louisville District. Based on 2023 KDFWR Fee In Lieu Of (FILO) Cost per Adjusted Mitigation Unit (AMU) Credit for Wetlands in the 'Jackson Purchase' Service Area. Stream Team Program Webpage Accessed October 23, 2023.

7.7.2 Environmental Justice

As discussed in **Sections 5.2.3** (p.27) and **6.5** (p.57) herein, EJ populations in the study area may be disproportionately impacted by either corridor project. Impacts may include residential relocations due to right-of-way acquisition, access constraints should the US 51 bridge be closed, disruption/loss of community cohesion, etc. Should a project advance from this study, avoidance, minimization, and mitigation commitments regarding these populations may be required. Additional coordination would be necessary to engage these populations and better understand impacts. In accordance with KYTC's *2021 Guidance for Environmental Justice Analysis*, **enhanced EJ public involvement** should occur and be tailored to effectively engage the EJ populations.

To minimize the unavoidable effects of right-of-way acquisition and displacement of people, the KYTC and IDOT offer a Relocation Assistance Program in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* (Public Law 91-646), as amended. Housing and relocation resources are made available to all residential and business relocatees without regard to race, creed, color, national origin, or economic status, as required by Title VI of the *Civil Rights Act of 1964*. In accordance with *Environmental Justice Executive Order 12898*, an analysis was conducted to identify any geographic areas containing disproportionately high concentrations of minority or low-income populations, presented in **Appendix A, Section 3.5** (pp.57).

If any of the community resources may be directly impacted, a goal would be to relocate them within the existing community to continue to provide those services.

The KYTC and IDOT provide advance notification of impending right-of-way acquisition. Before acquiring right-of-way, all properties are appraised based on their fair market value. Owners of property to be acquired are offered and paid fair market value for their property rights. No person lawfully occupying real property is required to relocate without written notice of the intended vacation date; and no residential property occupant is required to relocate until decent, safe, and sanitary replacement housing is made available. "Made available" means the relocatee has either obtained (and has the right of possession of) replacement housing on his/her own or the KYTC/IDOT has offered the relocatee decent, safe, and sanitary housing within his/her financial means and available for immediate occupancy. KYTC/IDOT have several options available to locate replacement housing, including:

- Relocating individuals into housing for sale on the real estate market, locally, regionally, or elsewhere.
- Repositioning dwellings on their existing property so they are outside the right-of-way limits.
- New house construction by the existing landowners.
- Advertisements in local media requesting to purchase housing meeting specific requirements.

The need for Last Resort Housing⁵² may arise, especially for low-income relocatees. This program would be used if comparable replacement housing is not available, or is unavailable within the displacee's financial means, and the replacement payment exceeds the state legal limitation.

Under the Relocation Assistance Program, a relocation specialist would be assigned to the roadway project to execute the relocation assistance and payments program. The relocation specialist would contact the owner of the property to be relocated to ascertain individual needs and desires. The specialist would provide information, answer questions, and aid in finding replacement property. Relocation services and payments would be provided without regard to race, color, religion, sex, national origin, or economic status. Relocated residents would receive an explanation regarding all options available to them, such as varying methods of claiming moving expenses reimbursement; replacement housing rental, either private or publicly subsidized; replacement housing purchase; or moving owner-occupied housing to another location. Financial assistance would be made available to the eligible relocatee for reasonable costs associated with moving, replacement housing, and other eligible expenses.

Should a project advance from this study, additional avoidance, minimization, and mitigation commitments regarding these populations may be required. Coordination with these impacted persons would be necessary to better understand impacts.

[&]quot;Last resort housing" is a program used when comparable replacement housing is not available or when it is unavailable within the displacee's financial means, and the replacement payment exceeds the state legal limitation. The purpose of the program is to allow broad latitudes in methods of implementation by the state so that decent, safe, and sanitary replacement housing can be provided. This program is used, as the name implies, only as a "last resort," when there is no adequate opportunity for relocation within the area.

7.7.3 Boatwright WMA Section 4(f)

Complete avoidance of Section 4(f) properties is not achievable within the study area as the Boatwright WMA is Section 4(f) protected and is unavoidable.

Assuming no feasible and prudent avoidance alternative exists, minimization efforts (alignment adjustments, commitments to off-season construction—this could consider recreational use and refuge timeframes, reduction of design speed, etc.) should be pursued to reduce the impact to Section 4(f) properties.

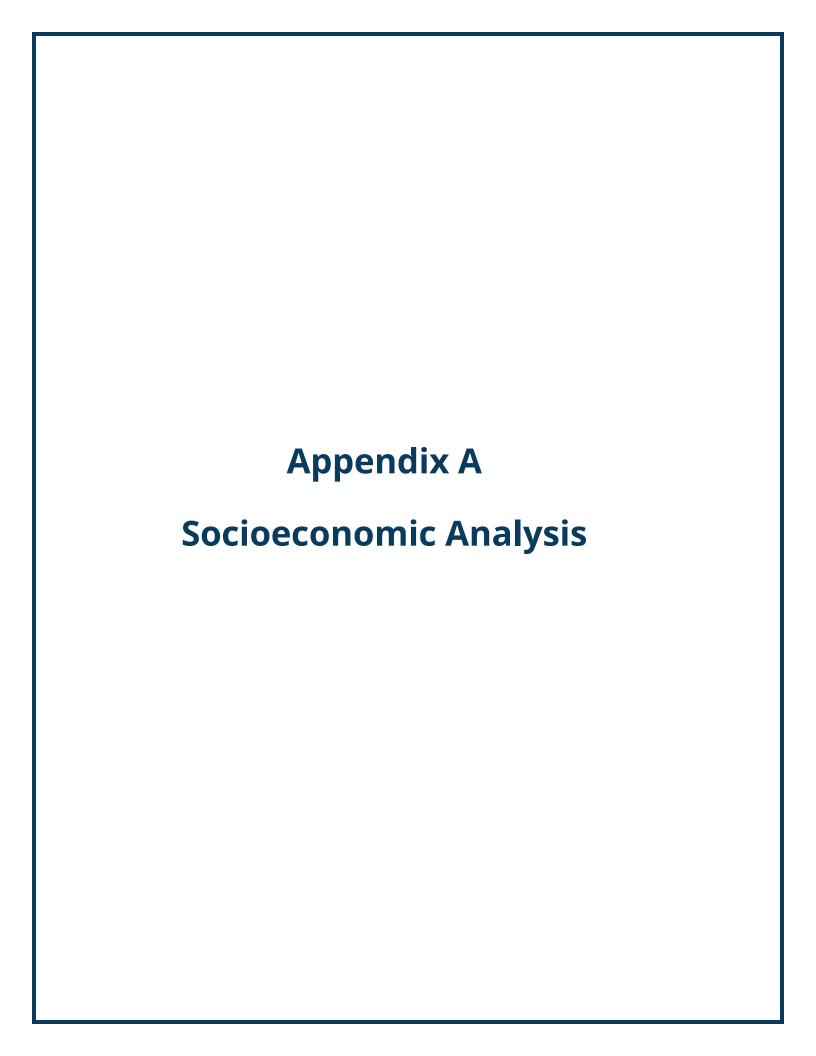
Mitigation to offset impacts to this Section 4(f) protected property is likely but has not been quantified at the study level. Mitigation should be relevant to the impact and may include one or more of the following measures, as approved by the FHWA:

- 1. Replacement of lands on which there is a Section 4(f) use with lands of at least comparable value, and of reasonably equivalent usefulness and location.
- 2. Replacement of facilities impacted by the project, including sidewalks, paths, benches, lights, trees, and other facilities.
- 3. Restoration and landscaping of disturbed areas.
- 4. Incorporation of design features and habitat features where necessary.
- 5. Payment of fair market value for the land.
- 6. Any additional measures recommended during consultation with the official with jurisdiction that are relevant to and commensurate with the impacts.

<u>Coordination with the KDFWR should occur to identify potential mitigation opportunities.</u> The cost of mitigation should be a reasonable public expenditure in light of the severity of the impact on the Section 4(f) resource.

7.7.4 Boatwright WMA Public Hunting Lands

Early coordination with KDFWR noted the statutory requirement of 1:1 replacement may not be sufficient to offset the adverse impacts to public hunting lands within the WMA. At the study level, replacement ratios and lands have not yet been identified. However, considering the quantity of impact this mitigation cost could be costly. Additional mitigation costs may be required for additional ecological-related factors such as loss of public hunting and fishing lands but are unable to be estimated at this time. Coordination with KDFWR should occur for potential project impacts.





Socioeconomic Analysis

US 60 Connectivity Study

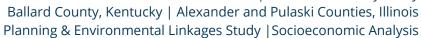
Item 1-80250

Prepared for:



Prepared by:







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1. Introduction

Kentucky Transportation Cabinet (KYTC) Item Number 1-80250, **US 60 Connectivity Study**, is being completed as a Planning and Environmental Linkages (PEL) study,¹ which takes a collaborative and integrated approach to the transportation decision-making process by considering potential environmental benefits and impacts during the planning phase.

The **US 60 Connectivity Study** will fully examine the feasibility, costs, and impacts of a potential extension of the US 60 corridor over the Ohio River. The intent is to determine if the development of a more direct linkage between US 60 at Barlow (Ballard County, Kentucky) and Interstate 57 (I-57) near Future City (Alexander County, Illinois) would offer more long-term value to the Commonwealth than the ongoing US 51 bridge replacement project (KYTC Item No. 1-1140) at Wickliffe, Kentucky (south of the **US 60 Connectivity Study** area).²

The intent of this *Socioeconomic Analysis* is to identify potential benefits and impacts (direct and indirect) to environmental resources, Environmental Justice (EJ) populations, and the local communities, which could influence the environmental, and overall, decision-making process. Future community outreach efforts, minimization, and mitigation opportunities are provided herein. In accordance with 23 USC 168,³ environmental studies completed during a PEL study may be adopted during a subsequent environmental review process.

1.1. Study Overview

The **US 60 Connectivity Study** area is primarily in Kentucky and encompasses 16,167 total acres as shown in **Figure 1**. The study is listed in Kentucky's current *Fiscal Year (FY) 2022–2028 Highway Plan* and described as "a planning study for extending US 60 from Barlow, Kentucky, west to I-57 near Future City, Illinois."⁴

¹ https://www.environment.fhwa.dot.gov/env_initiatives/PEL.aspx

² https://us51bridge.com/project-overview

³ https://www.fhwa.dot.gov/map21/docs/title23usc.pdf

⁴ https://transportation.ky.gov/Program-Management/2022%20Enacted%20Highway%20Plan/2022%20Enacted %20Highway%20Plan%20Combined%20Book%20June%2028%202022.pdf

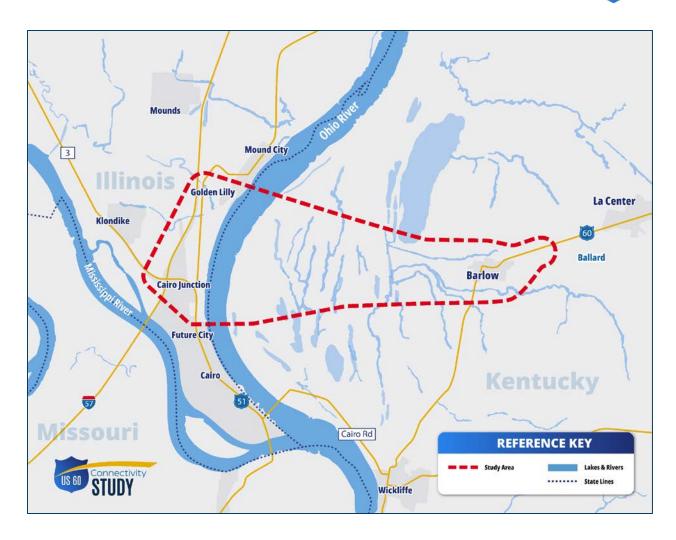


Figure 1. Study Area

South of the **US 60 Connectivity Study** area is ongoing KYTC Item No. 1-1140 to address the existing US 51 Ohio River Bridge crossing between Kentucky and Illinois. Its primary purpose is to:

- Rehabilitate or replace the deficient US 51 Ohio River Bridge.
- Maintain cross river connectivity between Wickliffe, Kentucky and Cairo, Illinois.
- Improve safety on the bridge and its approaches.

A northern corridor within the **US 60 Connectivity Study** area was considered during the US 51 bridge project's planning phase. However, it was eliminated because, while it maintained cross river connectivity between the states, the estimated travel times and distances were more than double those of the existing conditions and there were other viable options that better addressed the goals and objectives.



1.2. Goals and Objectives

Project goals and objectives are used to measure the effectiveness of proposed transportation system improvements. They identify the scope of a problem to be addressed by a project. The goals of a project within the **US 60 Connectivity Study** area are to:

- Enhance Regional Mobility
- Provide Economic Development Opportunities
- Remain Sensitive to Environmental Resources

1.2.1 Enhance Regional Mobility

As shown in **Figure 2**, several major freight generators are east and south of the study area along US 60 in Kentucky. US 60 currently provides the only east-west designated truck route west of Paducah, connecting to US 51 near the Ohio River at Wickliffe. The US 51 Ohio River Bridge carries 35% trucks. The current route, south to the US 51 bridge, hinders regional mobility:

- Travel times are increased by diverting south before traveling east-west. The existing US 51 connection between Barlow and I-57 is 17.5 miles long and the travel time is 24 minutes at the posted mph.⁵
- Travel speeds are reduced from 55 mph to 25 mph through Wickliffe and 30 mph through Cairo.

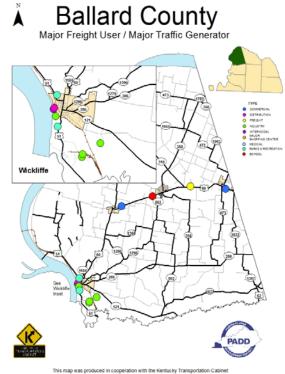


Figure 2. Traffic Generators

- o Approximately 1,400 semi-trucks travel through Wickliffe daily.
- Approximately 900 semi-trucks travel through Cairo daily.
- The vertical clearance (height of 14'-1") under three railroad bridges on US 51 in Cairo does not meet the currently recommended minimum 16' vertical clearance.

⁵ US 60 (Jim Ireland Road, Barlow, KY) to I-57 (Exit 1, Kessler Road, IL)

1.2.2 Provide Economic Development Opportunities

As shown in **Figure 3**, a more direct east-west connection would expand the accessible area within a 60-minute travel time, which could:

- Expand opportunities for available jobs and labor pool
- Increase accessibility for regional destinations
- Improve freight movement
- Improve access to developable land

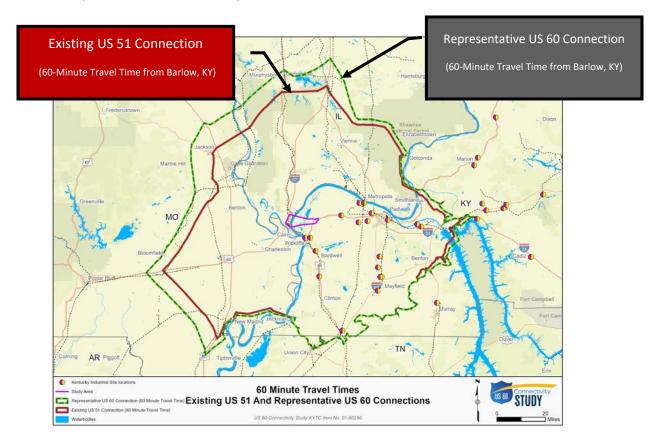


Figure 3. Radius of 60-Minute Travel Times for Existing US 51 and Representative US 60 Connection

1.2.3 Remain Sensitive to Environmental Resources

The study area encompasses a highly environmentally sensitive area; therefore, a future project should avoid, minimize, and mitigate, as warranted, project impacts to resources within the area. Coordination initiated with Resource Agencies during the planning phase should continue to inform project team decisions.

1.3. Purpose and Need

A project's *Purpose and Need* statement is developed by relying on the goals and objectives developed during the planning process.⁶ It may be further refined as more information is realized and through consultation with the public and other stakeholders. It is a living statement until a document required by the National Environmental Policy Act (NEPA) is signed. The purpose and need statement provides the merits of the project; by defining why the expenditure of public funds is necessary and worthwhile, the document allows decision makers to weigh the proposed action against the potential impacts.

This **US 60 Connectivity Study's** goals and objectives would inform a future project's purpose and need statement, which may evolve from this draft statement.

DRAFT PURPOSE & NEED STATEMENT

The **purpose** of the US 60 Connectivity project is to **improve regional mobility** by providing a more direct east-west cross river corridor between I-24 in Kentucky and I-57 in Southern Illinois.

Insufficient east-west mobility support the **need** for this project.

1.4. Logical Termini

A project's logical termini are rational end points for a transportation improvement (typically points of major traffic generation at intersecting roadways).

The eastern terminus would connect with US 60 near Barlow, Kentucky. The western terminus would be along I-57 north of Cairo, Illinois.

US 60 provides the only east-west designated truck route west of Paducah, Kentucky. It currently diverts south at Barlow, connecting to the US 51 Ohio River Bridge at Wickliffe, which provides the westernmost Ohio River crossing between Kentucky and Illinois.

⁶ https://www.federalregister.gov/documents/2016/05/27/2016-11964/statewide-and-nonmetropolitan-transportation-planning-metropolitan-transportation-planning



Kentucky has historically invested in roadway improvements along US 60. Ongoing projects include **KYTC Item #1-115.00, 1-115.10, and 1-118.00,** which collectively would reconstruct approximately 6 miles of US 60 near the Ballard/McCracken County line, from east of LaCenter to the existing four-lane section east of Kevil. Evolving from a planning study completed in 2001, this improvement is currently in the Right-of-Way and Utility phases. The FY 2022–2028 *State Highway Plan* has construction funds programmed in FY 2024.⁷

I-57 is the longest interstate highway in Illinois. It starts at the southernmost point of Illinois in Cairo, runs concurrently with US 51, and then parallels IL-37 as it travels north through the center of the state. Illinois has also been investing in improvements along I-57.⁸

2. Initial Study Concepts

Wide (2,000') initial corridors have been identified to serve as a screening tool for estimating potential impacts before refining corridors. Potential Build corridors would be considered along with the No-Build option.

2.1. No-Build

The No-Build option would involve no action to construct a new connection between US 60 at Barlow, Kentucky, and Future City, Illinois. The ongoing US 51 bridge replacement project at Wickliffe (south of the study area) would advance as currently planned.

2.2. Build

As shown in **Figure 4**, three initial study corridors have been identified, striving to avoid as many environmental features as possible. These corridors focus on areas where a roadway may be constructed within the 2,000-foot-wide buffers. The corridors are not indicative of right-of-way limits. This report was developed for the screening of the initial corridor concepts. The quantities and figures throughout represent the environmental resources within these initial concepts.

⁷ https://transportation.ky.gov/Program-Management/2022%20Enacted%20Highway%20Plan/2022%20Enacted %20Highway%20Plan%20Combined%20Book%20June%2028%202022.pdf

⁸ https://idot.illinois.gov/news/press-release.26002.html

Later in the study process, these locations were refined considering potential impacts and constructability, narrowing down to two potential **Build** concepts for better planning-level estimates. **Section 5** provides a summary of the reduced impacts of theses refined corridors.

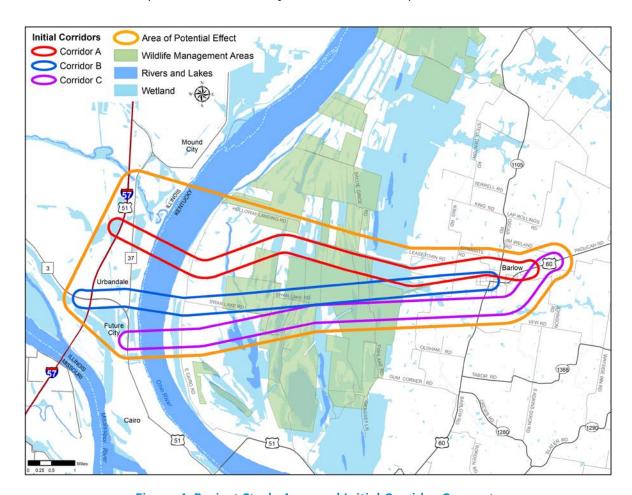


Figure 4. Project Study Area and Initial Corridor Concepts

Initial Corridor A | Northern Concept

Encompasses 2,317 acres and would provide the northernmost connection to I-57 in Illinois, between Urbandale and Golden Lily.

Initial Corridor B | Middle Concept

Encompasses 2,201 acres and would provide the most direct connection to I-57 in Illinois at existing Exit 1, between Future City and Urbandale.

Initial Corridor C | Southern Concept

Encompasses 2,395 acres and would provide the southernmost connection into Illinois near Future City.

3. Study Area Characteristics & Potential Impacts

Characteristics of the study area, including geography, land use, and the socioeconomic and demographic profiles, are detailed herein. Potential impacts to key land uses and community resources in, near, or potentially affected by the initial corridors are identified. Impacts may be able to be avoided or reduced as corridors are refined.

3.1. Geographical Characteristics

As shown in **Figure 6** (in red), Ballard County is in the Jackson Purchase region of far western Kentucky, at the confluence of the Ohio and Mississippi rivers. The county is bordered by the Ohio River to the north and the Mississippi River to the west. McCracken County forms its eastern



Figure 6. Ballard County Location Map

border and Carlisle County is to the south. Wickliffe, the county seat, is in the far



southwestern portion of the county. Of the county's 254 square miles,⁹ approximately 247 square miles is land.¹⁰

Figure 5 shows (in red) Alexander County as the southernmost county within Illinois. The Mississippi River borders it to the west and south. Its eastern border includes the Ohio River, Cache River State Natural Area, and Pulaski County. Its northern border abuts Union County. Cairo serves as the county seat. ¹¹ The county comprises 253 square miles, of which 236 square miles is land. ¹²

Figure 5. Alexander County Location

⁹ https://ballardcounty.ky.gov/Pages/default.aspx

¹⁰ https://www.kyatlas.com/21007.html

¹¹ https://alexandercounty.illinois.gov/about/

¹² https://en.wikipedia.org/wiki/Alexander County, Illinois



As shown in **Figure 7**, Pulaski County (in red) is directly east of Alexander County. The Ohio River borders it to the east and is in the portion of the state locally known as "Little Egypt." Its county seat is Mound City. The county encompasses 203 square miles, with land making up 199 square miles. By land area, it is the third smallest county in the state. ¹³

Figure 7. Pulaski County Location

3.2. Major Transportation Facilities

Major transportation facilities in the region include roads, riverports, airports, and railways. Other modes include bicycle and pedestrian facilities and transit services.

3.2.1 Roads

As shown in **Figure 8**, the primary regional routes in this portion of far western Kentucky include I-24 providing the primary east-west connection, and I-69 connecting this area to the north. In Missouri and Illinois, I-55 and I-57 provide north-south connections.



Figure 8. Regional Roadway Network

¹³ https://pulaskicountyil.net/index.html

Regarding the local road network in Kentucky, US 60/US 62 provides the primary east-west connection from Wickliffe to Paducah and farther east.

A representative future US 60 connection to the west is illustrated on **Figure 9**, with existing average daily traffic (ADT) shown on nearby routes. US 51 provides the primary north-south connection with an existing Ohio River crossing into Cairo, Illinois. US 60, US 62, and US 51 are two-lane routes, with lane widths varying from 11 to 12 feet and narrow shoulders. They are classified as rural prinicipal arterials on the National Highway System, and as state desginated truck routes with 40-ton gross vehicle weight limits. Near the Ohio River, US 51 is susceptible to flooding and the roadway shows signs of subsidence in areas where the embankment has been undercut by water.

In Illinois, US 51 provides the primary north-south connection in the study area. It is a principal areterial, has four lanes, and provides the main throughfare through Cairo, with approximately 2 miles of closely spaced, stop-controlled intersections in town.



Figure 9. Local Roadway Network

Any of the initial corridors would provide a more direct regional western connection via US 60.

3.2.2 River Ports

In 2019, Ballard, Carlisle, Hickman, and Fulton counties joined forces to create the Western Kentucky Riverport Authority, which replaced the Wickliffe-Ballard County Riverport Authority—a single-county effort to establish a port that has been ongoing since 1992.¹⁴ A goal of the Ballard County Economic Development and Industrial Board is to place their "region 'on the map' to attract new businesses…" ¹⁵ Several locations are being considered near the study area for this developing, public-private partnership port. ¹⁶

The Alexander-Cairo Port District's boundaries comprise all of Alexander County, Illinois. The port was created in 2010 and a conceptual site design and scoping study was published four years later. In 2020, the Illinois Legislature approved \$40 million toward planning, design, and construction of a new port terminal. ¹⁷ "Approximately 80% of all inland barge traffic in the United States passes through Cairo each year." ¹⁸

None of the initial corridors would intersect existing riverports.

3.2.3 Airports

Two airports serve the region. Barkley Regional Airport is located about 18 miles (approximate 20-minute drive) east of the study area via US 60 in west Paducah, Kentucky. It serves regional industries by providing one-stop connections around the world through Chicago. It is currently in the development stage of a new terminal that is anticipated to "be a catalyst for economic development and growth for the airport....fully putting the 'Regional' back into Barkley Regional Airport." ¹⁹

Cape Girardeau Regional Airport is about an hour's drive northwest of the study area via I- 57 and I-55. The airport provides daily direct service to Nashville. It recently opened a new taxiway and runway, and they announced a new terminal opening June 2024.²⁰

 $^{^{14}\,\}underline{\text{https://www.waterwaysjournal.net/2020/09/04/kentucky-counties-partner-for-port-project/}\\$

¹⁵ https://www.discoverballardcounty.com/ballard-economic-development/

¹⁶ https://transportation.ky.gov/MultimodalFreight/Documents/Western%20Kentucky%20Regional%20Riverport%20Authority.pdf

¹⁷ https://idot.illinois.gov/Assets/uploads/files/TransportationSystem/Reports/OP&P/Marine/2021/Alexander Cairo Port District Profile.pdf

¹⁸ http://illinoisports.org/project/cairo-port/

¹⁹ https://flybarkley.com/new-terminal/

²⁰ https://www.flycgi.com/

3.2.4 Railways

A Class I Canadian National (CN) railway provides a north-south international connection in the southwestern portion of the study area (**Figure 10**).²¹

Initial Corridor B would intersect this railway.

3.2.5 Bicycle & Pedestrian Facilities

In partnership with the Kentucky Cabinet for Health and Family Services

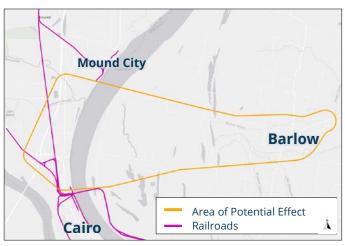


Figure 10. Canadian National (CN) Railway

and the Purchase District Health Department, the Kentucky cities of Barlow and LaCenter established a *Bicycle and Pedestrian Plan* in June 2022.²² These communities are connected via US 60 (Paducah Road) through rural, agricultural properties. Existing sidewalks are limited to the heart of downtown Barlow: many are disconnected, damaged, and/or were not designed to meet the Americans with Disabilities Act (ADA) standards. Barlow does not have multi-use paths or dedicated bicycle infrastructure. The city's plan recommends a shared-use path along US 60, through the heart of downtown Barlow, then north to LaCenter's downtown.

Sections of US 51 in Kentucky, outside of the study area, are part of statewide bicycle route, the Ramblin' River Tour, ²³ and the multi-state Mississippi River Trail. ²⁴ US 51 in Illinois is part of two National Scenic Byways within the study area: ²⁵ the Great River Road and the Ohio River Scenic Byway and the Mississippi River Trail. ²⁶

²¹ https://www.acwr.com/economic-development/rail-maps/canadian-national

²² https://www.purchaseadd.org/wp-content/uploads/2022/06/2022-06-06 Final Report BallardCounty Barlow-LaCenter.pdf

²³ https://transportation.ky.gov/BikeWalk/Pages/US-Bicycle-Routes-in-Kentucky.aspx

²⁴ https://www.trailsrus.com/biking/images/mississippi.jpg

²⁵ https://idot.illinois.gov/travel-information/tourism/scenic-byways.html

²⁶ https://rideillinois.org/maps/mississippi-river-trail-guide/

Initial Corridor A would intersect the Ohio River Scenic Byway and the Mississippi River Trail in Illinois. Initial Corridors B & C would intersect the Great River Road, Ohio River Scenic Byway, and the Mississippi River Trail in Illinois.

3.2.6 Transit

The Paducah Area Transit System (PATS) provides regional travel services to residents of Ballard, McCracken, and Marshall counties.²⁷ These include:

- Scheduled service Monday through Saturday, 5:00 a.m. to 6:00 p.m.
- ADA, paratransit service Monday through Saturday, 7:00 a.m. to 7:00 p.m.
- Barkley Regional Airport service between the airport and area hotels/motel, by 24hour advance reservation.
- Non-emergency medical transportation for Medicaid members with 72-hour advance reservation.
- Intercity feeder service to Barkley Regional Airport, Greyhound Terminal, Miller Trailways, or PATS terminal, Monday through Saturday, 4:00 a.m. to 6:00 p.m.

The Shawnee Mass Transit District (MTD) is a state and federally funded public transportation provider serving the five southernmost counties in Illinois, including Alexander, Johnson, Massac, Pulaski, and Union. These include:

- Three intercity routes serve the area from Cairo to Cape Girardeau, Carbondale, and Marion Monday through Friday with 24-hour advance reservation.²⁸
- Non-emergency medical transportation for hospital discharges, ER discharges, or medical appointments.
- Special trips as approved by the Trip Coordinator with a fee paid 48 hours in advance.

Since both transit entities service their respective states, and do not currently utilize the existing US 51 bridge, the initial corridors more direct connections would not be expected to affect these services.

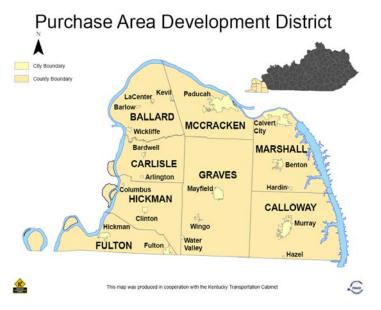
²⁸ https://shawneemtd.com/shuttle-routes

²⁷ https://www.paducahtransit.com/

3.3. Existing Land Uses

Ballard County is one of eight counties included in the Purchase Area Development District (PADD) (**Figure 11**).²⁹ The board of directors supports community infrastructure planning, economic development, and special projects to meet the current and future needs of the region.³⁰

With the exception of a bicycle plan—*Purchase District Health Department Active Living Bicycle and Pedestrian Plan*: Cities of Barlow and LaCenter, Ballard County, Kentucky (approved June 1, 2022)—the PADD has no planning and zoning, land use, or transportation plans for Ballard County. Aerial imagery and field reconnaissance revealed that, aside from Barlow, the study area in Kentucky is primarily undeveloped or agricultural.



*Source: Purchase ADD Regional Transportation Asset Inventory

Figure 11. Purchase Area Development District Boundary

²⁹ https://www.purchaseadd.org/local-government/regional-transportation-planning/

³⁰ https://www.purchaseadd.org/about-us/



Alexander County, Illinois, is more developed than Kentucky's study area, with several small residential communities as well as commercial and industrial developments—especially within the city of Cairo, south of the study area. Alexander and Pulaski Counties are two of the five counties included in the Southern Five Regional Planning and District Development Commission (Figure 12). This Economic Development District (EDD) administers funds, prepares grants, and provides technical assistance for land development to local governments.³¹ The 2021 Comprehensive Economic Development Strategy for the EDD was prepared to aid local officials in securing assistance to maximize regional benefits. Assisting local communities in zoning, land use planning, and comprehensive community planning is included in the strategy's plan of action. However, no local land use plans were identified for Alexander County.

This section explores potential land use impacts within the study area. This could include direct land use impacts, potential visual impacts, construction impacts, and tax and revenue impacts.



*Source: Illinois Association of Regional Councils

Figure 12. Southern Five District Development Commission

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³¹ http://www.southernfive.org/index.html

Recreation/Conservation

As shown in **Figure 13**, much of the study area is preserved for recreational or conservation purposes. Various protections are afforded to each, such as the two Natural Resources Conservation Service's Floodplain Easements (NRCS-FPE) and three Wetland Reserve Program Easements (NRCS-WRPE) in the study area.

Section 4(f) of the *U.S. Department of Transportation Act of 1966* (USDOT Act) provides for protection of park and recreation lands, and wildlife and waterfowl refuges during transportation project development. (See **Section 4(f) Process**, pp. 16-27.) Resources in the project area that would be considered for protection under Section 4(f) — as codified in 49 USC 303³² and 23 USC 138³³ and implemented by the Federal Highway Administration (FHWA) through 23 CFR 774³⁴— are Barlow Park, Axe Lake Swamp State Nature Preserve, Boatwright Wildlife Management Area (WMA), and Cypress Creek National Wildlife Refuge.

Table 1 summarizes potential acres of impacts by corridor to the NRCS easements and Section 4(f) resources.

³² https://www.govinfo.gov/app/details/USCODE-2009-title49/USCODE-2009-title49-subtitleI-chap3-subchapI-sec303

³³ https://www.govinfo.gov/app/details/USCODE-2011-title23/USCODE-2011-title23-chap1-sec138

³⁴ https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774



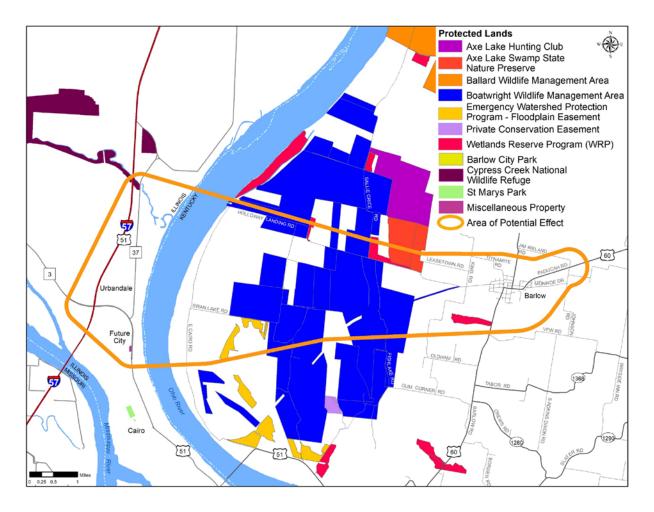


Figure 13. Protected Lands

Table 1. Corridor Impacts on Preserved Lands

Dyspowed Lands		Impact (acres)	
Preserved Lands	Corridor A	Corridor B	Corridor C
Axe Lake Swamp State Nature Preserve	0	0	0
Boatwright Wildlife Management Area	347	893	603
Cypress Creek National Wildlife Refuge	0	0	0
NRCS FPE 1052068 ¹	0	0	2
NRCS FPE 959343 ¹	0	2	66
NRCS WRPE 957664 ¹	0	0	0
NRCS WRPE 986308 ¹	0	0	0
NRCS WRPE 967117 ¹	0	0	68
Barlow City Park	0	0.35	0
Total Acres of Impact per Corridor	347	895.35	739

¹Unique Easement ID in National Conservation Easement Database, see exhibit Figure 22, p.34.

Section 4(f) Process

For a park, recreation area, or refuge to be protected under Section 4(f), all the following criteria must be met:³⁵

- It must be publicly owned.
 - o Public ownership includes local, state, or Federal government agencies.
 - o Public ownership can be any of the following types:
 - Fee Simple—the land is solely owned by the government agency.
 - Permanent Easement—the land is not necessarily owned by a government agency, but it possesses an easement for Section 4(f) activities.
 - Lease Agreement—similar to a permanent easement, but typically intended for long-term use.
- It must be opened to the public (except in certain cases for refuges).
 - o Access is permitted to the public (not select groups) during normal hours of operation.
 - A refuge does not have to provide unrestricted access to the public since it may be protecting sensitive areas or have specified restrictions only during certain times of the year for protection of refuge habitat and species.
- Its major purpose must be for park, recreation, or refuge activities.
- It must be significant as a park, recreation area, or refuge.

Before approving a project that **uses** Section 4(f) properties, FHWA must determine that there is no **feasible** and **prudent** avoidance alternative, and that the project includes all possible planning to minimize harm, or FHWA makes a **de minimis** impact determination.³⁶ When multiple alternatives use Section 4(f) properties and the evaluation of avoidance alternatives concludes that there is no feasible and prudent avoidance alternative, then FHWA may approve <u>only the alternative</u> that causes the **least overall harm** in light of the preservation purpose of the statute.³⁷

Any project concept within the study area would impact Section 4(f) protected properties. Considering the potential magnitude of impacts, a *de minimis* determination is not anticipated and current Programmatic Evaluations would not apply to this project type. Thus, based on the anticipated costs of a project of this magnitude, it is assumed that any transportation project through the area would utilize federal transportation dollars and an Individual Section 4(f) Evaluation would be required.

³⁵ https://www.environment.fhwa.dot.gov/env_topics/4f_tutorial/properties_parks.aspx

³⁶ https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774/section-774.17

³⁷ https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774/section-774.3



Individual Section 4(f) Evaluation

An Individual Section 4(f) Evaluation is processed in two phases—draft and final—both of which must be submitted to the FHWA Division Office or Federal Lands Division Office for review and approval.

Draft Section 4(f) Evaluation

The Draft Section 4(f) Evaluation analyzes the alternatives that avoid Section 4(f) property and determines if they are feasible and prudent. This document typically includes:

- Description of Proposed Action and Purpose and Need.
- Description of Section 4(f)
 Properties—this includes applicable existing clauses affecting ownership, such as leases, easements, covenants, restrictions, or conditions, including forfeiture.
- Description of Use and Impacts on Section 4(f) Property.
- Avoidance Alternatives.
- Minimization and Mitigation of Harm.
- Coordination—this includes coordination with the Official(s) with Jurisdiction, the Department of the Interior (DOI) (regional or local offices), and the Regional Office of the Department of Housing and Urban Development (HUD) and the Forest Supervisor of the affected national forest (as appropriate).

Section 4(f) Key Terms

- ➤ A **USE** occurs when: (1) land is permanently incorporated into a transportation project; (2) a temporary occupancy of land is adverse in terms of the statute's preservation purpose; (3) there is a constructive use (a project's proximity impacts are so severe that protected activities, features, or attributes of a property are substantially impaired).
- ➤ An alternative is **FEASIBLE** if it can be constructed as a matter of sound engineering.
- ➤ An alternative is **NOT PRUDENT** if: it compromises the project to a degree that is unreasonable to proceed with the project in light of its stated purpose and need; it results in unacceptable safety or operational problems; after reasonable mitigation, it still causes: severe social, economic, or environmental impacts; severe disruption to established communities; severe disproportionate impacts to minority or low income populations; or severe impacts to environmental resources protected under other Federal statues; it results in additional construction, maintenance, or operational cost of an extraordinary magnitude; it causes other unique problems or unusual factors; or it involves multiple factors previously listed—that while individually minor—cumulatively cause unique problems or impacts of extraordinary magnitude.
- ➤ For <u>publicly owned public parks</u>, recreation areas, and <u>wildlife and waterfowl refuges</u>, a **DE MINIMIS** impact is one that will not adversely affect the activities, features, or attributes of the Section 4(f) property. For <u>historic sites</u>, a **de minimis** impact means FHWA has determined (in accordance with <u>36 CFR Part 800</u>, regulations implementing Section 106 of the *National Historic Preservation Act*) either no historic site is affected by the project or the project will have "no adverse effect" on the historic site. A **de minimis** impact determination **does not** require analysis of feasible and prudent avoidance alternatives.
- ➤ **LEAST OVERALL HARM** is determined by balancing: the ability to mitigate adverse impacts to each Section 4(f) property; the relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection; the relative significance of each Section 4(f) property; the views of the official(s) with jurisdiction over each Section 4(f) property; after mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and substantial differences in costs among alternatives.



The draft evaluation is typically made available to the officials with jurisdiction, the DOI, and the other appropriate parties listed for coordination and comment for a period of 45 days. If comments are not received within 15 days of the comment deadline, a lack of objection may be assumed and the process may proceed to a Final Evaluation.

If any of these agencies raise issues during coordination, Section 4(f) requires follow-up coordination. While the regulation does not always stipulate that these issues be resolved successfully, reasonable efforts and good-faith attention by decision makers are called for.

Final Section 4(f) Evaluation

Section 4(f) has a considerable history of litigation. As such, the final Section 4(f) evaluation is subject to legal sufficiency review by FHWA's Office of Chief Counsel. Final evaluations include all information provided in the draft, and:

- Discussion of the Preferred Alternative.
- Basis for concluding that there are no feasible and prudent alternatives to the use of the Section 4(f) property.
- Basis for concluding that the proposed action includes all possible planning to minimize harm to Section 4(f) property.
- When there are no feasible and prudent alternatives that avoid use and multiple alternatives that use Section 4(f) property are under consideration, the Final Section 4(f) Evaluation must demonstrate that the preferred alternative causes the least overall harm of any alternative.
- The official coordination with the Headquarters Offices of the DOI (or appropriate agency under that department) and, as appropriate, the involved offices of the U.S. Department of Agriculture (USDA) and HUD, as well as evidence of continuing coordination with any other official(s) with jurisdiction.

Copies of all official coordination comments and a summary of other relevant Section 4(f) comments received, with an analysis and response to any questions raised. The documentation requires legal sufficiency review by FHWA's legal counsel. Finalization of the NEPA document and use of Section 4(f) property cannot proceed without FHWA approval (49 USC 303 [c]³⁸).³⁹

³⁸ https://www.govinfo.gov/app/details/USCODE-2009-title49/USCODE-2009-title49-subtitle1-chap3-subchap1-sec303

 $^{^{39}\,\}underline{\text{https://transportation.ky.gov/EnvironmentalAnalysis/Environmental\%20Resources/DEA\%20Guidance\%20Manual.pdf}$



Eminent Domain & Protected Properties

According to the Fifth Amendment to the *Constitution of the United States*, the government cannot seize **private property** without just compensation. ⁴⁰ Kentucky's eminent domain law (KRS 416.540) defines "condemn" as a "means to take **private property** for a public use...". ⁴¹ According to case law, a property already devoted to a public use usually cannot be taken for another public use that will totally destroy or materially impair or interfere with the former use. ⁴² Thus, because all the protected properties, except the NRCS conservation easements, are publicly owned and it is assumed a roadway through these conservation areas would interfere with the former use, **eminent domain could not be exercised to acquire the publicly owned lands**.

Axe Lake Swamp State Nature Preserve

The Axe Lake Swamp State Nature Preserve is a wetlands complex that supports at least eight rare plant and animal species in Ballard County. Situated in the northern portion of the study area, it is publicly owned by the Commonwealth's Office of Kentucky Nature Preserves and is locally known as "Barlow Bottoms." Access to it is by written permission only. Providing protection for a portion of Kentucky's best-known example of a large, intact bald cypress-tupelo swamp, ⁴³ the preserve is identified as a priority wetland in the *North American Waterfowl Management Plan*. ⁴⁴



Figure 14. Axe Lake Swamp

⁴⁰ https://constitution.congress.gov/constitution/amendment-5/

⁴¹ https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=45368

⁴² https://casetext.com/case/state-ex-rel-md-heights-etc-v-campbell

⁴³ https://eec.ky.gov/Nature-Preserves/Locations/Pages/Axe-Lake.aspx

⁴⁴ https://eec.ky.gov/Nature-Preserves/Locations/Pages/Axe-Lake.aspx



KHLCF

A portion (458 acres out of 3,000 total acres) of Axe Lake Swamp State Nature Preserve was purchased with Kentucky Heritage Land Conservation Fund (KHLCF) monies. These areas are managed by the Office of Kentucky Nature Preserves and are protected in perpetuity. ⁴⁵ This requirement is identified in Kentucky Revised Statute (KRS) 146.570 (3) ⁴⁶ for lands as defined in KRS 146.560. ⁴⁷

According to KRS 146.475, ⁴⁸ Kentucky State Nature Preserves are "...to be held in trust, in the name of the Commonwealth, for those uses and purposes expressed in KRS 146.410 to 146.530⁴⁹..." This statute further explains, "Said estates, interests, or rights held as nature preserves shall be managed and protected in the manner approved by, and subject to the rules and regulations established by the office, and they shall not be taken by another public body through eminent domain or otherwise for any other use, except after a finding by the office of the existence of an imperative and unavoidable public necessity for such other public use."

None of the initial corridors would impact the Axe Lake Swamp State Nature Preserve.

⁴⁵ https://eec.ky.gov/Nature-Preserves/Locations/Pages/Axe-Lake.aspx

⁴⁶ https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=47561

⁴⁷ https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=47560

⁴⁸ https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=47548

⁴⁹ https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=47554



Boatwright Wildlife Management Area

The Boatwright Wildlife Management Area (WMA) is publicly owned, primarily by the Kentucky Department of Fish and Wildlife Resources (KDFWR). Located in Ballard County, the WMA is composed of 8,847 acres and intersects the center of the study area. ⁵⁰ It is open to the public and has many access points for fishing, boating, and hunting. Some areas are closed from October 15 through March 15 to serve as a refuge for overwintering waterfowl. **Figure 15** shows the composition of land within the Boatwright WMA is primarily wetland and open land.

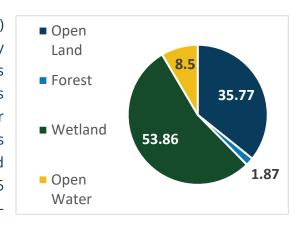


Figure 15. Land Types in WMA

Lands within the WMA are protected by various laws, funding stipulations, and land ownership, as displayed in **Figure 16**. There are 18 tracts within the WMA.

This section discusses all the WMA protections both inside and outside the study area.

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⁵⁰ https://app.fw.ky.gov/Public Lands Search/detail.aspx?Kdfwr id=222

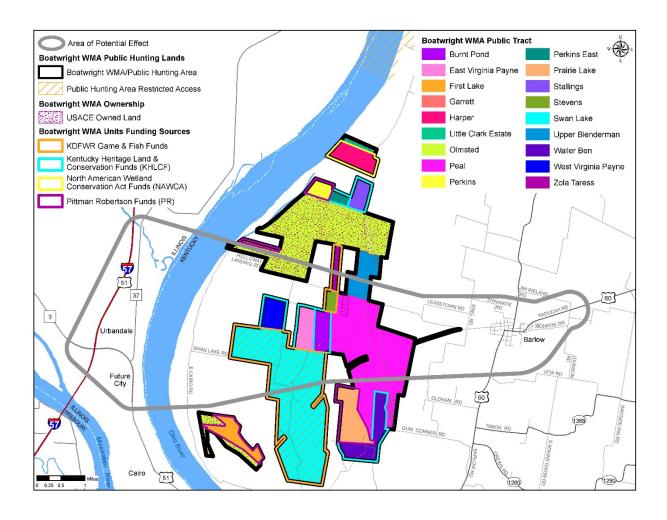


Figure 16. Tract Protections

Of the 18 WMA tracts in the WMA, 9 fall within the study area (**Figure 16**).

Table 2 highlights protections specific to the 9 study area tracts.

Table 2. Study Area Boatwright WMA Tracts

WMA Tract	Total Acres	Acres in Study Area	Year Acquired	Owner	Fund	Public Hunting	Deed Restriction or Easement
Olmsted	2,005	284	1955	USACE ¹	None Identified	Yes	None Identified
Zola Taress	100	40	1922	KDFWR	KDFWR Game & Fish Fund	Yes	None Identified
Upper Blenderman	308	120	1957	KDFWR	None Identified	Yes	None Identified
Peal	1,835	1,409	1957	KDFWR	None Identified	Yes	None Identified
Burnt Pond	192	192	2002	KDFWR	KHLCF	Yes	Perpetuity ²
East Virginia Payne	221	221	2004	KDFWR	KHLCF	Yes	Perpetuity ²
Swan Lake	2,299	1,055	1987	KDFWR	KDFWR Game & Fish Fund	Seasonally Restricted Oct. 15 – Mar.15 ³	None Identified
West Virginia Payne	205	205	2004	KDFWR	KHLCF	Yes	Perpetuity ²
Stevens	73	73	1994	KDFWR	KDFWR Game & Fish Fund	Yes	None Identified

¹Requires Section 408 Permit. ²Per KRS 146.570 protected in perpetuity. ³301 KAR 4:050 established use restrictions for this tract, noting it shall be closed to all public access from October 15 through March 15 to serve as waterfowl refuge.



KHLCF

Of the 8,847 acres in the Boatwright WMA, 1,432 acres (in seven tracts)⁵¹ were purchased by the Kentucky Heritage Land Conservation Fund (KHLCF) and are managed by the KDFWR.⁵² This fund is the primary source of state funding for the purchase and management of natural areas. Per KRS 146.560, the lands shall not be acquired using condemnation powers, and instead shall only be purchased from willing sellers.⁵³ These lands are typically used for nature preserves, state parks, state forests, wildlife management areas, environmental education areas, wild rivers, and wetlands.⁵⁴ Per KRS 146.570, each site is to be protected in perpetuity with a conservation easement or deed restriction.⁵⁵

Of the 9 tracts within the study area, 3⁵⁶ have received KHLCF funds.

USACE-Owned WMA Land

In accordance with the *Endangered Species Act*, 2,064 acres of the WMA's 8,847 acres were acquired by the U.S. Army Corps of Engineers (USACE) to mitigate impacts resulting from the Olmsted Dam project. KDFWR has a lease agreement with the Corps stipulating any impacts

to the mitigation areas would be subject to Corps approval and all applicable federal laws and regulations. A **Section 408** permit may be required should USACE-owned property be impacted.

One tract and one parcel within another tract⁵⁷ in the study area are owned by USACE.



Figure 17. Boatwright WMA

 $[\]frac{51}{\text{https://opengisdata.ky.gov/datasets/kygeonet::ky-heritage-land-conservation-fund/explore?location=37.039453\%2C-89.099000\%2C13.00}$

⁵² https://eec.ky.gov/Nature-Preserves/Locations/Pages/Boatwright-WMA.aspx

⁵³ https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=47560#:~:text=(i)%20One%20(1),in%20natural%20resources %20land%20acquisition.

⁵⁴ https://eec.ky.gov/Nature-Preserves/conserving natural areas/KHLCF/Pages/heritage-land-conservation-fund.aspx

⁵⁵ https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=47561

⁵⁶ Three tracts = Burnt Pond, East Virginia Payne, and West Virginia Payne

⁵⁷ One tract = Olmsted; One Parcel in Peal tract



Section 14 of the *River and Harbors Act 1899* has been amended and codified as **33 USC 408** (Section 408) which provides the USACE permission to grant another party access to alter or occupy a Civil Works project (infrastructure and/or property). This process ⁵⁸ is an extra review that can be concurrent with the Section 404 permit process and included in the submittal for the Section 404 application. ⁵⁹ The process results in a determination that the alteration proposed will not be injurious to the public interest and will not impair the usefulness of the previous investment.

This process⁶⁰ requires a project and alteration description, including drawings, sketches, maps, and plans which meet current USACE design and construction standards. Based on the complexity of the proposed project, a hydrologic and hydraulic system analysis may be required. Alteration to Civil Works project(s) is considered a federal action and subject to the NEPA and all applicable environmental laws. A Section 401 Water Quality Certification must be obtained prior to receiving Section 408 authorization. Maps depicting existing real property and additional real property required must be provided with the request. *Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual* requirements must be provided for the projected life of the alteration. There is also a public notice period that typically takes 30 days to complete. The four steps to the 408 review process is provided below.

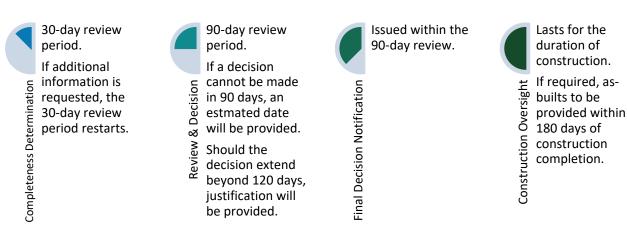


Figure 18. Section 408 Review Process

⁵⁸ Section 408 Request links, https://www.lrl.usace.army.mil/Missions/Civil-Works/Levee-Safety/Alterations/.

⁵⁹ Contact info for Section 408, https://www.lrl.usace.army.mil/Missions/Regulatory/Obtain-a-Permit/Section-408/.

⁶⁰ Section 408 Policy and Procedural Guidance, https://www.publications.usace.army.mil/Portals/76/Publications/EngineerCirculars/EC 1165-2-220.pdf?ver=2018-09-07-115729-890.



Pittman-Robertson Wildlife Restoration Act Funds

Monies provided through the *Pittman-Robertson Wildlife Restoration Act of 1973* (16 USC 669⁶¹) reallocate the proceeds of an excise tax on firearms to state wildlife agencies. These funds can be used for Wildlife Restoration Programs, Basic Hunter Education and Safety Programs, and Enhanced Hunter Education and Safety Programs. In accordance with 50 CFR 80, if a grant funds the acquisition of an interest in a parcel of land or water, KDFWR must use the land/water for the purpose authorized in the grant. 50 CFR 80.135 further specifies:

- If the State fish and wildlife agency [KDFWR or IDNR] allows a use of real property that interferes with its authorized purpose, the agency must **fully** restore the real property to its authorized purpose.
 - If the agency cannot fully restore the real property, it must replace the real property using non-federal funds.
 - The agency must determine that the replacement property is
 of at least equal value at current market prices; and has
 fish, wildlife, and public use benefits consistent with the
 purposes of the original grant.
 - The agency may have a reasonable time, up to three years, from the date of notification by the Regional Director, to restore the real property or acquire replacement property.
 - If the agency does not meet this requirement within three years, the Director may declare the agency ineligible to receive new grants in the program.⁶²

While *Pittman-Robertson* funds have been used within four tracts of the WMA, **none of the tracts within the study area have received these funds.**

⁶¹ https://www.govinfo.gov/content/pkg/USCODE-2020-title16/pdf/USCODE-2020-title16-chap5B.pdf

⁶² https://www.ecfr.gov/current/title-50/chapter-I/subchapter-F/part-80

North American Wetland Conservation Act (NAWCA) Grants

Under 16 USC 4401, the *North American Wetland Conservation Act* (NAWCA) authorizes federal grants to protect, enhance, restore, and manage waterfowl, migratory birds, other fish and wildlife, and wetland ecosystems consistent with the *North American Waterfowl Management Plan*.⁶³ When a project uses a NAWCA grant to acquire property, either a conservation deed or easement with a term of 10 years (or the maximum duration allowed by state law) is applied regardless of federal monies, match monies, or an in-kind contribution used. The property may not be sold without the approval of the Division of Bird Habitat Conservation (DBHC).⁶⁴

Five NAWCA grants have been used in Ballard County⁶⁵ and one was awarded to the WMA. **However, none were used within the study area.**

KDFWR Game and Fish Fund

KDFWR revenues are provided through licenses and permits for fishing, hunting, boating, and trapping.⁶⁶

Three⁶⁷ of the four WMA tracts within the study area were acquired with KDFWR Game & Fish Funds.

⁶³ https://www.fws.gov/service/north-american-wetlands-conservation-act-nawca-grants-us-standard

⁶⁴ https://www.fws.gov/sites/default/files/documents/grant-standards-for-nawca-and-nmbca-us.pdf

⁶⁵ https://epermits.fws.gov/grantsum/gsQuery

⁶⁶ https://fw.ky.gov/More/Pages/About-Us.aspx

⁶⁷ Three tracts = Stevens, Swan Lake, and Zola Taress



Public Hunting Lands

As shown in **Figure 19**, the **entire Boatwright WMA is public hunting lands**. ⁶⁸ Seasonal restrictions occur when some areas serve as waterfowl refuge from mid-October to mid-March. ⁶⁹ In total there are 3,600 acres of public hunting lands within the study area.

No Net Loss

Per KRS 150.0241(6), Kentucky has a "No Net Loss" policy that requires states to "maintain at least the same level of available public hunting land that currently exists." This statute further states:

Commission land management decisions and actions, including decisions made by private owners to close land managed by the commission, shall not result in any net loss of habitat land acreage available for hunting opportunities on commission-managed lands that exists on July 15, 2010. The commission shall **expeditiously find replacement acreage** for hunting to compensate for closures of any existing hunting land. Replacement **lands shall, to the greatest extent possible, be located within the same commission district and shall be consistent with the hunting discipline that the commission allowed on the closed land...State agencies shall cooperate with the commission to open new, additional hunting lands to replace lost hunting acreage. Lands officially designated as units within the state park system may be considered for replacement hunting lands and may be open for hunting when necessary as a wildlife control or management tool as determined by the Department of Parks....No agency shall subdivide land it owns or manages into parcels under fifty (50) acres in an attempt to avoid compliance with the provisions of this section.⁷¹**

⁶⁸ https://fw.ky.gov/More/Documents/Boatwright_waterfowl.pdf

⁶⁹ https://app.fw.ky.gov/Public Lands Search/detail.aspx?Kdfwr id=222

 $^{^{70} \}frac{\text{https://apps.legislature.ky.gov/CommitteeDocuments/262/20784/Oct%2020%202022%20KDFWR\%20No}{\%20Net\%20Loss\%20of\%20Hunting\%20Land\%20Report.pdf}$

⁷¹ https://apps.legislature.ky.gov/law/Statutes/statute.aspx?id=52187

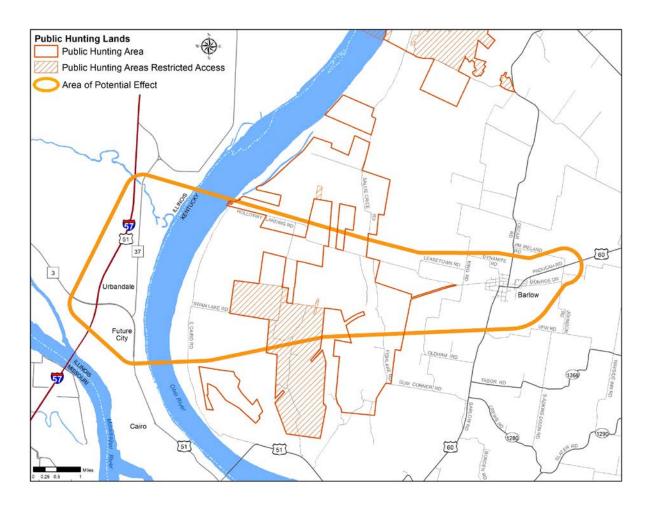


Figure 19. Public Hunting Lands

As the Boatwright WMA intersects the central portion of the study area, impacts to it would be unavoidable. All three corridor concepts (A, B, and C) would impact the WMA. Coordination with the KDFWR and USACE should occur for potential project impacts within each agency's jurisdiction. All the WMA lands would be Section 4(f) protected and Kentucky's "No Net Loss" law would apply to these public hunting lands. Several types of funding stipulations follow.

Cypress Creek National Wildlife Refuge

Authorized in 1990 under the *Emergency Wetland Resources Act of 1986*,⁷² the Cypress Creek National Wildlife Refuge is publicly owned and managed by United States Fish and Wildlife Service (USFWS). The refuge is in Alexander County and intersects the far northwestern portion of the study area. It serves to restore habitat for a number of species and provides the public an opportunity to experience Cache River Wetlands.⁷³ Under the *Convention of Wetlands* treaty,⁷⁴ this refuge is a part of the RAMSAR Wetland of International Importance.⁷⁵ The mission for the Convention's *Fourth Strategic Plan* for 2016-2024 is shown in **Figure 20**.⁷⁶

The Mission of the Ramsar Convention: Conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.

To achieve this Mission it is essential that vital ecosystem functions and the ecosystem services they provide to people and nature are fully recognized, maintained, restored, and wisely used.

Figure 20. Mission of Ramsar Convention

The refuge provides habitat for numerous wildlife species, including endangered Indiana bats (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), proposed endangered tricolored bat (*Perimyotis subflavus*), and it serves as a winter feeding and resting area for waterfowl.⁷⁷ The refuge will eventually encompass 35,000 acres. The refuge is open to the public and allows hunting.⁷⁸

⁷² https://www.govinfo.gov/app/details/USCODE-2017-title16/USCODE-2017-title16-chap59-subchapl-sec3901/summary

⁷³ https://www.fws.gov/refuge/cypress-creek

⁷⁴ https://www.ramsar.org/about-the-convention-on-wetlands-0

⁷⁵ https://rsis.ramsar.org/ris/711

⁷⁶ https://www.ramsar.org/about/the-convention-on-wetlands-and-its-mission

⁷⁷ https://www.fws.gov/refuge/cypress-creek/species

⁷⁸ https://www.fws.gov/sites/default/files/documents/CypressCreek Hunt22 %28Online%29.pdf



Land and Water Conservation Funds Act

Land and Water Conservation Funds (LWCF) Act of 1965 has been the source of funds to purchase easements for the refuge and areas that have received this funding are protected under Section 6(f) of the LWCF Act. ⁷⁹ Coordination with the Department of Local Government would need to occur if this land were to be impacted and converted to a use other than recreation. In accordance with 36 CFR 59.3, ⁸⁰ the National Park Service would require that replacement lands of equal value, location, and usefulness would be provided as conditions to approve a land conversion.



Figure 21. Cypress Creek National Wildlife
Refuge

None of the initial corridors would impact the Cypress Creek National Wildlife Refuge.

NRCS Emergency Watershed Protection Program - Floodplain Easements

Predominantly located in the southwest portion of the study area in Ballard County, a few areas were supported by the Natural Resources Conservation Service's (NRCS) federal Emergency Watershed Protection Program (EWPP) (see **Figure 22**). This program aids local communities in recovery after disaster strikes, including the purchase of floodplain Easements. ⁸¹ These easements are held by the United States through the Secretary of Agriculture and are perpetual. ⁸² Early coordination with the NRCS noted potential future easements within the study area.

Initial Corridors B and C would intersect the protected floodplains.

⁷⁹ https://lwcf.tplgis.org/mappast/?fbclid=IwAR1bnUFm0LBu4abV1Y--3ZT9uL6cyGk10AhzTbLI1ZA47DTWav R7ZsNgzxA

⁸⁰ https://www.ecfr.gov/current/title-36/chapter-I/part-59

⁸¹ https://www.nrcs.usda.gov/programs-initiatives/ewp-emergency-watershed-protection

⁸² https://www.nrcs.usda.gov/wps/cmis_proxy/https/ecm.nrcs.usda.gov%3A443/fncmis/resources/WEBP/ContentStream/idd 4080526C-0000-C716-98A6-A42061C7D2F6/0/OpenNonWebContent.pdf

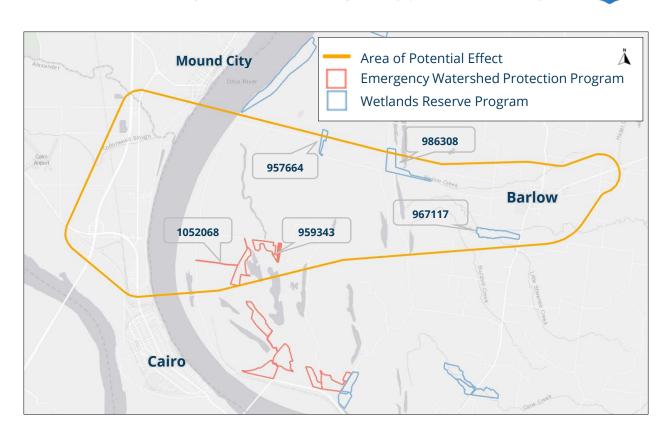


Figure 22. NRCS Conservation Easements

FPE 1052068

These linear areas, totaling three acres, are privately owned, closed to the public, and held in a permanent easement.⁸³ They appear to provide access to FPE 959343 via E Cairo Road

to the west and Swan Lake Road to the north.

Corridor C would impact 2 acres of this easement.



Figure 23. NRCS Floodplain Easement 1052068

⁸³ https://www.conservationeasement.us/adv-search/query/id/1052068

FPE 959343

Established in May 2010, this permanent easement is south of Swan Lake Road. The easement, which is composed of several parcels totaling 122 acres, is privately owned and closed to the public.⁸⁴



Figure 24. NRCS Floodplain Easement 959343

Corridors B and C

would both impact this easement, with Corridor C having higher impacts (66 acres) than Corridor B (2 acres).

NRCS Wetlands Reserve Program

As a component of the Agricultural Conservation Easement Program, NRCS Wetland Reserve Program Easements (WRPE) help to restore, protect, and enhance wetlands. There are several options for enrollment:⁸⁵

- **Permanent Easements**—Conserved in perpetuity. NRCS pays 100% of the easement value and between 75-100% of the restoration costs.
- **30-Year Easements**—Expire after 30 years. NRCS pays 50-75% of the easement value and restoration costs.
- **Term Easements**—Are for the maximum duration allowed under applicable state laws. NRCS pays 50-75% of easement value and restoration costs.
- **30-Year Contracts**—Only available to enroll acreage owned by Native American tribes and program payment rates are commensurate with 30-Year easements.

The three NCRS WRP Easements within the study area are on privately owned properties. Two of the easements are in the northern portion of the study area, north of Holloway Landing Road. The third easement is in the eastern portion of the study area.

⁸⁴ https://www.conservationeasement.us/adv-search/query/id/959343

⁸⁵ https://www.nrcs.usda.gov/programs-initiatives/wre-wetland-reserve-easements



WRPE 957664

North of Hollow Landing Road, this permanent easement was established in 2008, includes 20 acres, and is privately owned.⁸⁶

No initial corridors would impact this easement.



Figure 25. NRCS Wetland Reserve Program Easement 957664



Figure 26. NRCS Wetland Reserve Program Easement 986308

WRPE 986308

North of Hollow Landing Road and east of Sallie Crice Road is a permanent easement that covers 79 acres, was established in 2014, is privately owned, and is closed to the public.⁸⁷

No initial corridors would impact this easement.

WRPE 967117

Established in 2010 west of US 60, between Little Shawnee Creek and Shawnee Creek, this 72-acre permanent easement is closed to the public and privately owned.⁸⁸

Corridor C would impact 68 acres of this easement.

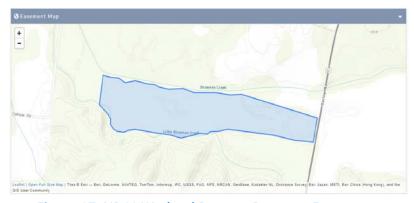


Figure 27. NRCS Wetland Reserve Program Easement

⁸⁶ https://www.conservationeasement.us/adv-search/query/id/957664

⁸⁷ https://www.conservationeasement.us/adv-search/query/id/986308

⁸⁸ https://www.conservationeasement.us/adv-search/query/id/967117



Barlow City Park

Barlow City Park is in the heart of Barlow, Kentucky, on the corner of North 4th Street and Lake Drive. Also known as Frances Meriedeth Park, ⁸⁹ it is owned by the city and open to the general public, primarily as a recreational area for children. ⁹⁰ This park provides a pavillion with picinic tables, swing set, and playground. **Figure 28** and **Figure 29** show the park's amenities and its location, respectively.



Source: Google Maps, Imagery date December 2015 **Figure 28. Barlow City Park**



Source: https://www.mapquest.com/us/kentucky/barlow-city-park-481889819

Figure 29. Location of Barlow City Park

Initial Corridor B would impact 0.35 acre of Barlow City Park. Coordination with the City of Barlow would need to occur to further understand impacts and how to offset them.

Miscellaneous Property - Illinois Department of Natural Resources (IDNR)

In Future City, a miscellaneous-use property (not preserved land) is open to the public and managed by IDNR.

Corridor C would impact approximately 3 acres of the property.

⁸⁹ https://cityofbarlow.nexbillpayonline.com/frances-meriedeth-park/

⁹⁰ https://www.discoverballardcounty.com/barlow-ky/

3.3.1 Agricultural

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey mapping was reviewed to identify soil farmland classifications in the study area. As shown in **Figure 30**, a quarter of the study area is classified as prime farmland (11%) or statewide important farmland (14%). About 35% of the study area is classified as not prime farmland. The remaining 30% of the study area would be considered prime farmland if protected from flooding or drained. However, this area is frequently flooded and consists primarily of wetlands. No Purchase of Agriculture Conservation Easements (PACE) or agricultural districts were identified in the study area. Farmland classifications by county are listed in **Table 3**.

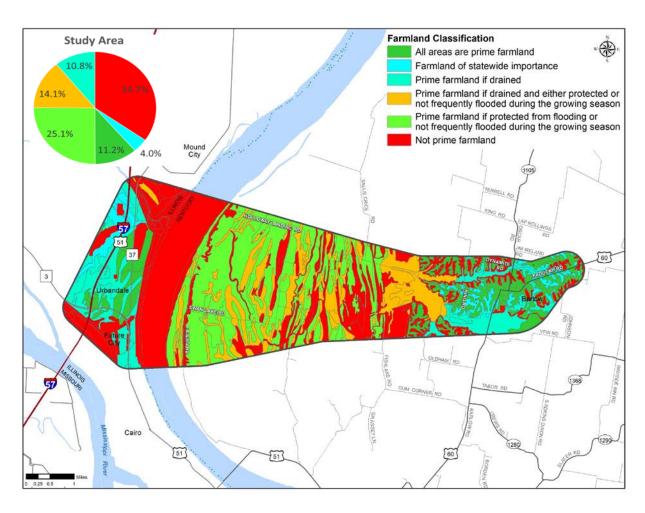


Figure 30. Farmland Classifications



Table 3. Study Area Farmland Classifications by County

Farmland Classification	Ballard	Alexander	Pulaski	Total
Not prime farmland	26.0%	6.3%	2.4%	34.7%
Farmland of statewide importance	2.3%	1.7%	0.0%	4.0%
All areas are prime farmland	8.0%	3.2%	0.0%	11.2%
Prime farmland if protected from flooding	25.1%	0.0%	0.0%	25.1%
or not frequently flooded during the				
growing season				
Prime farmland if drained and either	13.9%	0.0%	0.2%	14.1%
protected from flooding or not frequently				
flooded during the growing season				
Prime farmland if drained	3.7%	7.1%	0.0%	10.8%
Total	79.0%	18.3%	2.6%	99.9%

Farmland classification types present within each initial corridor are summarized in **Table 4**. While these corridors are representative of general alignments only, **Initial Corridor B** would impact the highest amount of prime farmland and Initial Corridor C would impact the least. Formal consultation with the USDA-NRCS for compliance with the *Farmland Protection Policy Act of 1981* would be required for a future project, should a Build corridor be recommended.

Table 4. Farmland Classifications by Initial Corridors

	Corri	dor A	Corri	dor B	Corri	dor C
	Acres	%	Acres	%	Acres	%
Not Prime Farmland	662	29%	560	25%	776	32%
Farmland of Statewide Importance	76	3%	74	3%	130	5%
All Areas are Prime Farmland	323	14%	385	17%	301	13%
Prime farmland if protected from flooding or not frequently flooded during the growing season	656	28%	508	23%	510	21%
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	449	19%	528	24%	306	13%
Prime farmland if drained	149	6%	145	7%	372	16%
Total	2,315	100%	2,200	100%	2,395	100%

3.3.2 Commercial, Institutional, & Industrial

Within the study area in Kentucky, small businesses are concentrated in Barlow including professional services, medical services, lumber supply companies, professional offices, a convenient store, a variety store, etc. LaCenter is less than 2 miles northeast of the project area, which provides more businesses and restaurants.⁹¹

According to the Ballard County Strategic Economic Development Action Plan, *20/20 Xtreme*, a significant portion of the employment in this area comes from small businesses, which are very easily affected by economic downturns, booms, and economic changes. Over 55% of the businesses in the county have fewer than five employees.⁹²

The Ballard County Economic Development and Industrial Board assists start-up businesses in Ballard County and supports the Kentucky Great River Road Organization (KYGRRO). The KYGRRO promotes small business and tourism in the four Kentucky counties along the Mississippi River, including Ballard. ⁹³ The West Kentucky Technology Park covers 16 acres just east of the US 60/KY 473 intersection at Kevil, making it the largest functioning industrial park in the county. Kevil is located less than 8 miles east of the study area. ⁹⁴

Within the study area in Illinois, there are several businesses between Future City and Urbandale, including a hotel, Dollar General, Farrow Lumber Company, Ready Mix Solutions, and American Commercial Barge Line. The American Commercial Barge Line is one of the largest and most diversified marine transportation companies in the US, transporting dry and liquid cargoes throughout the 7,200 miles of inland US waterways.⁹⁵

Several businesses also line US 51 in Cairo, Illinois, southwest of the study area, and to the northeast in Mounds City, Illinois.

⁹¹ https://www.discoverballardcounty.com/la-center-ky/

⁹² https://www.discoverballardcounty.com/wp-content/uploads/2018/08/Strategic-Plan-2018-Updated.pdf

⁹³ https://www.memphisdailynews.com/news/2015/jul/28/mississippi-river-counties-pool-resources-to-bring-tourists/print

⁹⁴ https://www.discoverballardcounty.com/ballard-economic-development/

⁹⁵ https://bargeacbl.com/about-us/transportation/

Initial Corridor Non-Residences

Table 5 summarizes the non-residential facilities (businesses, institutions, industries, etc.) identified in each state for the initial corridors. Creating a more direct regional connection would directly affect these facilities by requiring relocations for roadway construction. The quantity within the initial 2,000'-wide corridor buffers has been estimated to facilitate corridor screening. Should a Build alternative be recommended, it is anticipated that a future project would design the corridor to significantly reduce impacts. Estimates should be used for planning purposes only. As the initial corridors are further developed and impacts are better understood, it is expected these estimates will be revisited.

As shown in Table 5, the potential non-residential impacts is greater in Kentucky than in Illinois.

Table 5. Estimated Number of Non-Residential Facilities Within Each Corridor

Initial Corridor	Α	В	C
Alexander County, Illinois	0	14	2
Ballard County, Kentucky	4	31	1
Total	4	45	3

Initial Corridor A Non-Residences

Initial Corridor A has the least potential non-residential impacts in Illinois, at 0 and 4 in Kentucky. Potential impacts include:

- Clay Sawmill
- Ballard County Road Department
- Bolen Concrete Work
- Harris Engineering

Initial Corridor B Non-Residences

Initial Corridor B has the potential to impact the most non-residential properties, with 14 in Illinois and 31 in Kentucky. Potential impacts include:

Illinois:

- Community Health & Emergency
- Quality Inn-Cairo
- Unidentified potential business on Kessler Road east of Quality Inn-Cairo
- Unidentified business on Kessler Road, appears to be an old motel

- Illinois Central Gulf Railroad Yard
- Dollar General
- Cairo IDOT Yard
- Unidentified potential business on Patierdale Road, Cairo
- Unidentified business on north side of Patierdale Road, Cairo—appears to be a trucking company
- Unidentified business on south side of Patierdale Road, Cairo—appears to be an auto business or trucking company, possibly connected to the business on the north side of the road
- Garden Inn Motel
- Mosley's Auto Recycling
- Lawn Care
- Ready Mix Solutions

Kentucky:

- Ballard County Road Department
- Barlow City Park
- Ballard County Senior Citizens Center
- Cooper Lumber & Supply
- Clay Sawmill
- Storage Facility
- Unidentified potential business on Lake Drive, Barlow
- Sutton Drugs of LaCenter
- Betty's Restaurant
- Unidentified potential restaurant or convenience store at 364 Broadway Street,
 Barlow
- Unidentified potential business at 123 North 4th Street, Barlow
- Wells Cycle Electronics
- Snips & Tangles
- Barlow City Hall
- Barlow Fire Department (2 potential facilities)
- Reflections by Anna
- Barlow Baptist Church
- Barlow House Museum
- KentuckyCare Medical Clinic
- Cedar Chips Restaurant

- United States Post Office
- CK Guitars
- Duc Blind Restaurant
- Western Cutterheads
- Prince Pit BBQ
- Millie's Mercantile
- Storage Sheds Cardinal Buildings, LLC
- Barlow United Methodist Church
- Ballard Bottoms Tourism Council
- First General Baptist Church
- Ballard County Senior Citizens Purchase ADD

Initial Corridor C Non-Residences

Initial Corridor C has the **potential to impact the fewest non-residences**, with 2 potential impacts in Illinois and 1 in Kentucky. Potential impacts include:

Illinois:

- Likely no longer operational, previously Bruce School then business with Budweiser logo
- Shiloh Baptist Church

Kentucky:

RB D Farms

3.3.3 Residential

Figure 31 shows the study area intersects the counties of Ballard (Kentucky), Alexander (Illinois), and Pulaski (Illinois). **Table 6** summarizes the US Census Tracts (CT) by state.

Table 6. Census Tracts

State	Kentucky	Illinois	
County	Ballard	Alexander	Pulaski
Census Tract	9502	9578	9711

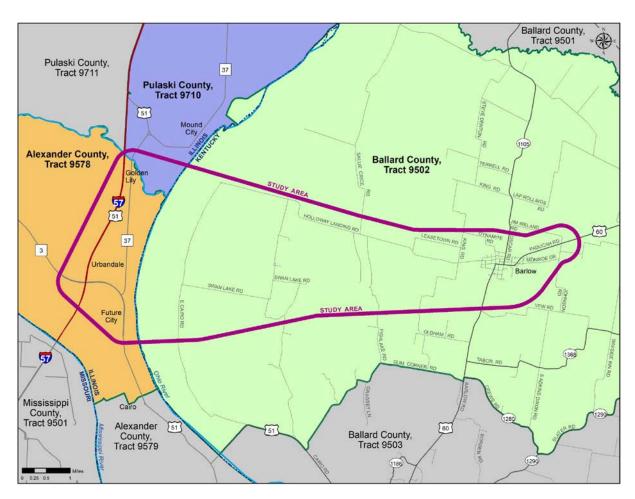


Figure 31. Census Geographies

Residential 2021 American Community Survey (ACS) estimates for these statistical areas were reviewed.

Housing characteristics are summarized in **Table 7**. Comparing the study area CTs:

- There are fewer housing units in Kentucky than in Illinois.
- Most residential units (~75%) are single-unit houses or mobile homes (~15%).
 - o Ballard County CT has the highest percentage of single-unit houses.
 - o Pulaski County CT has the highest percentage of mobile homes.
 - o Alexander County CT has the smallest percentage of mobile homes.
- Nearly 70% of the housing units in the Ballard County and Pulaski County tracts are occupied.
 - o Alexander County CT has fewer occupied housing units (about 50%).
- Most of the housing units in the census tracts are owner occupied (~80%) and the remaining 20% are renter occupied.
 - Alexander County's CT has a higher percentage of owner-occupied units (nearly 90%).

Table 7. Housing Characteristics

	Housing Units	Single Units	Mobile Homes	Occupied Housing	Owner Occupied	Renter Occupied
Kentucky	1,988,420	70%	11%	88%	68%	32%
Ballard County	3,709	71%	19%	79%	81%	19%
Tract 9502	659	81%	10%	68%	75%	25%
Illinois	5,412,995	64%	2%	91%	67%	33%
Alexander County	3,059	72%	12%	58%	76%	24%
Tract 9578	705	77%	7%	53%	89%	11%
Pulaski County	2,876	69%	21%	65%	76%	24%
Tract 9710	1,338	70%	20%	69%	76%	24%

^{*}Source: 2021 ACS 5-year estimates, Table DP04

Median values for occupied housing at the state, county, and tract level are compared in **Table 8**. The median values in Tract 9502 are more than those in Ballard County. The median values in Illinois are decreasing from the state to tract level. The median value in Illinois is substantially less than in Kentucky.

Table 8 also compares the median gross rent values among the state, county, and tract. Rent in Tract 9502 is lower than the rent in Ballard County. The rent in Tract 9578 is more expensive than the rent in Alexander County. The rent and median values for occupied housing in Tract 9710 are commensurate with Pulaski County.

Table 8. Housing Values

	Median House Value	Median Rent Value
Kentucky	\$155,100	\$826
Ballard County	\$89,400	\$709
Tract 9502	\$137,500	\$590
Illinois	\$212,600	\$1,097
Alexander County	\$60,800	\$655
Tract 9578	\$41,700	\$827
Pulaski County	\$65,500	\$553
Tract 9710	\$63,200	\$594

^{*}Source: 2021 ACS 5-year estimates, Table DP04

The number of vehicles available at occupied housing units are summarized in **Table 9**. The percentage of no vehicle's available decreases from the state to tract level for all three CTs. Alexander County's tract has the smallest percentage of no vehicles available at occupied housing units at 1%.

Table 9. Occupied Housing Units Number of Vehicles Available

	No Vehicles	1 Vehicle	2 Vehicles	3 or More Vehicles
Kentucky	7%	32%	38%	24%
Ballard County	6%	22%	40%	32%
Tract 9502	3%	18%	46%	33%
Illinois	11%	35%	36%	19%
Alexander County	9%	40%	31%	19%
Tract 9578	1%	46%	27%	26%
Pulaski County	9%	39%	38%	14%
Tract 9710	8%	34%	42%	16%

^{*}Source: 2021 ACS 5-year estimates, Table DP04

Existing Neighborhoods & Communities

There is limited residential development within the study area as it is predominantly conserved land. There are a few incorporated and unincorporated communities near the outskirts of the study area, primarily concentrated in Illinois as shown in **Figure 32** and discussed herein. Since this study is exploring regional benefits and impacts of a more direct connection, communities within and outside of the study area may be impacted by this potential connection.

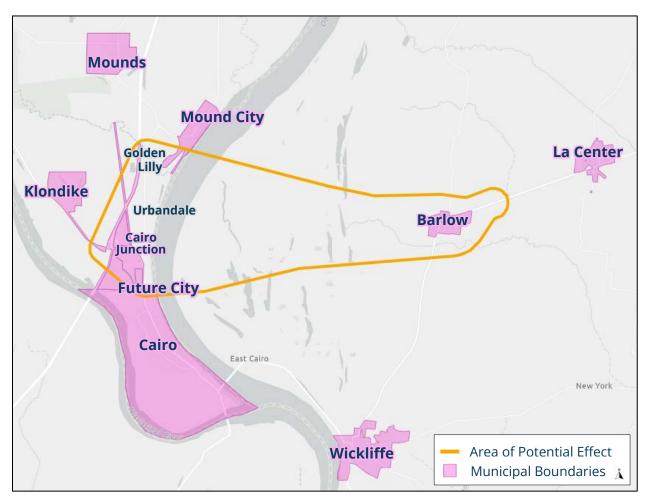


Figure 32. Municipalities

Within Study Area

Barlow, KY

Barlow is in the far eastern portion of the study area. It is a home rule class city to about 650 people (2021), making it the second most populated community in the study area. Its population has historically oscillated but has been on the decline since the 2010s. ⁹⁶ Most homes are concentrated close to city center. There are a few small clusters of rural residential areas west of the city limits along Holloway Landing Road and Oldham Road.

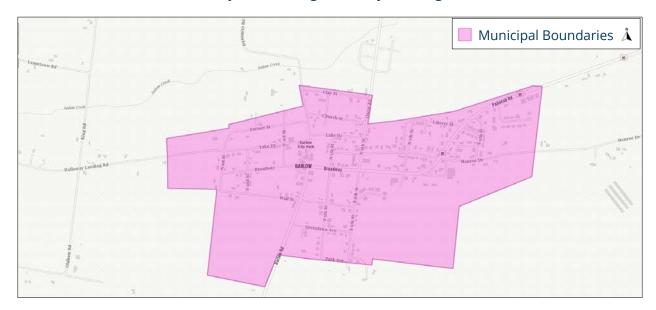


Figure 33. Barlow, KY

Cairo, IL

Cairo is Alexander County's county seat and home to several unincorporated communities. The southernmost city in Illinois, Cairo intersects the southwestern study area. Originally developed as a riverport, changing modes of transportation⁹⁷ caused Cairo to be bypassed. Consequently, its population peaked in 1920. Cairo's current (2021) population is about 1,700, making it the most populated community in the study area. Results of historical flooding continue to impact Cairo, which faces socioeconomic challenges including poverty, crime, education, unemployment, and rebuilding its tax base.⁹⁸

⁹⁶ https://en.wikipedia.org/wiki/Barlow, Kentucky

⁹⁷ Barges replacing the steamboat industry and roadway bridges replacing ferry traffic.

⁹⁸ https://en.wikipedia.org/wiki/Cairo, Illinois



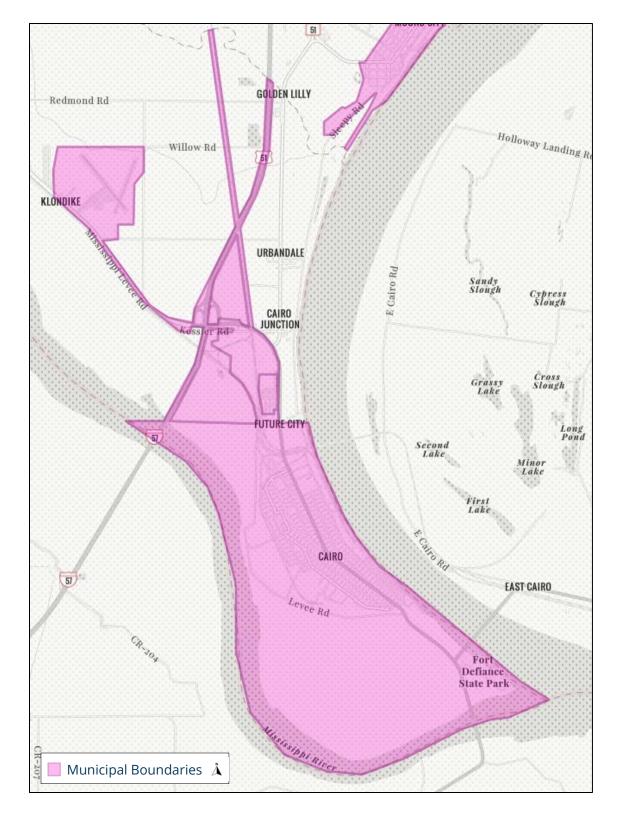


Figure 34. Cairo, IL



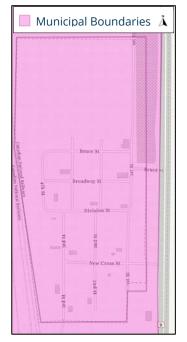


Figure 35. Future City, IL

Future City, IL

This unincorporated community is north of Cairo along US 51. in Founded in the early 1900s, initially the community had a predominantly Black population. The area has historically been plagued by flooding. Only a few residents remain in Future City today.⁹⁹

Cairo Junction, IL

The unincorporated neighborhood of Cairo Junction is along Old IL-37 at I-37 (Ohio River Scenic Byway), north of IL-3/US 51 and Future City. There

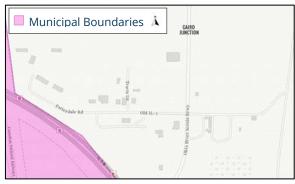


Figure 36. Cairo Junction, IL

are a few residences and businesses.

Urbandale, IL

Urbandale is a neighborhood along the Ohio River Scenic Byway, north of Cairo Junction. Located in the west central portion of the study

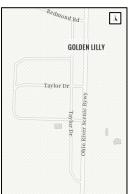


Figure 38. Golden Lily, IL

area, the community is unincorporated and is, slightly more populated than Future City. 100

Golden Lily, IL

Golden Lily is in the far northwestern portion of the study area along the Ohio River Scenic Byway, north of Urbandale. It is an unincorporated community and home to only a few residences. 101



Figure 37. Urbandale, IL

⁹⁹ https://en.wikipedia.org/wiki/Future City, Illinois

¹⁰⁰ https://en.wikipedia.org/wiki/Urbandale, Illinois

¹⁰¹ https://en.wikipedia.org/wiki/Golden Lily, Illinois



Outside Study Area

Additional communities to note outside of the study area include:

LaCenter, KY

LaCenter is situated northeast of the study area and centrally located in Ballard County. A home rule-class city with a population of 860 (2021). While it is the most populated community in the county, its population has been declining since 1980. ¹⁰² Several businesses, churches, and restaurants are in town, and it is home to Ballard County's Schools, and Recreational Sports Park. ¹⁰³

Wickliffe, KY

Wickliffe, in Ballard County, is directly south of the study area. The Mississippi River and Ohio River join west of the city, ¹⁰⁴ which serves as the gateway linking Kentucky to Missouri and Southern Illinois. The city's rich history provides tourist attractions such as the Fort Jefferson Cross, Wickliffe Mounds State Park, and the National Trail of Tears site. ¹⁰⁵ There are a few shops and restaurants in town. Home to 652 people (2021), its population has been on the decline since the 1930s. ¹⁰⁶

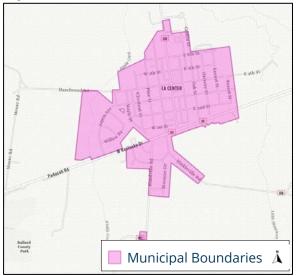


Figure 39. La Center, KY

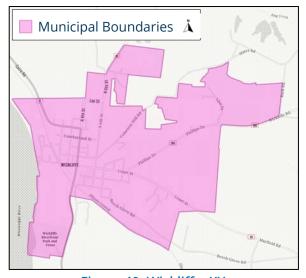


Figure 40. Wickliffe, KY

¹⁰² https://en.wikipedia.org/wiki/LaCenter, Kentucky

¹⁰³ https://www.discoverballardcounty.com/la-center-ky/

¹⁰⁴ https://wickliffe.ky.gov/Pages/default.aspx

¹⁰⁵ https://www.discoverballardcounty.com/wickliffe-ky/

¹⁰⁶ https://en.wikipedia.org/wiki/Wickliffe, Kentucky



Mounds, IL

Mounds is northwest of the study area in Pulaski County. The town was named for the prehistoric monumental earthwork mounds in the area. It is home to about 650 people, predominantly Black (60%). Its population has been on the declines since the 1930s. ¹⁰⁷ There are several businesses in town and several cemeteries north of the city in "North Mounds."

Mound City, IL

Mound City, county seat of Pulaski County, is northwest of the study area and along the Ohio River. Mound City's population has been

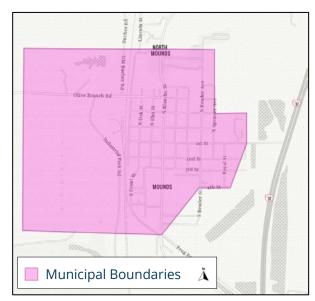


Figure 41. Mounds, IL

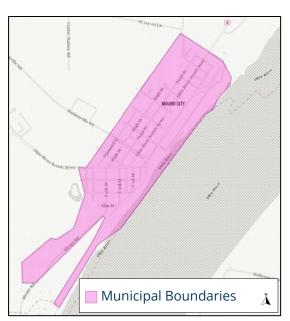


Figure 42. Mound City, IL

on the decline since the 1910 census. There are about 500 residents (2021), almost 60% of whom are Black. There are several businesses in town and a historic cemetery nearby. During the Civil War, Mound City was the site of an important Union naval facility and major hospital complex that required a burial site for the many casualties. The Mound City National Cemetery opened in 1861 and is one of the oldest national cemeteries in the country. ¹⁰⁹ It is listed in the National Register of Historic Places. ¹¹⁰

¹⁰⁷ https://en.wikipedia.org/wiki/Mounds, Illinois

¹⁰⁸ https://en.wikipedia.org/wiki/Mound City, Illinois

¹⁰⁹ https://www.nps.gov/nr/travel/national cemeteries/illinois/mound city national cemetery.html

¹¹⁰ https://catalog.archives.gov/id/77835502



Klondike, IL

Klondike is an unincorporated community directly west of the Cairo Airport along IL-3.¹¹¹ It is west of the study area and serves as a small suburb to Cairo.

Initial Corridor Residences

A more direct regional connection would have direct effects on these communities by requiring relocations for roadway construction.

The number of residences present within the initial

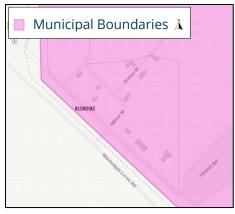


Figure 43. Klondike, IL

2,000'-wide corridor buffers has been estimated to facilitate corridor screening. Should a Build alternative be recommended, it is anticipated that a future project would be able to design the corridor to significantly reduce potential impacts. Estimates helped identify clusters and areas of dense residential development for potential avoidance as design concepts are further refined. It is expected that these estimates will be revisited as corridors are further developed to better identify potential impacts.

Within the initial corridors, the number of residences varies from 36 to 162, primarily concentrated in Kentucky. **Table 10** summarizes the estimated number of residences within each corridor by state. The highest density of potential impacts would be within Barlow.

Table 10. Estimated Number of Residences Within Each Corridor

Initial Corridor A B

Initial Corridor	Α	В	C
Alexander County, Illinois	1	18	13
Ballard County, Kentucky	158	144	23
Total	159	162	36

Initial Corridor A Residences

Initial Corridor A in Illinois has one residence within its buffer; therefore, has the least potential for residential relocations. While Kentucky has 158 residences within that corridor; therefore, has the greatest potential. Most of the Kentucky residences are clustered in three groups: along KY 118 (Holloway Landing Road) west of Oldham Road (about 10 residences), along Leasetown Road (about 10 residences), and in downtown Barlow (about 115). The remaining 24 residences are on scattered sites.

¹¹¹ https://en.wikipedia.org/wiki/Klondike, Illinois

Initial Corridor B Residences

Initial Corridor B has the potential to impact the most residences in Illinois (18) and the second highest number of residences in Kentucky (144). This corridor has the potential to relocate nearly all of the residents in Cairo Junction, Illinois.

In Illinois, residences are clustered east of I-57 between Urbandale and Future City, primarily along Kessler Road (7), Patierdale Road (about 7 in Cairo Junction), and Old US 51 (4).

In Kentucky, there is a cluster of residences along KY 118 (Holloway Landing Road) east (about 10) and west (about 15) of Oldham Road/Kind Road. Most potential impacts are within the city of Barlow (about 115), while an estimated 4 residences are on scattered sites.

Initial Corridor C Residences

Initial Corridor C overall has the least potential residential impacts. However, it has the potential to relocate nearly all remaining residents (about 13) in Future City, Illinois.

In Kentucky, residences are along Oldham Road (about 4), along US 60 (4 south of Barlow; 3 northeast of Barlow), along Short Street (about 4), east of Barlow along Monroe Drive (about 4), with an estimated 4 residences on scattered sites.

3.4. Community Resources

Community resources are identified in **Figure 44** and are primarily concentrated within Barlow, Kentucky. There are small variety stores and no gas stations. The closest gas stations are located just outside the project area and in neighboring communities. The nearest grocery stores in Kentucky are in LaCenter and Wickliffe, less than 10 miles from the study area.

Small grocery stores like Dollar Generals and local markets are available in Illinois, while larger grocery stores are available to the west in Cape Girardeau, Missouri.

Plans regarding community growth, existing area services, resources, and unique attractions are further discussed herein. As discussed in **Section 3.3**, in Kentucky the PADD supports community infrastructure planning and in Illinois the Southern Five Regional Planning and District Development Commission provide technical assistance for land development to local governments. No dedicated planning unit was identified for either county.

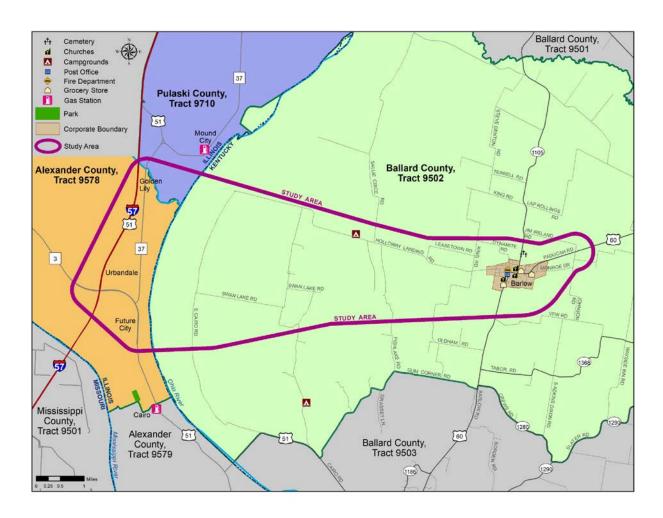


Figure 44. Community Resources

3.4.1 Community Plans

The Ballard County Chamber of Commerce and Fiscal Court prepared a Strategic Economic Development Action Plan, 20/20 Xtreme, in 2018. To inform decisions regarding future growth, community data and public comments were compiled to evaluate the county's strengths, weaknesses, opportunities, and threats (referred to as a SWOT analysis). As noted in **Figure 45**, walkability, bicycle amenities, public transportation, and the Cairo Bridge were noted as weaknesses. Transportation logistics (highway, rail, river) were noted as opportunities in the region. Top recommendations for Barlow include promoting tourism, recreation, and quality of life experiences.



Strengths Resources available for economic development and tourism Low cost of living Outdoor recreation destinations Limited zoning and regulations Plenty of available sites for investment and redevelopment. River confluence High number of visitors to regional destinations Pride in county school district Murray State Ag campus Monuments Railway	Weaknesses Lack of employment opportunities Low labor force participation rates Limited cell phone coverage Walkability, biking, public transportation Cairo bridge Division within areas of the county Continued reliance on a few major employers Limited places for tourists to spend money while visiting the area Underdeveloped downtown areas Limited lodging
Opportunity Murray State Ag campus Development of new destinations (restaurants, trails, lodging) Workforce training Emerging technology Innovative farming techniques Re-opening of mill site Continued investment in marketing Downtown beautification Logistics (e.g. highway, rail, river)	Threats Technological advancements Government funding cuts across all levels Population decrease and stagnation Global economic decline or recession Increasing amount of employers leaving the area

Figure 45. SWOT Analysis from Ballard County Action Plan

3.4.2 Health Care & Emergency Services

Fire response services in Kentucky are provided by Barlow Fire Department,139 N. 4th Street, within the study area. Fire response services in Illinois are provided by Cairo Auxiliary Fire Department at 3104 Sycamore Street, less than one mile south of the project area. Volunteers provide fire protection to the communities. They also respond to medical emergencies, motor vehicle crashes, rescue calls, and incidents involving hazardous materials.

Local health care in Kentucky is provided by KentuckyCare Barlow Medical, 120 N. 4th Street. Local health care in Illinois is provided by Community Health & Emergency Services' Cairo Mega Clinic,13245 Kessler Road. Both are within the study area. The nearest major hospitals are in Paducah, Kentucky (25 miles from Barlow and 28 miles from Wickliffe); Cape Girardeau, Missouri (35 miles from Cairo); and Sikeston, Missouri (33 miles from Cairo).

Initial Corridor B may directly affect the health care and emergency services in Barlow.

Since both communities on either side of the river have their own emergency response services, a Build alternative would not be expected to meaningfully improve immediate emergency response times to local facilities. However, all Build concepts provide a more direct connection, and this may help to improve emergency response times for incidents that require regional travel to the larger facilities. Wider shoulders and improved geometry would also provide refuge for vehicles during emergencies.

Should a Build concept be recommended, the communities of Cairo and Wickliffe might be negatively impacted by increased travel times should they need to travel long-distance to regional facilities.

3.4.3 Churches

Four churches are within the study area. Three are in Barlow and one is in Future City:

- Barlow Baptist Church at 586 Monroe Drive, Barlow, KY 42024
- Barlow United Methodist Church at 198 S. 5th Street, Barlow, KY 42024
- First General Baptist Church at 255 S. 4th Street, Barlow, KY 42024
- Shiloh Baptist Church at 13339 1st Avenue, Cairo, IL 62914

Initial Corridor B would potentially directly impact the most churches, including Barlow Baptist Church, Barlow United Methodist Church, and/or First General Baptist Church in Kentucky. Initial Corridor C would potentially impact Shiloh Baptist Church in Illinois.

3.4.4 Educational Facilities & Other Institutions

Barlow City Hall and the Barlow United States Postal Service (USPS) Office are located within the study area. No educational facilities were identified in the study area. Schools in Kentucky are east of the project area, and in Illinois are primarily concentrated in Cairo.

Both **Barlow City Hall and Barlow USPS** are potentially affected by Initial Corridor B. No educational facilities were identified in the study area.

3.4.5 Cemeteries & Gravesites

There is one cemetery within the study area, Barlow Cemetery, located off KY 1105 north of the city.

Barlow Cemetery would be potentially affected by Initial Corridor A.

3.4.6 Parks & Recreational Facilities

The Barlow City Park, Ballard Recreation Board, and Ballard Bottoms Tourist Council offices are located within the study area. As noted in **Section 3.3.1**, much of the study area serves as a regional recreation destination, including the Boatwright WMA, Cypress Creek National Wildlife Refuge, and Axe Lake Swamp. Where permitted within these areas, they provide wildlife sightseeing, boating, hunting, fishing, and camping.

The Barlow City Park, Ballard Recreation Board, and Ballard Bottoms Tourist Council offices would be potentially impacted by Initial Corridor B.

All potential Build corridors would impact the Boatwright WMA. Additional recreational impacts are detailed in **Section 3.3.1**.

3.4.7 Shopping & Business Districts

As discussed in **Section 3.3.3**, some small business are located in Barlow and in Illinois between Future City and Urbandale. No business districts are within the study area.

Most of the businesses within the study area are concentrated in Barlow. Businesses in Barlow may be directly impacted by Initial Corridors A and B. Initial Corridor B has the potential to impact notably more businesses than would Corridor A. Initial Corridor B is the only alternative that would directly impact businesses in Illinois. Potential business impacts are further detailed in **Section 3.3.3**. At this stage in the planning study, whether a future route would go through or around Barlow has not been decided. If a Build alternative would bypass Barlow, small businesses in town may be negatively impacted by loss of pass-through traffic.

Businesses in Cairo and Wickliffe, outside of the study area, may negatively be indirectly impacted should a Build alternative be recommended and the US 51 bridge be closed. Travel time to these locations would likely be increased and sales received from pass-through traffic would be reduced.

Alternatively, by providing a more direct connection, the economy of travel on a regional scale would be improved and could reduce travel costs for area businesses. A more direct transportation network may also support ongoing local economic development efforts to attract new businesses to the area.



3.4.8 Cultural Historic Resources

The area has a rich history, with a few *National Register of Historic Places* (NRHP) located within the study area. On the Kentucky side, there is the historic Barlow House (S. 5th Street) and Twin Mounds Site (also known as the Nolan Site). The Twin Mounds site is owned and protected by the Archaeological Conservancy.

Initial review of properties within the study area indicates there may be a historic district within downtown Barlow. The Ohio River Levee System and a few properties within Illinois

also appear to be potential historic properties. Part of the Trail of Tears National Historic Trail runs through the study area. 112 Considering the history of the area, previously identified sites, and soil information, there is moderate to high probability for both prehistoric and historic archaeological sites to be found within the study area. It is expected that consultation with several Native American tribes would be necessary should a future project identify sites that may be directly impacted.



Figure 46. Trail of Tears National Historic Trail

The US 51 bridge south of the study area is eligible for listing in the NRHP. Cairo also has several NRHP-listed properties.

Initial Corridor A could directly impact 9 potential historic properties, Initial Corridor B may impact 6, and Initial Corridor C may impact 13. A separate survey, report, determination of eligibility and effects, and coordination with the respective State Historic Preservation Officers (SHPOs) would be required to fully assess potential impacts should a Build alternative advance.

NRHP eligible or listed properties would also be considered Section 4(f) properties and the same protections and processes discussed in **Section 3.3.1** would apply.

¹¹² https://www.nps.gov/trte/planyourvisit/maps.htm

3.5. Socioeconomic & Demographic Characteristics

Socioeconomic and demographic characteristics for the census geographies within the study area (see **Figure 31**) are summarized in the following sections.

Five-year 2021 ACS estimates for the statistical area populations are summarized in **Table** 11. In 2020, the population in Ballard County ranked 109th out of the 120 counties in Kentucky. Tract 9502 is home to about 13% of Ballard County's residents.

Alexander County and Pulaski County are the 96th and 97th most populus counties (of 102 counties) in Illinois, with 5,488 and 2,761 persons, respectively. Tract 9578 is home to about 23% of Alexander County's residents. Tract 9710 has 53% of Pulaski County's residents. **Figure 31** illustrates only the small portion of Pulaski County that intersects the northwest portion of the study area. None of the initial corridors would directly impact Pulaski County residents.

Table 11. Total Population

	Total Population
Kentucky	4,494,141
Ballard County	7,814
Tract 9502	1,036
Illinois	12,821,813
Alexander County	5,488
Tract 9578	1,252
Pulaski County	5,279
Tract 9710	2,761

^{*}Source: 2021 ACS 5-year estimates, Table B01003

3.5.1 Population Trends & Projections

Decennial Census collections over the past several decades are compared with population projections provided by the Kentucky State Data Center (KSDC) through 2050 in **Table 12** and the Illinois Department of Public Health through 2030 in **Table 13.** The projections are based on assumptions about future births, deaths, and in/out migrations.



Table 12. Kentucky Population Trends & Projections

	Kentucl	ку	Ballard Co	ounty
Date	Total	% Change	Total	% Change
1960	3,038,156	-	8,291	-
1970	3,218,706	6%	8,276	0%
1980	3,660,777	14%	8,798	6%
1990	3,685,296	1%	7,902	-10%
2000	4,041,769	10%	8,286	5%
2010	4,339,367	7%	8,249	0%
2020	4,505,836	4%	7,728	-6%
2030	4,641,150	3%	7,180	-7%
2040	4,721,118	2%	6,558	-9%
2050	4,785,233	1%	5,979	-9%

^{*}Source: U.S. Census Bureau through 2020; Kentucky State Data Center 2030-2050

Historically, Kentucky's population has increased each decade and is anticipated to grow through 2050. In contrast, Ballard County's population experienced a 10% decline from 1980 to 1990, no growth from 2000 to 2010, and then experienced a decline again from 2010 to 2020 at 6%. The population is estimated to continue to decline each decade through 2050.

Table 13. Illinois Population Trends & Projections

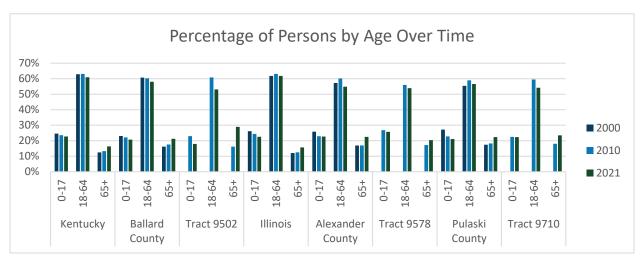
	Illino	is	Alexander	County	Pulaski	County
Date	Total	% Change	Total	% Change	Total	% Change
1960	10,081,158	-	16,061	-	10,490	-
1970	11,113,976	10%	12,015	-25%	8,741	-17%
1980	11,426,518	3%	12,264	2%	8,840	1%
1990	11,430,602	0%	10,626	-13%	7,523	-15%
2000	12,419,293	9%	9,590	-10%	7,348	-2%
2010	12,830,632	3%	8,238	-14%	6,161	-16%
2020	12,812,508	0%	5,240	-36%	5,193	-16%
2030	12,789,999	0%	5,201	-1%	3,980	-23%
2040	-	-	-	-	-	-
2050	-	-	-	-	-	-

^{*}Source: U.S. Census Bureau through 2020; Illinois Department of Public Health 2030

Historically, the population in Illinois has increased each decade, except between 1980 and 1990, and again between 2010 and 2020, when it experienced no growth, a trend anticipated to continue through 2030. In contrast, the population in Alexander and Pulaski counties experienced a decline in all but one of the decades (1970 to 1980) reviewed. Alexander County experienced a steep decline in population from 2010 to 2020, when it experienced nearly a 40% decline in population. The population in the area is estimated to continue to decline through 2030, with a sharp 23% decline estimated in Pulaski County, and minor 1% decline predicted for Alexander County.

3.5.2 Age Distribution

Statistical area population by age over time is compared in **Figure 47.** Consistent with the state and county trends, data shows the population is aging, with a higher concentration of individuals over the age of 65 and lower concentration of young people over time. Because census tract (CT) geographical areas have changed since the 2000 Census, data is not provided for that year at the tract level.



^{*}Source: 2021 ACS 5-year estimates, Table B01001

Figure 47. Population by Age Over Time

3.5.3 Racial Characteristics

Table 14 shows that Kentucky CT 9502 (Ballard County) and CT 9710 (Pulaski County) in the project area are predominantly White. CT 9502 is less diverse than the county and state. Tract 9710 is also less diverse than the county overall, although there is a higher percentage of persons with two or more races. Illinois CT 9578 (Alexander County) is predominantly (61%) Black/African American. Tract 9578 is more diverse than the county with higher percentages of Black and Hispanic persons.

Table 14. Population by Race

				One	Race				
	Population	White	Black/African American	American Indian/Alaska Native	Asian	Native Hawaiian/Other Pacific Islander	Other	2+Races	Hispanic/Latino Origin
Kentucky	4,494,141	84%	8%	0%	2%	0%	0%	3%	4%
Ballard County	7,814	92%	4%	0%	0%	0%	0%	2%	2%
Tract 9502	1,036	96%	2%	0%	0%	0%	0%	1%	1%
Illinois	12,821,813	60%	14%	0%	6%	0%	0%	2%	18%
Alexander County	5,488	63%	33%	0%	0%	0%	0%	2%	1%
Tract 9578	1,252	33%	61%	0%	0%	0%	0%	1%	4%
Pulaski County	5,279	64%	30%	0%	0%	0%	0%	4%	3%
Tract 9710	2,761	76%	16%	0%	0%	0%	0%	6%	2%

^{*}Source: 2021 ACS 5-year estimates, Table B03002

3.5.4 Labor Force Characteristics & Employment Status

Employment status for persons aged 16 years and older are summarized in **Table 15**. The percentage of persons not in the labor force in the county is higher than that of the state for all statistical areas reviewed. All census tracts have a higher percentage of persons in the labor force compared to their respective counties. Additionally, the unemployment rate for all census tracts is less than their respective counties.

Table 15. Employment Status

	Population (Aged 16+)	In Labor Force	Civilian Labor Force	Employed	Unemployed	Armed Forces	Not in Labor Force	Unemployment Rate
Kentucky	3,588,209	60%	59%	56%	3%	0%	40%	5%
Ballard County	6,410	54%	54%	51%	3%	0%	46%	6%
Tract 9502	855	62%	62%	61%	1%	0%	38%	2%
Illinois	10,275,978	65%	65%	61%	4%	0%	35%	6%
Alexander County	4,345	43%	43%	39%	5%	0%	57%	11%
Tract 9578	987	51%	51%	46%	5%	0%	49%	9%
Pulaski County	4,316	43%	43%	41%	3%	0%	57%	6%
Tract 9710	2,214	44%	44%	42%	2%	0%	56%	4%

^{*}Source: 2021 ACS 5-year estimates, Table B23025

Journey to Work

The last available (2015) journey-to-work data from ACS for commuting flows from residence county to workplace county indicates most people live and work in their home county—Ballard County (44%), Alexander County (40%), and Pulaski County (43%). The other top commute destinations for each county include McCracken County, Kentucky, for Ballard County commuters (43%); Cape Girardeau County, Missouri, for Alexander County commuters (28%); and Alexander County for Pulaski County commuters (14%).

Table 16. Top Commuting Flows from Residence County to Workplace County

Residence County	Ballard County, KY		Alexander County, IL		Pulaski County, IL	
	Ballard County, KY	44%	Alexander County, IL	40%	Pulaski County, IL	43%
Workplace	McCracken County, KY	43%	Cape Girardeau County, MO	28%	Alexander County, IL	14%
County	Marshall County, KY	2%	Union County, IL	6%	Union County, IL	9%
	Carlisle County, KY	2%	Scott County, MO	5%	McCracken County, KY	9%
	Pulaski County, IL	2%	Pulaski County, IL	5%	Massac County, IL	7%

^{*}Source: 2015 ACS 5-year estimates, Commuting Flows, Table 1. Residence County to Workplace County

Table 17 specifically reviews the commuting patterns within study area counties. About 2% of commuters from each study area county travel to another study area county for work.

Table 17. Study Area County Commuting Flows from Residence County to Workplace County

	Residence County	Ballard County, KY		Alexander County, IL		Pulaski County, IL		
ĺ		Ballard County, KY	44%	Alexander County, IL	40%	Pulaski County, IL	43%	
	Workplace	Pulaski County, IL	2%	Pulaski County, IL	5%	Alexander County, IL	14%	
	County	Alexander County, IL	1%	Ballard County, KY	2%	Ballard County, KY	2%	

^{*}Source: 2015 ACS 5-year estimates, Commuting Flows, Table 1. Residence County to Workplace County

Commute information for employed persons 16 years of age and older is summarized in **Table 18**. Consistent with trends for the county and state, most workers drive alone to work. A higher percentage of people carpool in Pulaski County and CT 9710 than in other areas of the project. For the statistical areas, the average commute time to work ranges from 21 minutes to 27.1 minutes.



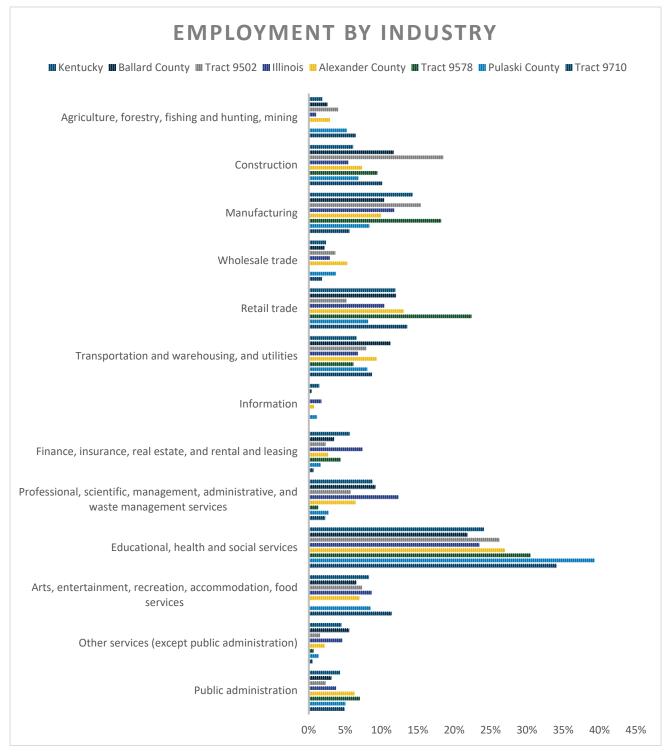
Table 18. Commute Status

	Total Workers	Drove Alone	Carpooled	Public Transportation	Walked	Bicycle	Taxicab, Motorcycle, or Other Means	Worked from Home	Mean Travel Time to Work (minutes)
Kentucky	1,976,861	80%	9%	1%	2%	0%	1%	7%	23.7
Ballard County	3,206	92%	3%	0%	1%	0%	1%	3%	22
Tract 9502	509	89%	3%	0%	3%	0%	1%	4%	21
Illinois	6,164,668	70%	8%	8%	3%	1%	1%	10%	28.7
Alexander County	1,638	86%	5%	1%	1%	0%	1%	6%	25.2
Tract 9578	424	94%	0%	5%	0%	0%	1%	0%	26.6
Pulaski County	1,679	80%	11%	2%	1%	0%	1%	7%	28
Tract 9710	859	71%	17%	3%	1%	0%	1%	8%	27.1

^{*}Source: 2021 ACS 5-year estimates, Table S0801

3.5.5 Employment by Industry

Figure 48 compares, by industry, the percentages of persons employed at the state, county, and tract level. At the tract level, the largest industries are construction; manufacturing; retail trade; and education, health, and social services.



*Source: 2021 ACS 5-year estimates, Table C24070

Figure 48. Percentage of Persons Employed, by Industry

3.5.6 Average Income & Percent Residents Below Poverty Level

Key income information — median household income, per capita income, and the percentage of persons below the poverty line — is shown in **Table 19**. Red text highlights the tracts with slightly less median household and per capita income than the county, and tracts with more persons below the poverty line.

Table 19. Key Income Metrics

	Median Household Income	Per Capita Income	% Below Poverty
Kentucky	\$55,454	\$30,634	16%
Ballard County	\$52,695	\$29,639	14%
Tract 9502	\$58,700	\$35,149	16%
Illinois	\$72,563	\$39,571	12%
Alexander County	\$39,871	\$20,271	25%
Tract 9578	\$37,750	\$16,065	38%
Pulaski County	\$40,197	\$22,328	18%
Tract 9710	\$52,381	\$24,242	18%

^{*}Source: 2021 ACS 5-year estimates, Tables B19013, B19301, and C17002

While CT 9502 has a slightly higher percentage of persons living below the poverty line than the county, this is consistent with the state. Ballard County ranks 95th (out of 120 counties) for percentage of persons living the below poverty line in Kentucky.

Alexander County CT 9578 has the lowest median household income and per capita income and the highest percentage of persons living below the poverty line of all statistical areas in the study area. Based on the 2021 U.S. Department of Health and Human Services poverty guidelines, nearly 40% of the persons in this tract live below the poverty line. ¹¹³ This is more than triple the rate in Illinois and one and a half times the rate of the county. This area is the poorest county in the state with the highest percentage of persons below the poverty line.

Pulaski County has the 11th highest percentage of persons living below the poverty line in Illinois.

¹¹³ https://aspe.hhs.gov/2021-poverty-guidelines

3.5.7 Other Population Characteristics

Additional population information to consider is summarized in **Table 20**. CT 9578 has a higher percentage of persons with a disability than that of the county. The percentage of limited English-Speaking households at the tract level is commensurate to the county level.

Limited English-Speaking Persons with a Disability Household Kentucky 17% 1% **Ballard County** 17% 0% **Tract 9502** 15% 0% Illinois 11% 4% **Alexander County** 0% 22% 0% **Tract 9578** 27% **Pulaski County** 24% 1%

24%

Table 20. Other Population Characteristics

3.6. Affected Communities

Tract 9710

Section 3.3.4 identified the residential communities in the area and **Section 3.4** noted the community resources these communities rely on. Both Kentucky and Illinois communities and community resources would likely be impacted by the project. It is anticipated that a build concept would have both positive and negative community impacts to consider. The concepts may shorten travel distances for some communities, lengthen travel distances for others, or bypass communities.

3.6.1 Communities that Would Be Impacted by the Project

Due to their immediate proximity to the study area and the current US 51 bridge, Illinois communities would likely experience more adverse impacts as a result of the project compared to Kentucky residents. Kentucky would likely have a higher number of residential relocations. However, while relocations would be fewer in Illinois, there is the potential to relocate entire communities (Future City, Cairo Junction) and, due to their small sizes, family clusters are likely present. **Table 21** summarizes current travel distances and times compared to future projected distances based on the initial concepts for Illinois communities to Barlow, Kentucky.

1%

^{*}Source: 2021 ACS 5-year estimates, Tables C18108 and C16002



Table 21. Comparison of Illinois Communities Travel to Ba

City	Exis	ting	Α	В	С
	Time (minutes) Distance (miles)		Distance (miles)	Distance (miles)	Distance (miles)
Mound City	31	22	13	14	15
Golden Lily	28	20	11	12	13
Urbandale	27	18	10	10	12
Future City	25	17	12	10	10
Cairo	21	15	14	13	12

^{*}Distances from Barlow at 37° 3'31.82"N, 89° 1'10.62"W

Communities Linked

Currently, Illinois residents of Mound City, Golden Lily, Urbandale, and Future City travel south to Cairo to cross the US 51 Ohio River Bridge into Kentucky and access Barlow via US 60. A Build concept would shorten all their travel distances.

Similarly, residents of Barlow, Kentucky, and the neighboring LaCenter would likely benefit from a more direct connection to I-57 in Illinois.

Communities Diverted

In contrast, other communities may be diverted. If a Build alternative is recommended from this study, it is anticipated that the ongoing US 51 bridge replacement would not advance, and the existing connection would eventually be closed to the public.

Cairo is the closest community to the US 51 bridge and would likely experience the most adverse direct impacts. Cairo is primarily a minority and low-income community. Should that bridge be closed, the direct connection into the already disadvantaged city of Cairo would be lost, and with would go convenient access to cross-river destinations plus economic benefits derived from pass-through traffic going to/coming from Kentucky. On the Kentucky side, across from Cairo is Wickliffe, which would also likely experience similar adverse effects due to the closure of the US 51 bridge. Overall, a new connection would likely require further travel to area resources and job opportunities, and sales from current pass-through traffic would be greatly reduced.

The last available (2015) journey-to-work data from ACS for commuting flows from residence county to workplace county indicates Alexander County, Illinois, has just over 4% of its residents commuting to Kentucky for jobs in Ballard and McCracken County, with average travel times of 22 and 38 minutes, respectively. **Table 22** compares existing travel distances and estimated travel distances expected from the initial concepts, with increased travel distances highlighted by red text.



Table 22. Comparison of Cairo Travel Distances to Key Kentucky Locations

	Existing	Α	В	С
Location		Distance	e from Cairo (miles)	
Paducah	36	38	37	36
LaCenter	18	17	16	15
Barlow	15	14	13	12
Wickliffe	7	21	18	16

^{*}Distances from Cairo at 37° 0'18.84"N, 89°10'35.31"W

Wickliffe, Kentucky, would also be likely be negatively impacted by a Build concept. It likely relies on revenue from Illinois residents and would be essentially bypassed from any of the Build concepts.

3.6.2 Areas of Community Cohesion

Due to their relative size, proximity to one another, and distance to area resources, the communities in Kentucky and Illinois likely experience a sense of community cohesion within their respective states. Additionally, the communities of Cairo, Illinois, and Wickliffe, Kentucky, no doubt experience a sense of cohesion due to the connection via the US 51 bridge. It is assumed that these communities may rely on one another for area resources.

No impacts or changes to community cohesion are anticipated with the No-Build option. However, if a Build concept is recommended, and should the US 51 bridge be closed at a later date, the communities of Cairo and Wickliffe would likely experience negative effects. The travel distance and time between these communities would be increased and community dependencies such as shopping, work, etc., may shift to other communities that would become more easily accessible.

Additionally, existing communities that do not benefit from a direct connection may form a new sense of community cohesion should a Build alternative be recommended and travel between them for goods and services become more frequent. Barlow may benefit from a more direct connection provided by any of the Build alternatives. Urbandale and Golden Lily may benefit from Initial Concept A. Urbandale and Future City may benefit from Initial Concept B. Future City may benefit from Initial Concept C.

3.7. Visual Impacts

"Aesthetics" refer to the visual qualities and scenic nature of an area. Studies show there can be individual and regional preferences over what qualifies as "scenic." All initial corridors would primarily traverse preserved lands, which have few rural residential pockets. It is probable that these residents appreciate the rural, undisturbed, serene lands that surround their residences (**Figure 49**). These properties viewsheds would drastically change should a new highway be constructed near them. It is expected that tree clearing and other habitat removal would be required to construct a new highway.



Figure 49. Representative Aerial Imagery of Kentucky Viewshed

Considering hundreds of acres of the conserved lands are dedicated to the preservation of nature and wildlife, as well as to recreation (e.g., hunting, fishing, hiking), these properties are not only scenic but also visually sensitive resources. Loss of or changes to habitat, the addition of lighting for a roadway, and other impacts would diminish the visual appeal of these lands for the public, but also have long-term consequences for the species that currently flock to this the mostly undisturbed area.

3.8. Construction Impacts

Build concepts would be anticipated to produce a beneficial short-term economic impact by stimulating the local economy in terms of construction-related jobs, sales, income, government revenue and expenditures, and other variables. Furthermore, it could be expected to produce a beneficial long-term impact by providing the necessary infrastructure for more efficient and safe mobility and improving access to the region.

Highway construction activities would also have temporary air, water quality, noise, and traffic flow impacts within the project area. Steps to minimize or avoid these temporary impacts are included herein.

3.8.1 Air

Air quality impacts would be temporary, and primarily in the form of diesel-powered construction equipment emissions and dust from exposed earth. Air pollution associated with airborne particle creation would be effectively controlled using watering or the application of calcium chloride in accordance with the KYTC's *Standard Specifications for Road and Bridge Construction (Standard Specifications)*, as directed by the KYTC project manager.

3.8.2 Noise

Noise and vibration impacts could originate from heavy equipment movement, excavation, and compaction. Noise control measures would include those contained in KYTC's *Standard Specifications*. Potential long-term changes in the noise environment will be documented in a separate baseline report should a project advance from this planning study.

3.8.3 Water

Water quality impacts resulting from erosion and sedimentation impacts originating from heavy equipment movement and other construction activities would be temporary and controlled in accordance with KYTC's *Standard Specifications*, as directed by the KYTC project manager, and by using Best Management Practices. Temporary erosion control features could consist of measures like temporary placement of sod, mulching, sandbagging, slope drains, sediment basins, sediment checks, artificial coverings, and berms, as necessary.

3.8.4 Construction Activities

Construction activities, including traffic maintenance and construction sequence, would be planned during the final design phase, and scheduled to minimize traffic delays. The Ohio



River experiences a large amount of barge traffic. Coordination with the barge industry should occur to coordinate construction phasing and ensure the safe passage of cargo and safe construction of an Ohio River crossing.

It is anticipated that, during much of the construction, traffic would be maintained on the existing roadway. Part-width construction would be likely, using flaggers as necessary where construction impacts existing roadway



Figure 50. Drone Aerial Imagery of Barges on Ohio River

facilities. Temporary widening may be required to maintain two lanes of traffic for the duration of construction. Signs would be used as appropriate to provide notice of temporary road closures and other pertinent information to the traveling public.

Per KYTC policy, the local news media would be notified in advance of road closings and other construction-related activities that could excessively inconvenience residents, allowing motorists to plan travel routes in advance. Property access would be maintained to the maximum extent practical through controlled construction scheduling. Traffic delays would be controlled to the maximum extent possible where many construction operations are in progress simultaneously. The contractor would be required to designate detour routes or always maintain one lane of traffic in each direction, and to comply with Best Management Practices.

3.9. Tax & Revenue Impacts

Considering both positive and negative revenue impacts of the proposed project, the following issues were identified: tax revenue and a short-term construction income surge.

The project would require direct conversion of private taxable property to non-taxable government-owned right-of-way. These acquisitions would result in permanent removal of taxable lands from the tax rolls and the city/county when these acquisitions were made would experience a tax revenue loss. Public hunting lands and private hunting club areas would be expected to experience a tax revenue loss from fewer membership sales as available hunting areas would be reduced or bisected and the introduction of a new highway in this primarily undisturbed area may have long-term impacts to various species habitats and migration patterns.

The short-term economic benefit of this proposed construction project would be expected to stimulate the local economy in terms of jobs, sales, income, government revenue and expenditures, and other variables.

The regional traveling public would benefit from a more direct route as it would increase overall travel efficiency and safety. Thereby improving the economy of travel by lowering operating and safety costs. Long-term economic benefits associated with regional accessibility could offset revenues lost.

4. Environmental Justice

This section discusses the environmental justice (EJ) requirements, potential impacts, and recommendations for additional coordination.

4.1. EJ Requirements

Title VI of the 1964 *Civil Rights Act* requires each federal agency to ensure that "no person, on the ground of race, color, or national origin, be excluded from participating in, denied the benefits of, or subjected to discrimination" under any program or activity receiving Federal Aid.

- Title VI implications for the transportation planning process were further refined February 11, 1994, in then-President William Clinton's Executive Order (EO) 12898 titled Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The President's Memorandum on Environmental Justice requires each federal department and agency to "identify and address disproportionately high and adverse human health or environmental effects of their policies, programs and activities on minority populations or low-income populations."
- April 15, 1997, the USDOT issued Order 5680-1 as a component of the June 29, 1995, Federal Highway Administration's *Environmental Justice Strategy*. The Order, which appeared in the *Federal Register*, *Volume 62*, *Number 72*, describes the process USDOT implemented to incorporate environmental Justice (EJ) principles into existing programs, policies, and activities.
- June 14, 2012, FHWA issued USDOT Order 5610.2(a), Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations directive, which establishes policies and procedures for FHWA to use in complying with EO 12898.

- January 27, 2021, President Joseph Biden signed a new EO, *On Tackling the Climate Crisis at Home and Abroad*. EO 14008 amended Section 1-102 of EO 12898 to create an Environmental Justice Interagency Council within the Executive Office of the President to develop a strategy to address current and historic environmental injustice. EO 14008 established the *Justice40* initiative—a goal for Federal Government that 40% of the overall benefits of certain federal investments flow to disadvantaged communities that are marginalized, underserved, and overburdened by pollution.
- In July 2021, KYTC released its Environmental Justice Guidance, which was developed in association with FHWA staff to offer a more streamlined approach to identifying and addressing EJ populations potentially affected by KYTC roadway projects. This new guidance expands upon previously issued 2014 guidance to refine the EJ process and improve consistency statewide for data collection and analysis and improve decisionmaking process.
- September 12, 2022, President Biden signed a new EO on *Implementation of the Energy* and *Infrastructure Provision of the Inflation Reduction Act of 2022.* EO 14082 amended interagency coordination of EO 14008 and EO 12898.
- April 21, 2023, President Biden signed a new EO, Revitalizing Our Nation's Commitment to Environmental Justice for All. Section 9 of EO 14096 directed the Council on Environmental Quality (CEQ) to develop interim guidance to inform agency implementation of the EO. Interim guidance is not yet available; thus, this project was assessed per EO 12898, as amended.

4.2. EJ Potential Impacts

In accordance with FHWA EJ policy and guidance, there are two key criteria for determining whether an action will cause a disproportionately high and adverse effects on minority populations or low-income populations:

- 1) An adverse effect that is predominantly borne by a minority or low-income population, or
- 2) An adverse effect that will be suffered by a minority or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority or non-low-income population.

Areas of low-income and minority populations were identified within the study area by reviewing of US Census data (**Section 2.5, p.60**), project mapping, and field observations.

Regarding **minority** individuals, Ballard County is predominantly White (96% of the tract population). In Illinois, the Pulaski County tract has a slightly more diverse population with 76% White. Alexander County, Illinois has the highest minority population, with only 33% White. The population of Black/African Americans in CT 9578 is 61%. Thus, there is higher potential to encounter minority persons in Illinois. Housing and relocation resources would be made available to the relocatee(s) without regard to race, creed, color, or national origin.

Regarding **low-income** individuals, CT 9502 (Ballard) and CT 9710 (Pulaski) have approximately 16% and 18% of residents below the poverty line, respectively, which is commensurate with county thresholds. CT 9578 (Alexander) has a higher percentage of persons living below the poverty line than the county at 38%. Reviewing current estimated housing values in the area indicates most are likely low-income. Housing and relocation resources would be made available to the relocatee(s) without regard to income status.

Considering there is a higher potential for the presence of low-income and minority populations in Alexander County, if the number of relocations were to be higher there, these populations may be considered disproportionately impacted. Based on preliminary planning-level estimates, Ballard County would likely experience the most relocations.

There is potential for disproportionately high and/or adverse effects to EJ populations, should a project advance from this study, avoidance, minimization, and mitigation commitments regarding these populations may be required. Additional coordination would be necessary to engage these populations and better understand impacts. Early coordination with local officials in Cairo indicates they believe a Build alternative would adversely affect their communities.

Regarding indirect effects to EJ populations, the benefits of improved mobility (e.g., access to residences and community resources, decreased emergency response times, reduced travel time and costs, and improved safety) would be made available to all residential populations. However, if a Build alternative is recommended, and the US 51 bridge were to be closed in the future, the EJ populations likely present in Cairo may experience increased travel costs by having to travel a longer distance for work and access community resources.

4.3. EJ Avoidance & Minimization Opportunity: Relocation Assistance Program

To minimize the unavoidable effects of right-of-way acquisition and displacement of people, the KYTC and IDOT offer a Relocation Assistance Program in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* (Public Law 91-646), as amended. Housing and relocation resources are made available to all residential and business relocatees without regard to race, creed, color, national origin, or economic status, as required by Title VI of the *Civil Rights Act of 1964*. In accordance with *Environmental Justice Executive Order 12898*, an analysis was conducted to identify any geographic areas containing disproportionately high concentrations of minority or low-income populations, presented in **Section 3.5**.

The KYTC and IDOT provide advance notification of impending right-of-way acquisition. Before acquiring right-of-way, all properties are appraised based on their fair market value. Owners of property to be acquired are offered and paid fair market value for their property rights. No person lawfully occupying real property is required to relocate without written notice of the intended vacation date; and no residential property occupant is required to relocate until decent, safe, and sanitary replacement housing is made available. "Made available" means the relocatee has either obtained (and has the right of possession of) replacement housing on his/her own or the KYTC/IDOT has offered the relocatee decent, safe, and sanitary housing within his/her financial means and available for immediate occupancy. KYTC/IDOT has several options available to locate replacement housing, including:

- Relocating individuals into housing for sale on the real estate market, locally, regionally, or elsewhere.
- Repositioning dwellings on their existing property so they are outside the right-of-way limits.
- New house construction by the existing landowners.
- Advertisements in local media requesting to purchase housing meeting specific requirements.

On April 18, 2023, there were 1,396 potential available (not pending or contingent) houses (any price and type) on REALTOR.com within a 50-mile radius of Barlow, Kentucky. ¹¹⁴ Reducing the search radius to only the counties showed 24 potentially available houses in Ballard County, ¹¹⁵ 16 potentially available houses in Alexander County, ¹¹⁶ and 17 potentially available houses in Pulaski County. ¹¹⁷ **Table 23** summarizes the number of listings in an approximate 50-mile radius ¹¹⁸ of Barlow, and for Ballard, Alexander, and Pulaski counties by property type in three prices ranges. The median housing value of the two tracts in Illinois fall into the lowest price range. CT 9502 in Ballard County falls in the medium price range category (see **Table 23**) with a median house value of \$137,500. However, due to the current housing market's record-high real estate prices, the number of available houses in higher price ranges is also summarized.

¹¹⁴ https://www.realtor.com/realestateandhomes-search/42024/radius-50/sby-1?view=map

¹¹⁵ https://www.realtor.com/realestateandhomes-search/Ballard-County KY/sby-1?view=map

¹¹⁶ https://www.realtor.com/realestateandhomes-search/Alexander-County IL/sby-1?view=map

¹¹⁷https://www.realtor.com/realestateandhomes-search/Pulaski-County IL/sby-1?view=map

Per KYTC's Right-of-Way Relocation Assistance Manual, https://transportation.ky.gov/Organizational-Resources/Policy%20Manuals%20Library/Relocation%20Assistance.pdf, there are mechanisms in place to relocate beyond a 50-mile radius as needed.



Table 23. Residential Listings

		Housing	Currently A	vailable
Location	Price Range	Single Family	Mobile Home	Total
	<\$100,000	128	9	137
Approximate 50-Mile Radius	\$100,000-\$200,000	121	5	126
	\$200,000-\$300,000	58	0	58
	<\$100,000	2	0	2
Ballard County, Kentucky	\$100,000-\$200,000	2	2	4
	\$200,000-\$300,000	1	0	1
	<\$100,000	6	0	6
Alexander County, Illinois	\$100,000-\$200,000	1	0	1
	\$200,000-\$300,000	0	0	0
	<\$100,000	3	0	3
Pulaski County, Illinois	\$100,000-\$200,000	1	0	1
	\$200,000-\$300,000	1	0	1

^{*}Source: REALTOR.com, accessed April 18, 2023

Based on the current estimates for potential relocations, and the fact that the relocation phase may take multiple years, it is likely the number of relocations for this project would be accomplished using normal relocation procedures. However, the need for Last Resort Housing¹¹⁹ may arise, especially for low-income relocatees. This program would be used if comparable replacement housing is not available, or is unavailable within the displacee's financial means, and the replacement payment exceeds the state legal limitation.

[&]quot;Last resort housing" is a program used when comparable replacement housing is not available or when it is unavailable within the displacee's financial means, and the replacement payment exceeds the state legal limitation. The purpose of the program is to allow broad latitudes in methods of implementation by the state so that decent, safe, and sanitary replacement housing can be provided. This program is used, as the name implies, only as a "last resort," when there is no adequate opportunity for relocation within the area.



There are no mobile home dealers located immediately within Barlow; however, there are multiple dealers nearby. Paducah, located about 25 miles east, currently has at least three dealers serving the area.

Under the Relocation Assistance Program, a relocation specialist would be assigned to the roadway project to execute the relocation assistance and payments program. The relocation specialist would contact the owner of the property to be relocated to ascertain individual needs and desires. The specialist would provide information, answer questions, and aid in finding replacement property. Relocation services and payments would be provided without regard to race, color, religion, sex, national origin, or economic status. Relocated residents would receive an explanation regarding all options available to them, such as varying methods of claiming moving expenses reimbursement; replacement housing rental, either private or publicly subsidized; replacement housing purchase; or moving owner-occupied housing to another location. Financial assistance would be made available to the eligible relocatee for reasonable costs associated with moving, replacement housing, and other eligible expenses.

4.3.1 Relocation Schedule

The anticipated study schedule is provided in **Figure 51**. Anticipated completion dates are included for informational and resource planning purposes. KYTC and FHWA may revise this schedule, as needed, as the study advances. This study is included in Kentucky's FY 2022 – 2028 *Highway Plan*. ¹²⁰ Only planning funds have been programmed to-date. No future project phases are currently planned.

However, future design and environmental activities are anticipated to last 1 to 2 years if funding becomes available. Based on the very preliminary estimated number of relocations, the right-of-way phase may take an additional 1 to 2 years. Since no funding for future phases has been identified, it is unknown if relocations for this project may take place concurrently with other projects in the area.

https://transportation.ky.gov/ProgramManagement/2022%20Enacted%20Highway%20Plan/2022%20Enacted%20Highway%20Plan%20Combined%20Book%20June%2028%202022.pdf

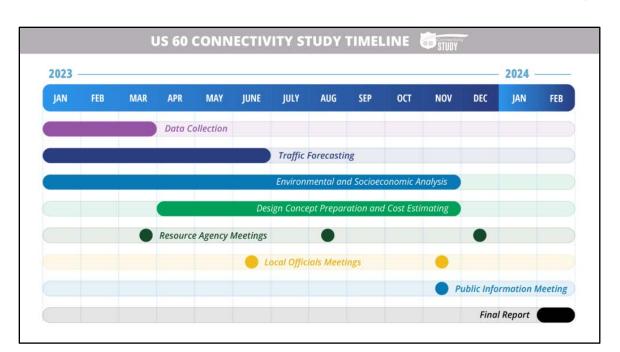


Figure 51. Study Schedule

5. Socioeconomic Analysis Summary

Table 24 summarizes the estimated resources within the initial corridors.

Table 24. Initial Corridor Comparative Matrix of Socioeconomic Impacts

Environmental Resource - Initial Corridor	Α	В	С	
Study Area (acres)	2,317	2,201	2,395	
Residences	159	162	36	
Businesses	4	45	3	
Community Resources		Yes		
Cultural Historic Resources	es 9 6			
Archaeological Resources	0	1	4	
Cemeteries	1	0	0	
Prime & Unique Farmland (acres)	323	385	301	
State & Local Important Farmland (acres)	76	74	130	
Axe Lake Swamp State Nature Preserve (acres)	0	0	0	
Boatwright Wildlife Management Area (acres)	347	893	603	
Cypress Creek National Wildlife Refuge (acres)	0	0	0	
NRCS FPE 1052068 (acres)	0	0	2	
NRCS FPE 959343 (acres)	0	2	66	
NRCS WRPE 957664 (acres)		0 0	0	
NRCS WRPE 986308 (acres)	0	0	0	
NRCS WRPE 967117 (acres)	0	0	68	
Barlow City Park (acres)	0	0.35	0	
Public Hunting Lands & Public Fishing Areas (acres)	360	881	607	
USACE-Owned Lands (acres)	35	0	0	
IDNR Property (acres)	0	0	3	
Length of Streams (feet)	63,124	49,548	78,728	
Wetlands (acres)		932	891	
100-Year Floodplain (acres)		1,287	1,434	
Forested Area (acres)	840	756	819	
ABBREVIATIONS: NRCS=Natural Resources Conservation Service, FPE=Floodplain Easement,				
WRPE =Wetland Reserve Program Easement, USACE =United States Army Corps of Engineers,				
IDNR=Illinois Department of Natural Resources				

IDNR=Illinois Department of Natural Resources

As the corridors were further refined in the study process, these preliminary estimates were further reduced as described below.

Figure 52 shows how the three initial corridors were refined to analyze two potential conceptual corridors. These were narrower than the initial corridors, representing a 500-foot-wide buffer (1,000-foot total width). Within those 1,000-foot buffers, conceptual corridors were developed to an approximately 15% design level for better estimation purposes. The quantities presented in **Table 2** reflect the 15% design plans, not the representative corridors.

Initial Corridor A was adjusted to avoid identified properties protected in perpetuity, evolving into Corridor 1 (representative buffer encompasses 1,200 acres).

Similarly, due to the number of properties protected in perpetuity in the central and southern portions of the study area, Initial Corridors B and C were combined to create Corridor 2 (representative buffer encompasses 1,336 acres).

Considering the 15% design, **Conceptual Corridor 1** encompasses 233 acres and would provide the **northernmost connection** to I-57 in Illinois, between Urbandale and Golden Lily.

Conceptual Corridor 2 encompasses 180 acres and would provide the **southernmost connection** into Illinois at Exit 1, between Future City and Urbandale near Cairo Junction.

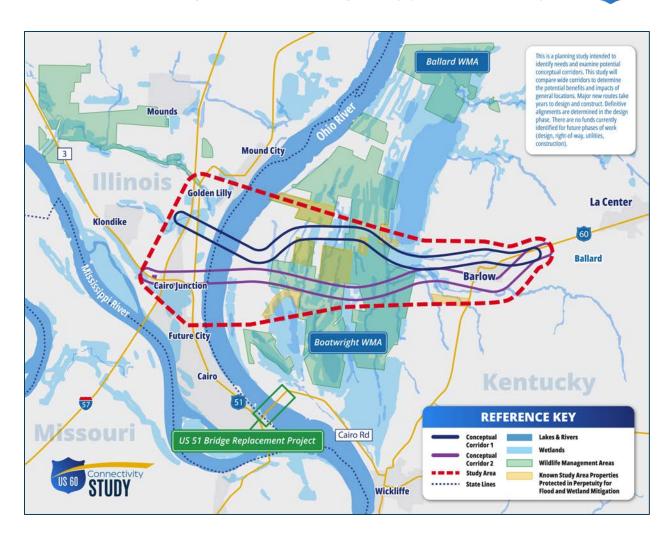


Figure 52. Refined Corridor Concepts



Table 25 and **Figure 53** show how the refined conceptual corridors avoid or minimize impacts to some environmental resources. Bold text highlights the corridor having greater impacts. Known properties protected in perpetuity were completely avoided.

Table 25. Environmental Resources within Refined Conceptual Corridors

Environmental Resource – Refined Corridor	1	2		
Study Area (acres)	233	180		
Residences	6	4		
Businesses	0	3		
Cultural Historic Resources	0	0		
Archaeological Resources	0	1		
Cemeteries	0	0		
Farmland (acres)	177	137		
Forested Area (acres)	83	56		
Streams (linear feet)	4,972	4,118		
Wetlands (acres)	91	55		
100-Year Floodplain (acres)	196	113		
Parks (acres)	0	0		
Boatwright WMA (acres)	23	68		
Boatwright Properties (acres) - Protected in Perpetuity	0	0		
IDNR Property (acres)	0	0		
NRCS Properties (acres) - Protected in Perpetuity	0	0		
Public Hunting Lands (acres)	23	68		
USACE-Owned Lands (acres)	0	0		
<u>ABBREVIATIONS</u> : NRCS =Natural Resources Conservation Service, USACE =United States Army Corps of Engineers, IDNR =Illinois Department of Natural Resources				

Geographic Information System (GIS) databases, research, windshield surveys, and limited field assessments within accessible areas of public-owned right-of-way were performed to identify environmental resources within the area. Future NEPA reviews would require additional field assessments. It is expected that resources would be identified beyond those known at the planning level. This information was prepared to facilitate the screening process, develop reasonable cost estimates, and support future project planning efforts. This information should inform the scale of a future NEPA review and support the analyses of the No-Build versus Build alternatives.

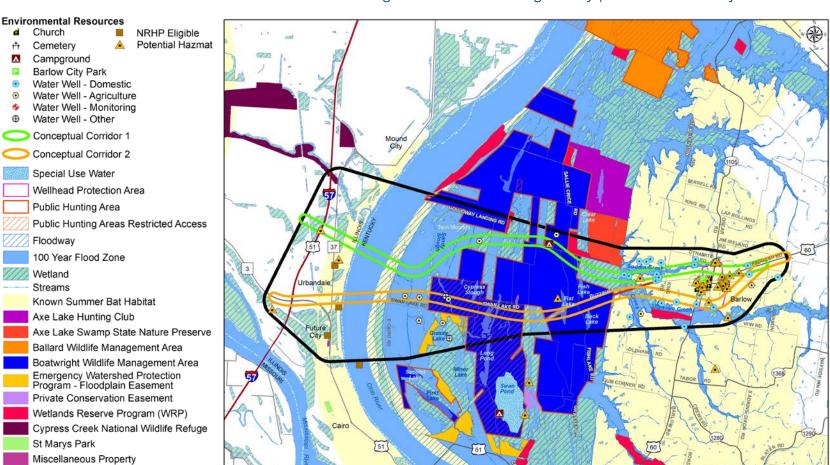


Figure 53. Environmental Resources and Refined Corridors

Area of Potential Effect

6. Socioeconomic Impacts Proposed Mitigation

Based on preliminary estimates, should a Build alternative be recommended, it is assumed mitigation for socioeconomic impacts would likely be required. Potential options to avoid or offset impacts are summarized below. Coordination with the communities, stakeholders, local officials, and residents may further inform future mitigation efforts.

6.1. Community Impacts

The communities of Cairo and Wickliffe may negatively be impacted by a build alternative if the US 51 bridge were to be closed. The closing of this connection could increase travel times to area resources and allow for these communities to be bypassed. Public involvement should occur to further understand these impacts and how they may be offset.

If any of the community resources may be directly impacted, a goal would be to relocate them within the existing community to continue to provide those services.

6.2. Relocations & Displacements

Based on preliminary estimates, there is potential for a high number of relocations. KYTC would implement a Relocation Assistance Program in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646)*, as amended in 1987. Relocation resources would be available to all residential relocatees and business/institutional displacements without regard to race, creed, color, national origin, or economic status, as required by Title VI of the *Civil Rights Act of 1964*.

Regarding residential relocations, because the construction of the roadway would likely take place in stages over several years, it is anticipated relocations could be accomplished using normal relocation procedures. Housing of Last Resort would be used if comparable replacement housing would not be available, or unavailable within the relocatee's financial means, and the replacement payment exceeds the state legal limitation. Considering that many of the relocations are mobile homes, they may be successful in relocating on existing lots or to new property without having to search for replacement housing; this is a similar approach to other projects within Kentucky.

Regarding cemeteries, if the Barlow Cemetery would need to be relocated, its relocation would be addressed according to the stipulations in KYTC's Right of Way Guidance Manual,

Chapter 13, "Relocation of Human Remains" (under the authority of 600 Kentucky Administrative Regulation [KAR] 3:020 and 901 KAR 5:090).

6.3. Environmental Justice

Based on the review of US Census data, there is a higher potential to encounter low-income and minority populations in Alexander County than in Pulaski or Ballard. Depending on where the concentration of relocations may be located, these populations may be disproportionately impacted. Further analysis should occur as concepts are refined. It is unclear at this time if the impacts to these populations may also be considered adverse, or if after considering project benefits and avoidance, minimization, and mitigation efforts the adverse impacts may be offset. Continued coordination with the communities and potential relocatees should occur if a project were to advance. This coordination could help the team further understand potential direct and indirect impacts to these persons and what resources they may need or mitigation efforts to consider. Long-term impacts to these communities should be further explored.

6.4. Land Use

Land use impacts to conserved lands would be unavoidable due to the nature of the study area. As most of the land types are considered Section 4(f) protected, the substantive law would be followed and coordination with the Official(s) with Jurisdiction (OWJ) would occur. Based on the anticipated impacts, it is assumed an *Individual Section 4(f) Evaluation* would be required, and mitigation would likely be required. Mitigation would vary based on the land type, ownership, deed restrictions, and associated funding requirements. Mitigation efforts could include finding replacement lands with stipulations, paying mitigation fees, relocating or reestablishing areas, etc. Coordination with the OWJ, community, and other stakeholders may inform other creative mitigation efforts that could recognize the specific context of the use of the Section 4(f) property. Section 4(f) impacts may be significant and would likely add substantial time, coordination efforts, and costs to a future project.

Since the construction of a roadway and associated structures would create impervious surfaces through an area that is predominantly wetland, the impacts of this would need to be further considered. It is assumed stormwater runoff and pollution would increase, and, over time, this could lead to degradation of water quality and habitat in the area. A separate analysis would consider potential impacts to threatened and endangered species and water quality and quantity impacts.

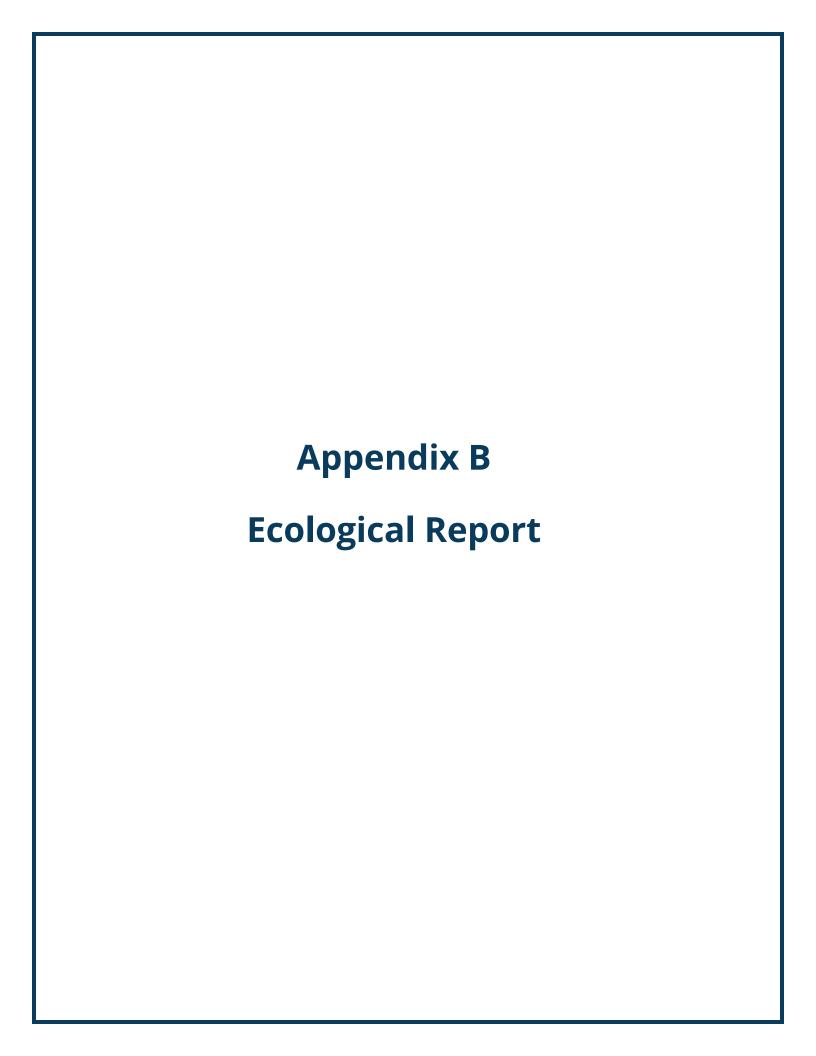
6.5. Construction

Highway construction activities would have temporary, air, water quality, noise, and traffic flow, and associated impacts within the project area. Impacts would be addressed by implementing the KYTC's *Standard Specifications for Road and Bridge Construction (Standard Specifications*), as directed by the KYTC project manager, and using Best Management Practices. These practices could include, but not be limited to, the following:

- The air quality impacts would be temporary, and primarily in the form of dieselpowered construction equipment emissions and dust from exposed earth. Air
 pollution associated with airborne particle creation would be effectively controlled by
 watering or applying calcium chloride in accordance with the KYTC's Standard
 Specifications.
- Water quality impacts resulting from erosion and sedimentation would be temporary and controlled in accordance with KYTC's Standard Specifications and Best Management Practices. Contractors would be required to obtain the necessary permits that are related to their construction practices, if necessary.
- Temporary erosion control features, as specified in KYTC's Standard Specifications, would consist of measures that could include the temporary placement of sod, mulching, sandbagging, slope drains, sediment basins, sediment checks, artificial coverings, and berms.
- Noise and vibration impacts would originate from heavy equipment movement, blasting, and construction activities such as pile driving and vibratory compaction of embankments. Noise control measures would include those contained in KYTC's Standard Specifications. KYTC would be responsible for monitoring construction noise and for advising the contractor of maximum allowable noise level violations.
- Construction activities, including traffic maintenance and construction sequence, would be planned and scheduled to minimize traffic delays. Signs would be used as appropriate to provide notice of road closures and other pertinent information to the traveling public. The local news media would be notified in advance of road closings and other construction-related activities that could excessively inconvenience the local residents, allowing motorists to plan travel routes in advance. Property access would be maintained to the maximum extent practical through controlled construction scheduling. Traffic delays would be controlled to the maximum extent possible where many construction operations are in progress simultaneously. The contractor would be required to maintain one lane of traffic in each direction at all

times, and to comply with Best Management Practices. Barge traffic would be coordinated with local industries,

• Structure and debris removal would be performed in accordance with local and state regulatory agencies permitting the operation. The contractor would be responsible for pollution control methods in borrow pits, other materials pits, and areas used for waste materials disposal from the proposed project.





Ecological Report

US 60 Connectivity Study
Item 1-80250





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- F USFWS Information for Planning and Consultation (IPaC) Species List [not for consultation use]
- G Kentucky Department of Fish and Wildlife Resources. Ballard County, KY Species Records of Observation

1.Introduction

KYTC Item Number 1-80250 US 60 Connectivity Study is being completed as a Planning and Environmental Linkages (PEL) study¹, meaning it is taking a collaborative and integrated approach to the transportation decision-making process by considering potential environmental benefits and impacts during the planning phase. This PEL study will fully examine the feasibility, costs, and impacts of a potential US 60 corridor and Ohio River crossing to provide a more direct linkage between US 60 at Barlow, Kentucky (Ballard County) and I-57 near Future City, Illinois (Alexander County) in lieu of the ongoing US 51 bridge replacement project at Wickliffe (south of the study area)². This study is being conducted to determine if the development of a new corridor and river crossing would offer more long-term value to the Commonwealth.

This Ecological Report is being prepared to identify potential direct and indirect changes (benefits and impacts) to the aquatic and terrestrial environment. This includes protected conservation lands, Wildlife Management Areas (WMA), Threatened & Endangered Species, Migratory Birds, Bald and Golden Eagles, water resources (floodplain, stream, open water, wetlands), and consideration of Clean Water Act and Section 7 federal, state, and local permits. The intent is to cooperatively identify environmental resources and potential impacts, as well as to identify issues that could influence the environmental and overall decision-making process for this PEL study.

Methodology and ecological resources present within the full study area are presented in Sections 3 and 4. Initial study concepts A, B, and C are described with quantified potential impacts in Section 5. Review of initial study concepts led to development of revised corridor 1 and 2 which are detailed in Section 6. Corridors 1 and 2 are each 1000ft wide; however, a 10% mock design within the corridor was used to calculate the presented quantified potential impacts and mitigation estimates comparison.

¹ https://www.environment.fhwa.dot.gov/env_initiatives/PEL.aspx

² https://us51bridge.com/project-overview

1.1. Study Overview

Mostly focused within Kentucky, the study area encompasses 16,167 acres as shown in Figure 1. This feasibility study was legislatively added to Kentucky's current 2022-2028 enacted highway plan with the description of "conduct a planning study for extending US 60 from Barlow, KY west across Ohio River to I-57 near Future City, Illinois."³

South of the study area is ongoing KYTC project (Item No. 1-1140) to address the existing US 51 bridge crossing between Wickliffe, Kentucky and Cairo, Illinois. The primary purpose of the US 51 project is to:

- Rehabilitate or replace the deficient US 51 Ohio River Bridge.
- Maintain cross river connectivity between Wickliffe, KY and Cairo, IL.
- Improve safety on the bridge and its approaches.

A northern alternative was considered through this study's current area of consideration; however, it was eliminated from the 1-1140 project because while it maintained cross river connectivity between the states, the estimated travel times and distances were more than doubled compared to the existing conditions and there were other viable options that better addressed that project's purpose and need.

1.2. Study Goals

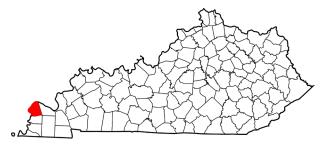
The purpose of the US 60 Connectivity project is to improve regional mobility by providing a more direct east-west travel corridor across the Ohio River between I-24 in Kentucky and I-57 in Southern Illinois. Three study goals established include:

- Enhance Regional Mobility.
- Provide Economic Development Opportunities.
- Remain Sensitive to Environmental Resources.

³ https://transportation.ky.gov/Program-

1.3. Geographical and Physiographical Characteristics

Ballard County is located in far western Kentucky at the confluence of the Ohio and Mississippi River. The Ohio River borders the county to north, and the Mississippi River to the west. McCracken County forms its eastern border, and Carlisle County is to the south. Wickliffe serves as the county seat in the far southwestern portion of the county.



Ballard County Location Map

The county falls within in the Jackson Purchase region and comprises 254 square miles.⁴ Of that, approximately 247 square miles is land with the elevation ranging from 285 to 495 feet above sea level.⁵



Plain province of the Mississippi Embayment physiographic region, which is a nearly flat, low elevation floodplain (289-331 feet) bordering the Mississippi and lower Ohio rivers. The Mississippi Embayment region's lowland nature and its associated habitats support the presence of many plant and animal species that are found nowhere else in the Commonwealth. The Mississippi Alluvial Valley has been impacted by intensive row crop agriculture and stream channelization resulting in the loss of habitats supporting many rare species.⁶

This project study area is located in the Mississippi Alluvial

Alexander County Location Map

Alexander County is the southernmost county within Illinois. The Mississippi River borders it to the west and south. Its eastern border includes the Ohio River, Cache River State Natural Area, and Pulaski County. Its northern border abuts Union County. Cairo serves as the county seat.⁷ The county comprises 253 square miles, of which 236 square miles is land.⁸

⁴ https://ballardcounty.ky.gov/Pages/default.aspx

⁵ https://www.kyatlas.com/21007.html

⁶ Haag, W.R. and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 4-5.

⁷ https://alexandercounty.illinois.gov/about/

⁸ https://en.wikipedia.org/wiki/Alexander_County,_Illinois

Pulaski County is directly east of Alexander County. The Ohio River borders it to the east and is in the portion of the state locally known as "Little Egypt." Its county seat is Mound City. The county encompasses 203 square miles, with land making up 199 square miles. By land area, it is the third smallest county in the state.9



Pulaski County Location Map

⁹ https://pulaskicountyil.net/index.html



2. Initial Study Concepts

Potential build corridors are being considered along the No-Build option. Three initial corridors (A, B, and C) were identified and assessed as described in Sections 3-5 of this report. Initial corridor assessments resulted in the development of two revised corridors (1 and 2) which are further described within Sections 6-7.

2.1.1 No-Build

The No-Build concept would involve no action to construct a new connection between US 60 at Barlow in Kentucky and Future City, Illinois. It is assumed that the ongoing US 51 bridge replacement project at Wickliffe (south of the study area) would advance as planned.

2.1.2 **Build**

As shown in Figure 1, three initial study corridors have been identified. These corridors represent a general alignment, shown as a 1,000-foot-wide buffer (2,000 feet total width). Should this study recommend a build alternative that would offer more long-term value to the Commonwealth, the need for the ongoing US 51 bridge replacement project to the south may be reassessed.

Initial Corridor A | Northern Concept

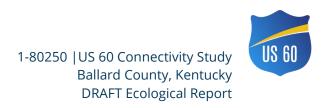
Represents a 1,000-foot-wide buffer (2,000-foot total width) and encompasses 2,317 acres. It would provide a far north connection to I-57 in Illinois, between Urbandale and Golden Lily.

Initial Corridor B | Middle Concept

Represents a 1,000-foot-wide buffer (2,000-foot total width) and encompasses 2,201 acres. This concept would provide the most direct connection to I-57 in Illinois at existing Exit 1, between Future City and Urbandale.

Initial Corridor C | Southern Concept

Represents a 1,000-foot-wide buffer (2,000-foot total width) and encompasses 2,395 acres. It would provide the most southern connection into Illinois near Future City.



3. Methods

A desktop review of the study area was performed for known ecological resources including but not limited to data from:

- Office of Kentucky Nature Preserve (OKNP); KY-Biological Assessment Tool (KY-BAT), and 2016 "A Distributional Atlas of the Freshwater Mussels of Kentucky" Technical Series No. 8
- Kentucky Department of Fish and Wildlife Resources (KDFWR); Ballard County Species List and Kentucky Wildlife Action Plan (KWAP)
- Illinois Department of Natural Resources (IDNR); Illinois Wildlife Action Plan (IWAP)
- Kentucky Karst Potential Map
- FEMA National Flood Hazard Layer (NFHL) Data
- NRCS Soils Report for Ballard County in Kentucky
- US Army Corps of Engineers; Regulatory In-lieu Fee & Bank Info Tracking System (RIBITS)
- US Fish and Wildlife Service (USFWS); Information for Planning and Consultation (IPaC), known northern long-eared bat habitat in Kentucky, known Indiana bat habitat in Kentucky, and National Wetlands Inventory Mapper for surface waters and wetlands (NWI)
- US Geological Survey; National Hydrography Dataset (NHD), and Gap Analysis Program land cover (GAP)

4. Ecological Resources

The US 60 Connectivity Study focuses on a 16,167-acre study area between US 60 at Barlow, Kentucky (Ballard County) and extending across the Ohio River to I-57 near Future City, Illinois (Alexander County). Ecological Resources within the study and its immediate vicinity are discussed in categories of: Terrestrial Resources, Aquatic Resources, Protected Lands, and Permit Requirements. Sections 4.1 and 4.2 highlight the federally listed species recognized within the USFWS IPaC species list and also includes 'Other Species of Interest' that highlights additional species with proposed or under review for federal-listing and brief summary of species with state listing. Comprehensive species lists are provided in Appendix A including Federally Listed Species in Table A.1, State Listed Species with Observance Records in Table A.2, and Table A.3 with Birds of Conservation Concern Listed within USFWS IPaC species list and State Wildlife Action Plan Species with Observation Records. Potential Impacts Comparison by Study Corridor is provided in Section 5.

4.1. Terrestrial Resources

4.1.1 Bats

Numerous bat species have high potential for occurrence within the project area, most of which have been impacted significantly by their susceptibility to white-nose syndrome, a devastating disease that has caused unprecedented mortality in hibernating bat species especially in the northeastern United States.

The IPaC species list for the study area includes four federally protected and proposed bat species:

- Gray bat (Myotis grisescens) Endangered
- Indiana bat (Myotis sodalis) Endangered, *C.H.
- Northern long-eared bat (Myotis septentrionalis) Endangered
- Tricolored bat (*Perimyotis subflavus*) Proposed Endangered

Critical Habitat (C.H.):

 Indiana bat has designated critical habitat, but none is located within the project's study area. No critical habitat is currently designated for the gray, northern longeared, or tricolored bats.



Gray bats are primarily a year-round cave-dwelling species but may also use abandoned mines, inside of dams, storm sewers, and concrete bridges near the edges of range where caves are absent. The species is often observed on the landscape, particularly over and near aquatic ecosystems, foraging during the active season (April 1 – October 14). Indiana, northern long-eared, and tricolored bats are all known to overwinter at caves and abandoned mines from October 1 to March 31 but are often observed on the landscape foraging and roosting in tree snags or hardwood trees with sloughing bark or small cavities during the active season (April 1 – October 14). Tricolored bats may also roost in Spanish moss, pine trees, human structures, or live and dead leaf clumps in live trees. Shallow caves and rock shelters can also serve as roosting habitat. Bridge or culvert structures can serve as potential summer and/or winter habitat for all four bat species. The active maternity season for all four of these bat species is considered June 1 – July 31.

Known Listed Bat Species Habitat Occurrence Records in Kentucky:

Based on the August 2019 USFWS habitat maps in Kentucky and within 20 miles¹⁰ (Appendix B), the study area primarily includes 'Known Summer 1' habitat for the northern long-eared bat and 'Known Summer 1' habitat for the Indiana bat. Some 'Known Summer 2' habitat for the Indiana bat is also within the study area. The centroid of one 'Known Summer 1' habitat polygon for the Indiana bat is present within the study area; this centroid indicates the known presence of an Indiana bat maternity roost tree record. Based on April 2017 KDFWR distribution map for the Commonwealth, Ballard County is known to support the proposed endangered tricolored bat.

Other Species of Interest

The little brown bat (*Myotis lucifugus*) is under review for federal listing while the Rafinesque big-eared bat (*Corynorhinus rafinesquii*) and southeastern myotis (*Myotis austroriparius*) are both state listed species. Brief species context is presented within this Section for these three species. Comprehensive species lists are provided in Appendices A.1 – A.3.

⁻

¹⁰ US Fish and Wildlife Service: Kentucky Field Office. 2016. Revised Conservation Strategy for Forest-Dwelling Bats in the Commonwealth of Kentucky. V2. Map Appendices updated August 2019. Accessed: July 31, 2023. https://www.fws.gov/office/kentucky-ecological-services/protected-bats-kentucky



Little Brown Bat

Little brown bat is currently 'Under Review' by USFWS for federal listing¹¹ as its population is susceptible to white-nose syndrome. This species' summer roosts are often associated with hollow trees or loose bark, barns, buildings, or bridges¹². Winter hibernation in caves is preferred but use of underground mines and quarries has also been observed¹². Little brown bats differ from other *Myotis* species in their preference towards slightly warmer and moister areas of caves and the way they roost singly, in rows along crack of a rock, or in loose clusters¹². Although found year-round in Kentucky, "...Little brown bats are migratory, and most of the individuals that hibernate in Kentucky caves probably go farther north for the summer. In turn, some of our wintering little browns and ones from farther south likely make up Kentucky's summer population..."¹² Little brown bats have been recorded throughout the majority of Kentucky, including Ballard County. Caves, various forested habitats, or riparian corridors could serve as suitable habitat for this species.

Rafinesque Big-eared Bat

Rafinesque big-eared bat is state listed as a species of special concern in Kentucky and an Illinois state endangered species. Rafinesque big-eared bats are found year-round in Kentucky and can utilize a variety of roost sites including caves, old mines, protected rock shelters along cliff lines, sandstone rock shelters, abandoned buildings, bridges, cisterns, and large hollow trees¹³. More like its Midwestern populations, western Kentucky Rafinesque bigeared bats are likely to use large hollow trees, especially bald cypress (*Taxodium distichum*) and water tupelo (*Nyssa aquatica*), for summer roosting¹³. This contributes to one of the primary threats to the species being the loss and degradation of mature bottomland hardwood forests¹³. Clearing of mature upland forests and impacts to riparian areas can impact roosting, commuting, and foraging areas.

Southeastern Myotis

Southeastern myotis is state listed as species of special concern in Kentucky and as endangered in Illinois. It is found year-round in Kentucky and often observed hibernating in caves associated with other bat species. Some southeastern myotis bats continue to roost in caves throughout the active season (April 1 – October 15), while many move into cavities of large, hollow trees, especially bald cypress and water tupelo, typically associated with

¹¹US Fish and Wildlife Service: Environmental Conservation Online System (ECOS). Little Brown Bar (*Myotis lucifugus*). Accessed January 23, 2024. https://ecos.fws.gov/ecp/species/9051

¹² Kentucky Department of Fish and Wildlife Resources. Little Brown Bat (*Myotis lucifugus*). Accessed: January 23, 2024. https://fw.ky.gov/Wildlife/Pages/Little-Brown-Bat.aspx

¹³ Kentucky Department of Fish and Wildlife Resources. Rafinesque Big-eared Bat (*Corynorhinus rafinesquii*). Accessed January 23, 2024. https://fw.ky.gov/Wildlife/Pages/Rafinesque's-Big-Eared-Bat.aspx



bottomland habitats, often near water. Primarily assumed to forage over lakes, ponds, and slow-moving streams, flying close to the water's surface. A major threat to this bat species is loss and degradation of mature bottomland hardwood forests due to agricultural conversion and urban expansion. Human disturbance is also a threat, especially to its cave habitat. ¹⁴

Southeastern myotis bats are found regularly only in the western half of Kentucky, with county species records in Ballard County. The mature bottomland hardwood forest of this study area is known to provide habitat for this species.

4.1.2 Karst, Soils, and Vegetation

Karst

Based on information from the USGS US Karst Occurrence Map (Appendix C), the study area is underlain by bedrock with limited or no potential for karst development. The Kentucky Biological Assessment Tool data report (Appendix D) and the KyGovMaps Open Data Portal¹⁵ identified zero sinkhole polygons within the study area. No caves occur within the study area.

Soils

In addition to open water resources, the Natural Resources Conservation Service (NRCS) Web Soil Survey's Custom Soil Resource Report for the study area (Appendix E) indicated 26 different soil types within the Alexander County, Illinois extent, 8 soil types within the Pulaski County, Illinois extent, and 34 soil types within the Ballard/McCracken County, Kentucky extent. Across all study area counties, the soil descriptions are heavily dominated by silty soils with 0-2% slopes that are occasionally to frequently flooded. A few of 6-12% slopes with severely eroded soils were also identified.

Vegetation

Forested Acreage

Based on Gap Analysis Program land cover (GAP) data, approximately 5,131 acres of forested habitat is present within the study area. Forested areas are often important habitat for wildlife, including several species of federally protected bats as discussed above.

¹⁴Kentucky Department of Fish and Wildlife Resources. Southeastern Myotis. Accessed: July 31, 2023. https://fw.ky.gov/Wildlife/Pages/Southeastern-Myotis.aspx

¹⁵ KyGovMaps Open Data Portal. Ky Water Resources Polygons Sinkholes. Accessed July 19, 2023. https://opengisdata.ky.gov/datasets/ky-speed-limits/explore?location=38.436858%2C-82.694484%2C15.30

Bald-cypress - Water Tupelo Forest

The NHD Waterbody reported 382 acres of Swamp/Marsh within the study area. Bald-cypress-water tupelo forest is a unique ecological community type that is assumed associated with these Swamp/Marsh areas. According to the Office Kentucky Nature Preserves' (OKNP) summary, Axe Lake Swamp SNP "protects a portion of Kentucky's best-known example of a large, intact bald cypress-tupelo swamp" 16. The Kentucky Biological Assessment Tool report included record of water hickory tree (*Carya aquatica*; a Kentucky state-threatened species) within the study area. Water hickory is often associated with bottomlands and floodplain swamps.

4.1.3 Invertebrates

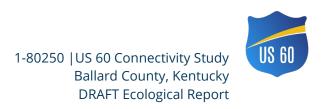
The IPaC species list for the study area includes one invertebrate species:

Monarch butterfly (Danaus plexippus) – Candidate

Critical Habitat (C.H.): None

Resident populations of monarch butterflies are present in Florida and California, but the monarch butterfly is primarily known for its eastern North American population which makes a great two-way migration between Mexico and Canada each year. Monarchs use multiple flyways routes across North America that primarily converge into a single flyway in Central Texas that leads to their overwintering grounds in Mexico's Oyamel Fir Forest. It often takes multiple generations to complete the full migration route, with Kentucky and Illinois being a stopping area. Multiple habitat needs must be met along their migration path. Monarch butterflies are pollinators that require nectar sources to feed the adults. The adults prefer to lay their eggs on milkweed host plants, which provides plant materials for the larvae to feed on and additionally absorb some of the milkweed's toxic compounds making the caterpillars less palatable for their predators. The caterpillars then hang upside down to form the pupa, undergoing complete metamorphosis inside its chrysalis to emerge as an adult butterfly and continue the next leg of the species' migratory journey. Areas of unmaintained herbaceous vegetation, especially those containing milkweeds (*Asclepias* spp.) within the study area provide habitat for the monarch butterfly.

¹⁶ Kentucky Energy and Environment Cabinet. Office of Kentucky Nature Preserves. Accessed July 14, 2023. https://eec.ky.gov/Nature-Preserves/Locations/Pages/Axe-Lake.aspx.



Other Species of Interest

A dragonfly, the double-ringed Pennant (*Celithemis verna*), and a damselfly, the Eastern Red Damsel (*Amphiagrion saucium*) are both state listed species. Comprehensive species lists are provided in Appendices A.1 – A.3. Invertebrates will not be further discussed within this Ecological Report.

4.1.4 Reptiles

The IPaC species list for the study area includes one reptile species:

• Alligator Snapping Turtle (*Macrochelys temminckii*) – Proposed Threatened

Critical Habitat (C.H.): None

Alligator snapping turtle is federally proposed as threatened and ranked as stateendangered in both Illinois and Kentucky. This species is also included in both Illinois and Kentucky Wildlife Action Plans.

Little recent population/abundance data is available for the alligator snapping turtle as it has proven to be a difficult species to find, evident by a graduate student project to sample for alligator snappers in the western part of the state funded by KDWR that had great difficulty capturing any individuals. There are few old literature records and one recent record from the Ohio River in Ballard County, Kentucky.

According to the US Fish and Wildlife Services' March 2021 Species Status Assessment Report, "Alligator snapping turtles are associated with deeper water (usually large rivers, major tributaries, bayous, canals, swamps, lakes, ponds, and oxbows), with shallower water occupied in early summer and deeper depths in late summer and mid-winter, representing a thermoregulatory shift... Hatchlings and juveniles tend to occupy shallower water, in comparison. Alligator snapping turtles are also associated with structure (e.g., tree root masses, stumps, submerged trees, etc.), and may occupy areas with a high percentage of canopy cover or undercut stream banks..." In contrast, the habitat present at Kentucky observation sites have varied greatly from headwater springs and tire ruts to large rivers.

Although sampling locations and efforts may prove more difficult to define, the study area has potential to provide suitable habitat for the alligator snapping turtle.

¹⁷ US Fish and Wildlife Service, Southeast Region, Atlanta, GA. Species Status Assessment Report for the Alligator Snapping Turtle (*Macrochelys temminckii*). Version 1.2, March 2021. Accessed July 28, 2023. https://ecos.fws.gov/ServCat/DownloadFile/206831.



Other Species of Interest

Many reptile species, including various snakes and turtles, are known to occur within this western Kentucky study area and its unique bottomland forests and wetland complex habitat; however, the western mud snake (*Farancia abacura reinwardtii*) was the only species identified by OKNP with observation and state listed status. Comprehensive species lists are provided in Appendices A.1 – A.3.

Western Mud Snake

Western mud snake is state ranked in Kentucky as a species of special concern and included in the Kentucky Wildlife Action Plan. Recent records (1984-2004) within the state exist from 7 counties in the Jackson Purchase region including Ballard County which was noted as a key habitat area. This snake is "usually found in soughs, sluggish steams, bayous, oxbows, and other slow-moving or standing water habitats; prefers areas that are at least partially wooded; prefers clean water areas with some emergent or aquatic vegetation and mud bottoms, usually with large amounts of woody debris in and near the water..." Error! Bookmark not defined. Potential suitable habitat for the western mud snake is present within the study area.

4.1.5 Birds

The IPaC species list for the study area includes one bird species:

• Whooping Crane (*Grus americana*) – Endangered,

Experimental Population, Non-Essential

Critical Habitat (C.H.):

• Whooping crane has designated critical habitat, but none is located within Kentucky Illinois, or this study area¹⁸.

The whooping crane is a state and federally listed endangered species; however, the study area is located within a federally designated experimental population area for the species.¹⁹

¹⁸ USFWS. 2023. Critical Habitat for Threatened and Endangered Species [USFWS]. Online interactive webmap:https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb 77. Accessed July 2023.

¹⁹ USFWS. 2001. Proposal to Establish a Nonessential Experimental Population of Whooping Cranes in the Eastern United States. Federal Register 66(147): 14107-14119.



Although still critically imperiled, the whooping crane has recovered substantially from its all-time low of 15 individuals in 1941. Population declines of this species have been attributed primarily to shooting and the destruction of habitat from agriculture²⁰.

The Project is located within the Eastern Migratory population of the species. During migration whooping cranes utilize a variety of habitats, feeding primarily in cropland and roosting in nearby palustrine wetlands²¹. The Eastern Migratory population migrates between Wisconsin and Florida and is commonly observed in transition through west-central Kentucky.

Other Species of Interest:

Bird species such as Interior least tern (*Sternula antillarum athalassos*), piping plover (*Charadrius melodus*), bald eagle, and golden eagle have history of federal protections but are not currently assigned any federal listing status under ESA. Six state listed bird species identified via OKNP and GBIF observations for the area include: brown creeper (*Certhia americana*), fish crow (*Corvus ossifragus*), great egret (*Ardea alba*), loggerhead shrike (*Lanius ludovicianus*), Mississippi kite (*Ictinia mississippiensis*), and yellow-crowned night-heron (*Nyctanassa violacea*). Brief species context is presented within this Section. Comprehensive species lists are provided in Appendices A.1 – A.3.

Interior Least Tern

For nearly three decades, the interior least tern was federally protected under the Endangered Species Act but was finally determined to be fully recovered and removed from the endangered species list on January 12, 2021²².

The Interior least tern is separated from its coastal relatives by a combination of physical and ecological factors unique to their nesting habitats which are primarily created and maintained by fluctuating riverine hydrologic conditions along river shoreline and inland riverine and lake habitats. Interior least terns also prey on freshwater fishes like shad and minnows.

²⁰ USFWS. 2021. Whooping Crane (*Grus americana*). Available from: https://www.fws.gov/species/whooping-crane-grus-americana. Accessed July 2023.

²¹ Urbanek, R. P. and J. C. Lewis. 2020. Whooping Crane (Grus americana), version 1.0. In Birds of the World (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.whocra.01

²² USFWS. 2021. Endangered and Threatened Wildlife and Plants; Removal of the Interior Least Tern From the Federal List of Endangered and Threatened Species. Federal Register 86(2564): 2564-2581.



Favorable breeding areas for the interior least tern include presence of bare or nearly bare alluvial islands or sandbars coupled with favorable water levels during nesting season. Potential areas include sandbar, dike field, and dredging disposal areas present in the lower Ohio River.²³ The US Army Corps of Engineers Louisville District's Civil Works Program has integrated promotion of interior least tern habitat into its Ohio River Maintenance Dredge program through its creation and management of their dredging disposal sites throughout the Ohio River.

Piping Plover

The piping plover has three recognized population groups in North America. The Atlantic Coast and Northern Great Plains populations are federally listed as threatened, while the Great Lakes watershed population was federally listed as endangered. Although this species is federally protected under the Endangered Species Act it did not populate in the IPaC species list generated for this study area (Appendix F). This small migratory shorebird is known to nest and feed along coastal sand and gravel beaches, but in the Northern Great Plains they nest on the unvegetated shorelines of alkaline lakes, reservoirs, or river sandbars. Piping plovers tend to be observed singly or in small groups and use sites in Kentucky and southern Illinois opportunistically as they migrate. ²⁴

With over 6,300 observations in the state of Illinois and 60 observations in the state of Kentucky documented via eBird, it is noteworthy that there were no records from within Ballard County, Kentucky or Pulaski County, Illinois and only one record was reported from within Alexander County, Illinois²⁵.

https://www.fws.gov/species/piping-plover-charadrius-melodus.

²³US Fish and Wildlife Service, Southeast Region, Jackson, MS. Interior Least Tern (*Sternula antillarum*) 5-Year Review: Summary and Evaluation. Accessed: July 28, 2023. https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/2135.pdf.

 $^{^{\}rm 24}$ US Fish and Wildlife Service. Species Overview. Piping Plover. Accessed July 28, 2023.

²⁵ eBird. Piping Plover. Accessed July 28, 2023. https://ebird.org/species/pipplo.



Bald Eagle

The bald eagle was listed as endangered under the ESA in 1978, but by 1999 the species had recovered sufficiently and was delisted from the ESA in 2007²⁶. The bald eagle is still protected under the Bald and Golden Eagle Protection Act (BGEPA) and Migratory Bird Treaty Act (MBTA). Both breeding and wintering populations occur in Kentucky, with bald eagles usually laying eggs during January-March but can begin nest building and repair as early as October. Young usually fledge (leave the nest) April-July²⁷.

Breeding populations are typically associated with aquatic habitats (i.e., coastal areas, rivers, lakes, and reservoirs) throughout much of the Lower 48 States. Bald eagles typically nest in large, mature trees with an open branch structure near a reservoir or large river, and less commonly near smaller ponds, lakes, or creeks²⁸. Primary threats to bald eagles include lead poisoning and human disturbance to habitat and nesting sites²⁸.

Kentucky's National Midwinter Eagle Survey Route recorded the total number of bald and golden eagles from 2010 – 2020 and identified a range of 30 - 120 individuals observed during the official count period. The most recent midwinter survey (2020) reported 120 individuals.

Kentucky Department of Fish and Wildlife Survey also conducts regional aerial surveys of eagle nests in March. The Western Kentucky Region's last nesting population survey was conducted in 2019 observing 115 nests. The most recent 2023 nesting population survey data results have not yet been released.

Three bald eagle nests were identified during initial field survey efforts within this project study corridor (Figure 5).

Golden Eagle

The golden eagle is provided federal protection under the BGEPA and MBTA. Though uncommon in comparison to the bald eagle, golden eagles do migrate through and winter in Kentucky. There are no confirmed records of golden eagles nesting in Kentucky.

During the migration and winter months from September through April, golden eagles can

²⁶ USFWS. 2021. Bald Eagle Fact Sheet. U.S. Fish and Wildlife Service Migratory Bird Program, Falls Church, Virginia. Updated February 2021. Available from: https://www.fws.gov/sites/default/files/documents/bald-eagle-fact-sheet.pdf. Accessed July 2023.

²⁷ Kentucky Department of Fish and Wildlife Resources. Bald Eagles. Accessed July 21, 2023. https://fw.ky.gov/Wildlife/Pages/Bald-Eagles.aspx.

²⁸ Buehler, D. A. 2020. Bald Eagle (Haliaeetus leucocephalus), version 1.0. In Birds of the World (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.baleag.01.



be observed occasionally throughout Kentucky with sightings recorded at Ballard WMA in December through February ²⁹. Golden eagles utilize open to semi-open habitats including grasslands, shrublands, riparian areas, and open water. During the winter, they are most frequently found near colonies of burrowing mammals or in areas with high concentrations of waterbirds³⁰. Primary threats to the species include human impacts such as poisoning, urbanization, agricultural and commercial development, and changes in fire regimes³¹.

Brown Creeper

Brown creeper is a small, typically solitary songbird and the only tree creeper in North America. It is state ranked as threatened in Kentucky and included in the Kentucky Wildlife Action Plan. The Kentucky Wildlife Action Plan details the brown creeper's habitat and life history as:

"This species winters in a variety of forested and semi-open habitats, especially mature woodlands. During the breeding season, Brown Creepers occupy permanently inundated swamp forest dominated by bald cypress and water tupelo where it builds nests under exfoliating bark, especially of dead trees. Although originally thought to be restricted to permanently inundated swamp forests, birds found near Henderson and Union counties [, Kentucky] were in seasonally inundated bottomland forest and the margins of open water sloughs. These observations indicate that breeding creepers may be more widespread than formerly believed (Palmer-Ball 1996)."³²

According to OKNP, Kentucky's most significant brown creeper nesting population is located within the 3,000-acre wetland complex of Axe Lake Swamp³³. Further, Axe Lake Swamp in Ballard County is noted as a key brown creeper habitat location within the KWAP.

Based on brown creeper's use of swamp forests and the study area's vicinity to Axe Lake

²⁹ eBird. Accessed July 21, 2023. https://ebird.org/species/goleag/US-KY-007.

³⁰ Katzner, T. E., M. N. Kochert, K. Steenhof, C. L. McIntyre, E. H. Craig, and T. A. Miller (2020). Golden Eagle (*Aquila chrysaetos*), version 2.0. In Birds of the World (P. G. Rodewald and B. K. Keeney, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA.

³¹ Cornell University (Cornell). 2019. The Cornell Lab - All About Birds Guide. Available from: https://www.allaboutbirds.org/guide/. Accessed July 2023.



Swamp, there is potential for the brown creeper to be present within this study area.

Fish Crow

Although similar in appearance to the American crow, the fish crow has a distinct nasal call³⁴. The fish crow is a Kentucky species of concern and often associated with shoreline habitats along major river systems in the far western extent of Kentucky³⁴. They are generalist foragers but are known to raid the nests of various waterbirds and songbirds or dig up turtle eggs³⁴.

Based on the study area's proximity to the Ohio River and associated tributaries, there is potential for the fish crow to be present.

Great Egret

Great egret is a Kentucky state threatened species and included in the Kentucky Wildlife Action Plan. They primarily forage in a wide variety of wetland habitats and nest primarily in floodplain forests and bottomland hardwood forests³⁵.

Based on the robust presence and variety of waters and wetlands in the study area, there is potential for the great egret to be present.

Loggerhead Shrike

Loggerhead shrike is a Kentucky species of concern and included in both the Illinois and Kentucky Wildlife Action Plans. This species is primarily associated with farmland and prairie land³⁶. Roads and railroads are listed within the primary threats to this species³⁶.

Impacts to Prime Farmland are further detailed within the Socioeconomic Analysis Report, but with thousands of acres of Prime Farmland identified in project corridors and potential impacts estimates of >100acres, there is potential for loggerhead shrike to be impacted within the proposed study area.

https://www.allaboutbirds.org/guide/Fish_Crow/overview

³⁴ All About Birds. Fish Crow Overview. Accessed January 23, 2024.

³⁵ Kentucky Department of Fish and Wildlife Resources. 2023. Kentucky State Wildlife Action Plan. Great Egret (*Ardea alba*). pp.138.

³⁶ Kentucky Department of Fish and Wildlife Resources. 2023. Kentucky State Wildlife Action Plan. Loggerhead Shrike (*Lanius ludovicianus*). pp.214.



Mississippi Kite

Mississippi kite is a Kentucky species of concern and included in both Illinois and Kentucky Wildlife Action Plans. The Kentucky Wildlife Action Plan details the Mississippi kite's habitat and life history as:

"This breeding bird primarily occurs in floodplain areas where tracts of bottomland forest are intermixed with or adjacent to farmland. Such habitat is ... threatened by deforestation. These kites typically nest within tracts of fairly mature forest, although they sometimes build along an isolated corridor of large trees (Palmer-Ball 1996). Probably nests at scattered localities throughout the Mississippi and lower Ohio River floodplains of the Jackson Purchase (Palmer-Ball 2003). Breeding has been documented at the Ballard Wildlife Management Area in Ballard County [, Kentucky] and at Reelfoot Lake National Wildlife Refuge in Fulton County [, Kentucky] (Palmer-Ball 2003, H. Chambers, pers. comm.)."³⁷

With this study area's landscape of lowlands habitat interspersed with agricultural crop fields and being geographically between the Ballard Wildlife Management Area and the Reelfoot Lake National Wildlife Refuge, there is potential for Mississippi kites to be present within this study area.

Yellow-crowned Night-Heron

Yellow-crown night-heron is commonly associated with coastal marshes, barrier islands, and mangroves but eastern Illinois and western Kentucky also provides important breeding habitat for this species³⁸. They build their nests from dry twigs and branches³⁸. Yellow-crowned night-herons often use wooded river valleys and open wet habitat. They are active foragers during day and night and often are seen at dusk and dawn commuting between roosts and foraging areas³⁸. Loss or alteration of breeding habitat within the study area could have potential effect on this species.

³⁸ All About Birds. Yellow-crowned Night-heron. Accessed: January 23, 2024. https://www.allaboutbirds.org/guide/Yellow-crowned_Night_Heron/

4.2. Aquatic Resources

4.2.1 Water Resources

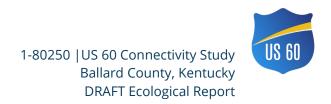
Streams

The study area contains a total of 398,283 linear feet of mapped NHD streams including artificial paths, canal/ditch, connector, intermittent stream, and perennial stream. Kentucky Division of Water (KDOW) designations³⁹ identified within the study area are presented in Table 1.

Table 1. KDOW Designated Waters within the study area

Water Resource	Use Designation Type
Ohio River (KDOW RMI 974.1 to 952.7)	 Outstanding State Resource Water (OSRW); Exceptional Use Water T&E Species: Plethobasus cyphyus, & Quadrula cylindrica cylindrica
Ohio River (KDOW RMI 981.3 - 938.9)	 KDOW Warm Water Aquatic Life Full Support KDOW Primary Contact Recreation Full Support KDOW Fish Consumption Partial Support Domestic Water Supply Full Support
Fish Lake	 KDOW Warm Water Aquatic Life Full Support KDOW Secondary Contact Recreation Full Support KDOW Fish Consumption Partial Support
Shawnee Creek (KDOW RMI 0.0 to 3.4)	 KDOW Warm Water Aquatic Life Non-Support Water; Habitat Impaired by Impacts and/or Alterations KDOW Primary Contact Recreation Partial Support KDOW Fish Consumption Full Support
Shawnee Creek (KDOW RMI 3.4 to 12.9)	 KDOW Warm Water Aquatic Life Non-Support Water; Habitat Impaired by Impacts and/or Alterations KDOW Fish Consumption Full Support

³⁹ Kentucky Energy and Environment Cabinet. Kentucky Division of Water (DOW) Water Maps Portal. Water Health Portal and Water Quality Certification Viewer Maps. Accessed July 27, 2023. https://watermaps.ky.gov/



Wetlands

The USFWS National Wetland Inventory (NWI) identified 703 acres of freshwater emergent wetland (PEM), 3,568 acres of freshwater forested/shrub wetland (PFO/PSS), 170 acres of freshwater pond, 255 acres of lakes, and 1,696 acres of riverine habitat (e.g., Ohio River).

The NHD Waterbody identified 382 acres of Swamp/Marsh within the study area. Bald-cypress-water tupelo forest is a unique ecological community type that is assumed associated with these Swamp/Marsh areas.

Open Waters, Lakes, and Ponds

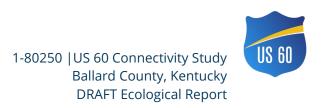
NHD Waterbody identified totaled 775 acres (386 acres lake/pond; 7 acres reservoir; 382 acres swamp/marsh) in the study area. It is not uncommon for open waters, lakes, ponds, and reservoirs to also provide wetland fringe around their perimeter; field surveys would be necessary to determine any potential wetland fringe features.

Floodplains

Within the 16,167 acres study area, 11,702 acres (72%) are located within FEMA's National Flood Hazard Level (NFHL) floodplains. Floodplain areas include 1,027 acres in Zone A, 10,631 acres in Zone AE, and 44 acres in Zone AH.

Table 2. Study Area Acreage of FEMA NFHL Designation Type

FEMA NFHL	Acreage	Percentage
Designation Type		of Study Area
Zone A	1,027	6.4%
Zone AE	10,631	65.8%
Zone AH	44	0.2%
Non-Floodplain	4,465	27.6%
Totals	16,167	100%



4.2.2 Mussels

The IPaC species list for the study area includes ten freshwater mussel species:

- Clubshell (*Pleurobema clava*) Endangered
- Fanshell (Cyprogenia stegaria) Endangered
- Fat pocketbook (Potamilus capax) Endangered
- Longsolid (*Fusconaia subrotunda*) Threatened, *C.H.
- Northern riffleshell (Epioblasma torulosa rangiana) Endangered
- Orangefoot pimpleback, pearlymussel (*Plethobasus cooperianus*) Endangered
- Pink mucket pearlymussel (*Lampsilis abrupta*) Endangered
- Rabbitsfoot (Theliderma cylindrica) (f.k.a. Quadrula cylindrica cylindrica) Threatened
- Ring pink, mussel (Obovaria retusa) Endangered
- Rough pigtoe (*Pleurobema plenum*) Endangered

Critical Habitat (C.H.):

• Longsolid mussel has designated critical habitat, but none is located within the project's study area.

Kentucky is currently ranked in the top three states for freshwater mussel species diversity, which highlights the need to provide protections for both these aquatic organisms and their habitats. Additionally, freshwater mussels primarily utilize host fish to aid in their reproduction cycle, during which the parasitic larval mussels called glochidia temporarily attach to a host fish's gills for a few weeks, grow into juvenile mussels, and then drop off into the stream bottom. Some freshwater mussels have specific host fish preferences, while other species are most generalists.

Archaeological records from the Mississippi River in Ballard County suggests that prehistoric conditions were once favorable for the clubshell, fanshell, and ring pink mussels; however, these species have been impacted by impoundments of the Ohio River and are considered uncommon from the Ohio River and lowland habitats of western Kentucky⁴⁰.

The fat pocketbook mussel is generally distributed to occasional in the lower Ohio River from the mouth upstream to the confluence of Green River in Henderson County, known primarily from medium sized to large lowland rivers but prefers areas of depositional backwaters

⁴⁰ Haag, W.R. and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 190-191, 92-93, 176-177.



along shore, behind wing dams, and within side channels or sloughs⁴¹.

Longsolid mussel was once generally distributed to occasional throughout the Ohio River and in most larger tributaries but is considered absent in lowland habitats in western Kentucky including the Mississippi River and direct tributaries and the Tradewater River. This species has been impacted by impoundment and is now extremely rare within the Ohio River.⁴² The nearest population is located in Ohio River at the confluence of the Green River in Henderson County.

The northern riffleshell mussel is generally distributed in the Ohio River basin from the Wabash River upstream to Pennsylvania; however, natural populations in Kentucky were likely eliminated by impoundment effects. In 2013 and 2014, Kentucky Department of Fish and Wildlife Resources reintroduced this species in four locations within the Licking River; however, no reintroduction locations are known to be within this project's study area.⁴³

Orangefoot pimpleback mussel has been known throughout the Ohio River but has been impacted by impoundment. "It persists in the Ohio River only in the short, free-flowing lower section and adjacent reaches that are influenced only by low-lift, moveable dams (locks and dams 52 and 53)."⁴⁴ The US Army Corps of Engineers' completion of the new Ohio River Olmsted Lock and Dam in Fall of 2018 and the subsequent removal of the Ohio River Locks & Dams #52 and #53 could potentially influence this species. Dependent on local substrate conditions, this project study area's Ohio River segment has high potential for the presence of orangefoot pimpleback.

Archaeological records from the Mississippi River in Ballard County suggests that prehistoric conditions were once favorable for the pink mucket mussel; however, one recent record (J. Schwegman and B. McClane) of pink mucket was observed from the Ohio River in the relatively free-flowing ach below Lock and Dam 52 in McCracken County, Kentucky.⁴⁵ Additionally, this species may also be influenced by the US Army Corps of Engineers'

⁴¹ Haag, W.R. and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 206-207.

⁴² Haag, W.R. and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 138-139.

⁴³ Haag, W.R. and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 130-131.

⁴⁴ Haag, W.R. and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 186-187.

⁴⁵ Haag, W.R. and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 142-143.



completion of the Olmsted Lock and Dam and subsequent removal of the Ohio River Locks and Dams #52 and #53.

Rabbitsfoot mussel's Kentucky distribution is considered sporadic to occasional throughout the Ohio River and in most major drainages from the Tennessee to the Big Sandy River. According to Williams and Schuster (1989) and the OKNP records [KY-BAT 2023], there are small, localized populations of rabbitsfoot known to survive in the lower Ohio River. 46

Rough pigtoe mussel is endemic to the Ohio River but has not been observed in over 80 years. Only two records exist from the lower Ohio River (Ballard and Livingston counties). This species is considered heavily impacted by the introduction of impoundments, with dams having destroyed or radically altered most habitat for this species.⁴⁷

Other Species of Interest:

The catspaw (*Epioblasma obliquata*), sheepnose (*Plethobasus cyphyus*), spectaclecase (*Margaritifera monodonta*), and white wartyback (*Plethobasus cicatricosus*) currently all have federal protection statuses under ESA but was not identified by USFWS in the IPaC species list. Due to related observation records in the area, brief species context is provided. Additionally, three state listed mussel species identified via OKNP observations include: black sandshell (*Ligumia recta*), bleufer (*Potamilus purpuratus*), and pocketbook (*Lampsilis ovata*). Comprehensive species lists are provided in Appendices A.1 – A.3.

Catspaw

The catspaw was not included within the USFWS IPaC species list of the study area; however, was included in OKNP's observation records for within the study area. The catspaw is a Kentucky state endangered species and included within the Kentucky Wildlife Action Plan. This species is found "...in main-channel shoal habitats mostly of large streams in gravel and sand substrates..." but more importantly is considered intolerant of impoundment and as such has not been observed in the Ohio River for over 100 years ⁴⁸.

⁴⁶ Haag, W.R., and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 218-219.

⁴⁷ Haag, W.R., and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 196-197.

⁴⁸ Haag, W.R. and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 120-121.



Sheepnose

The sheepnose was not included within the USFWS IPaC species list for the study area; however, the Kentucky Division of Water designated the Ohio River (KDOW RMI 974.1 to 952.7) as an Outstanding State Resource Water with notation of presence of the sheepnose mussel³⁹ and included in OKNP's observation records for within the study area. The sheepnose is a state endangered species included in the Wildlife Action Plan for both Illinois and Kentucky. Sheepnose is "Restricted to main-channel habitats of medium-sized to large rivers in gravel and sand substrates, ... is characteristic of mussel beds in large streams [in small numbers], ... [and] only marginally tolerant of impoundment ... [leading to disappearance] from much of its historical range in Kentucky and elsewhere..."⁴⁹.

White Wartyback

The white wartyback pearlymussel was not included within the USFWS IPaC species list for the study area. The white wartyback is historically known to occur in Kentucky and has a current federal listing status of both Endangered and Experimental Population, Non-Essential⁵⁰. "An archaeological record from the Mississippi River, Ballard County, suggests that conditions at that site were suitable for the species in prehistoric times ... [; however, the white wartyback] ... appears to be intolerant of impoundment... [In addition to] none of its historical range remains free-flowing ... living individuals have not been reported from the Ohio River or any other stream in Kentucky in over 100 years. ⁵¹". The OKNP ranks the white wartyback mussel as 'Presumed Extirpated'.

⁴⁹ Haag, W.R. and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 188-189.

⁵⁰ US Fish and Wildlife Service, Environmental Conservation Online System (ECOS). Accessed 19July2023. https://ecos.fws.gov/ecp/species/2549

⁵¹ Haag, W.R., and R.R. Cicerello. 2016. A Distributional Atlas of the Freshwater Mussels of Kentucky. Scientific and Technical Series 8. Kentucky State Nature Preserves Commission, Frankfort, KY. pp. 184-185.



4.2.3 Amphibians, Crayfishes, & Snails

No amphibians, crayfishes, or snails were identified by the IPaC species list for the study area. Based on OKNP and GBIF data records, two amphibians, two crayfishes, and two snails were identified as state listed species. Comprehensive list of species records is presented in Appendix A Tables A.1 – A.3. Amphibians, crayfishes and snails will not be further discussed within this Ecological Report.

4.2.4 Fishes

The IPaC species list for the study area includes one fish species:

• Pallid Sturgeon (Scaphirhynchus albus) – Endangered

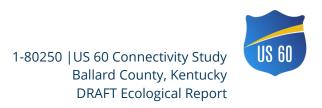
Critical Habitat (C.H.): None

Although found as far north and west as Montana, the pallid sturgeon is known primarily in the Missouri River and the Mississippi River downstream of the junction with the Missouri River. In Kentucky, it has potential to occur in Ballard, Carlisle, Hickman, and Fulton counties.

Pallid sturgeons are bottom-dwelling fish that feed on small fishes and immature aquatic invertebrates that are sucked from bottom sediments in areas of strong current with firm sand substrates in the main river channels such as along sand bars and behind wing dikes with deeply scoured trenches⁵². Once a commercially fished species, the pallid sturgeon was listed as endangered in 1990 after threats like overharvest, dam construction, and habitat loss have reduced their population. Pallid sturgeons are known to live at least 40 years, but females may not spawn until 15-20 years old. Their hybridization with the shovelnose sturgeon is considered another threat for the pallid sturgeon as they risk bottleneck or loss of genetic independence.⁵² A USGS study also recognized that current riverine habitat conditions no longer provide the available length of free-flowing waters required for drift of pallid sturgeon embryos; significant physical factors include flow, temperature, and oxygen availability throughout the current reservoir systems⁵³.

⁵² Missouri Department of Conservation. Pallid Sturgeon. Accessed: July 31, 2023. https://mdc.mo.gov/discovernature/field-guide/pallid-sturgeon.

⁵³ Braaten, P.J., D.B. Fuller, R.D. Lott, M.P. Ruggles, T.F. Brandt, R.G. Legare, and R.J. Holm. 2012. An experimental test and models of drift and dispersal processes of pallid sturgeon (Scaphirhynchus albus) free embryos in the Missouri River. Environ Biol Fish 93:377-392. DOI 10.1007/s10641-011-9925-9.



Other Species of Interest

Based on OKNP and GBIF data records, 15 fishes were identified as state listed species. Some species are highlighted in the Section discussion below. Comprehensive list of species records is presented in Appendix A Tables A.1 – A.3.

Ohio River & Tributaries

The study area includes the Ohio River and its riparian habitat from approximately river mile (ORM) 973.5 to 978.0 with tributary confluences that may serve as breeding refuges for fish species. For example, the alligator gar (*Atractosteus spatula*) is a Kentucky state-endangered species found in streams to large rivers, floodplain lakes, and oxbows but requires seasonally flooded bottomland swamps and other off-channel floodplain for its spawning. Similarly, the chestnut lamprey (*Ichthyomyzon castaneus*) is a Kentucky state species of concern known to inhabit streams to large rivers but requires gravel-cobble riffles in smaller tributary rivers and streams for spawning.

Boatwright WMA – Lakes & Boat Ramps

Three fish species are known within the Boatwright WMA - Peal Unit's Fish Lake including: cypress darter (*Etheostoma proeliare*), redspotted sunfish (*Lepomis miniatus*), and taillight shiner (*Notropis maculatus*). Kentucky has designated the cypress darter, redspotted sunfish, and taillight shiner as state-threatened species and all three are included within the Kentucky's State Wildlife Action Plan. In Illinois, the redspotted sunfish is designated as state-endangered and the taillight shiner is designated as state-threatened. Both the redspotted sunfish and taillight shiner are also included in Illinois' State Wildlife Action Plan.

Boatwright WMA includes numerous lakes, ponds, swamps and sloughs accessible for both passive recreation and active hunting and fishing activities. The WMA provides access to its visitors via small roadway corridors and features like parking lots, picnic areas, restrooms, campgrounds, picnic areas, wildlife viewing platforms, waterfowl blinds, fishing pier, and boat ramps. In addition to impacts on wildlife populations and habitats, spanning over or through water features would also affect fishing and boating access points. A total of four boat ramps are located within the study area including those at Fish Lake, Flat Lake, Burnt Pond, and Buck Lake. Following Resource Agency #2, KDFWR land managers shared that some of the Boatwright WMA lakes are stocked with alligator gar and that Flat Lake is considered the most popular for public use (KDFWR, pers. comm.).

4.3. Protected Lands

4.3.1 Boatwright Wildlife Management Areas (KY)

Boatwright Wildlife Management Area (Boatwright-WMA) is 8,847 acres of publicly owned lands in Ballard County, Kentucky, which is primarily held by the Kentucky Department of Fish and Wildlife Resources (KDFWR). Boatwright-WMA includes a total of 18 management Units and is open to the public with many access points for fishing, boating, and hunting. Public hunting and fishing at Swan Lake are seasonally restricted from October 15 to March 15 to serve as a waterfowl refuge per 301 KAR 4:050.

The following 9 management units fall within the project's study area:

Table 3. Boatwright WMA Management Units

	Total Unit	Study Area
WMA Unit Name	Acres	Acres
Olmsted	2,005	284
Zola Taress	100	40
Upper Blenderman	308	120
Peal	1,835	1,409
Burnt Pond	192	192
East Virginia Payne	221	221
Swan Lake	2,299	1,055
West Virginia Payne	205	205
Stevens	73	73

The US Army Corps of Engineers (USACE) owns approximately 23% (2,064 acres) of the Boatwright-WMA with an established lease agreement with KDFWR. This US Army Corps of Engineers ownership was established as part of the Acts mitigation efforts related to the Corps' Olmsted Lock and Dam construction project in order to compensate for impacts in compliance with the Endangered Species Act requirements.



4.3.2 Axe Lake Swamp State Nature Preserve (KY)

Axe Lake Swamp State Nature Preserve (SNP) is located in Ballard County, Kentucky and includes a total of 458 acres of the 3,000-acre Axe Lake Swamp wetlands complex. Access to this nature preserve is by written permission only for scientific research. According to the OKNP's summary, Axe Lake Swamp SNP "protects a portion of Kentucky's best-known example of a large, intact bald cypress-tupelo swamp"⁵⁴.

More generally, the 3,000-acre Axe Lake Swamp wetland complex is used seasonally by large numbers of migratory waterfowl and is included in the North American Waterfowl Management Plan's 'Mississippi Alluvial Valley' areas of greatest continental significance to North American ducks, geese, and swans (NAWMP 2012⁵⁵). OKNP also notes "The 3,000-acre wetland complex harbors the state's most significant nesting population of brown creepers (*Certhia americana*) and is home to at least two [2] [state-listed] rare species of bats, southeastern myotis (*Myotis austroriparius*) and Rafinesque's big-eared bat (*Corynorhinus rafinesquii*). ⁵⁶".

The project study area includes approximately 34 percent (157 acres) of the of the Axe Lake Swamp SNP, representing approximately 5 percent of the full 3,000-acre Axe Lake Swamp wetland complex.

⁵⁴ Kentucky Energy and Environment Cabinet. Office of Kentucky Nature Preserves. Accessed July 14, 2023. https://eec.ky.gov/Nature-Preserves/Locations/Pages/Axe-Lake.aspx.

⁵⁵ 2012 North American Waterfowl Management Plan: People Conserving Waterfowl and Wetlands. Accessed July 19, 2023. NAWMP-Plan-EN-may23_0.pdf.

⁵⁶ Kentucky Energy and Environment Cabinet. Office of Kentucky Nature Preserves. Accessed July 14, 2023. https://eec.ky.gov/Nature-Preserves/Locations/Pages/Axe-Lake.aspx.

4.3.3 Cypress Creek National Wildlife Refuge

The study area includes 15 acres of Cypress Creek National Wildlife Refuge (NWR) in Illinois. This 16,000-acre NWR was authorized on June 26, 1990, under the Emergency Wetland Resource Act of 1986 and focuses on acquiring land, restoring habitat and providing opportunities for the public to experience and learn about Cache River wetlands. ⁵⁷. Unique songbirds and warblers can be seen on the refuge, such as the prothonotary (*Protonotaria citrea*), yellow-throated (*Setophaga dominica*), hooded (*Setophaga citrina*) and prairie (*Setophaga discolor*) warblers. The refuge serves as a winter feeding and resting area for waterfowl such as Canada geese (*Branta canadensis*) and green-winged teal (*Anas carolinensis*).

4.3.4 USDA Natural Resource Conservation Service

Wetland Reserve Enhancement Partnership Program Easements (WRP)

Three WRP easements were identified within the study area totaling 156 acres. See Table 4 for a detailed breakdown.

Table 4. WRP Easements Identified with in the Study Area

WRP Easement Name	Total Easement Acreage	Acreage within Study Area
NRCS WRPE 957664	20	13
NRCS WRPE 986308	79	71
NRCS WRPE 967117	72	72

Emergency Watershed Protection Program - Floodplain Easements (EWPP-FPE)

Two EWPP-FPE easements were identified within the study area totaling 125 acres. See Table 5 for a detailed breakdown.

Table 5. EWPP-FPE Easements Identified with in the Study Area

EWPP-FPE Easement Name	Total Easement Acreage	Acreage within Study Area
NRCS FPE 1052068	3	3
NRCS FPE 959343	122	122

⁵⁷ US Fish and Wildlife Service. Cypress Creek National Wildlife Refuge. Accessed: July 28, 2023. https://www.fws.gov/refuge/cypress-creek.



4.4. Permits

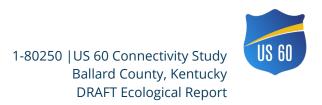
4.4.1 Federal

Endangered Species Act

The Endangered Species Act (ESA) provides a law enacted for the conservation of T/E plants and animals and their habitat (16 United States Code 1531–1544). Federally listed T/E species and their designated critical habitat are governed by the ESA of 1973, as amended, and the USFWS's implementing regulations at 50 Code of Federal Regulations (CFR) Parts 13 and 17. The USFWS is authorized to identify T/E species and provide for their management and protection. The ESA defines critical habitats as "specific geographic areas that contain features essential for the conservation of a threatened or endangered species and that may require special management and protection." Section 3(18) of the ESA defines "take" as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

Potential impacts on federally listed T/E species or their designated critical habitat may require coordination with the USFWS. In general, persons subject to the ESA (including private parties) are prohibited from "taking" T/E fish and wildlife species. In certain situations when "take" of T/E fish and wildlife species is unavoidable, "take" authorization under either Section 7 or Section 10 of the ESA would be required. However, federally listed plants are not afforded the same level of protection from take under the ESA as listed animals. Proponents of projects on private lands are not required to receive take authorization for federally listed plants if the project does not have a federal nexus and is constructed in accordance with applicable laws.

Both the Kentucky and Illinois extent of this project study area is regulated by the USFWS Kentucky Field Office. Additionally, KYTC currently has a USFWS project liaison who presumably would be the assigned project reviewer.



Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) implements four international treaties that the United States entered with Canada, Mexico, Japan, and Russia, and requires prior authorization by the Department of the Interior's USFWS for the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species.

A migratory bird species is included on the list if it meets one or more of the following criteria⁵⁸:

- 1. It occurs in the United States or U.S. territories as the result of natural biological or ecological processes and is currently, or was previously listed as, a species or part of a family protected by one of the four international treaties or their amendments.
- 2. Revised taxonomy results in it being newly split from a species that was previously on the list, and the new species occurs in the United States or U.S. territories as the result of natural biological or ecological processes.
- 3. New evidence exists for its natural occurrence in the United States or U.S. territories resulting from natural distributional changes and the species occurs in a protected family.

KYTC has direct experience coordinating for bird species in past projects including the Bald eagle, Osprey (*Pandion haliaetus*), Cliff swallow (*Petrochelidon pyrrhonota*), and various owl species. Coordination with KDFWR's aviation staff is often required for development of avoidance and minimization measures or requests for permit to take in regard to any bird species in Kentucky. Avian 'take' permits are acquired from the Secretary of the Interior via the USFWS Atlanta Office.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) was introduced in 1940. The BGEPA protects bald eagles and golden eagles (*Aquila chrysaetos*) and provides these species with additional protections not covered by the Migratory Bird Treaty Act (MBTA). In the BGEPA, "take" is defined as, "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (50 CFR 22.3). The BGEPA authorizes take permits for otherwise lawful projects. As part of an eagle take permit, the USFWS would require an Eagle Conservation Plan to avoid and minimize take of eagles (USFWS 2014a). Although an eagle take permit is authorized by the Secretary of the Interior, coordination with state wildlife resource agency's avian staff should be anticipated. Eagle species potentially present in the study area are

⁵⁸ US Fish and Wildlife Service: Migratory Bird Treaty Act of 1918. Accessed July 19, 2023. https://www.fws.gov/law/migratory-bird-treaty-act-1918



discussed in Section 4.1.5 and described relative to revised corridors in Section 6.1.2.

US Army Corps of Engineers (USACE)

Both the Kentucky and Illinois extent of this project study area is regulated by the US Army Corps of Engineers' (USACE) Louisville District Office. Additionally, KYTC currently has a USACE project liaison who presumably would be the assigned project reviewer.

Section 404 of the Clean Water Act

A Section 404 permit will be required before dredged or fill material may be discharged into waters of the United States. KYTC has a programmatic Letter of Permission with the USACE Louisville District; however, if all Transportation LOP conditions cannot be met then an Individual Permit would be required along with the posting of a formal public notice via USACE.

Section 10 of the Rivers and Harbors Act

Section 10 of the Rivers and Harbor Act of 1899 requires authorization from the Secretary of the Army via the USACE for the construction of any structure in or over any navigable water of the United States. The Ohio River is designated as a Section 10 Navigable Water; therefore, a Section 10 permit is anticipated for this proposed project. It is notable that the Section 10 permit is typically reviewed and issued by USACE in combination with the Section 404 permit.

Section 408 Program (Section 14 of the Rivers and Harbors Act)

The USACE Section 408 Program allows another party to alter a USACE Civil Works project (e.g. levee, dam, navigable waterway) by verifying that changes will not be injurious to the public interest and will not impair the usefulness of the project. Section 408 Program permission would also be required for any project actions on or to USACE property holdings.

US Coast Guard

Bridge Permit

With the US Coast Guard oversight of Navigable Waters, actions in the Ohio River will require US Coast Guard approval. If construction of a new bridge structure across the Ohio River is desired, a Bridge Permit application will be required. The US Coast Guard will comment on the construction phasing and timeline as well as boater traffic and safety management.



4.4.2 State & Local

Clean Water Act Section 401

Kentucky

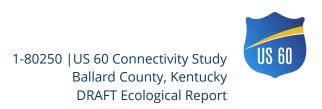
The Kentucky Department of Environmental Protections Division of Water (KDOW) is the certifying authority for Clean Water Act (CWA) Section 401 Water Quality Certification (WQC) for the state of Kentucky. Based on the size of the Kentucky project corridor and water resources estimated, a Kentucky Section 401 Individual Water Quality Certification is anticipated. As part of the application review process, state regulation notes that a KY WQC Fee is required for Individual WQCs according to 401 KAR 9:020 with a maximum fee of \$10,000 for any application; however, KYTC is not typically subject to this fee requirement.

Illinois

The Illinois EPA, Illinois Department of Natural Resources Office of Water Resources (IDNR/OWR) is the certifying authority for Clean Water Act Section 401 WQC for the state of Illinois. Illinois EPA prefers initial review to occur via the US Army Corps of Engineers District Office, and only coordinates on projects acknowledged to require an Individual WQC from IDNR-OWR. As part of the application review process, note that Illinois requires an Individual WQC Fee of \$350 or 1 percent of the gross value of the proposed project whichever is greater, with a maximum fee of \$10,000 for any application.

Interstate/Neighboring Jurisdictional Review

In accordance with the Clean Water Act's 401(a)(2) current regulation for Neighboring Jurisdictional Review, the federal Environmental Protection Agency (EPA) is granted 30 days to determine whether a discharge "may affect" water quality in a neighboring state or authorized tribe. Where EPA has determined that a discharge from an activity subject to certification from another jurisdiction "may affect" their water quality, the neighboring jurisdiction has an opportunity to object to issuance of the license or permit and request a public hearing. It is recommended that Kentucky and Illinois state WQC entities be made aware of the full project scope.



State Wildlife Action Plans (SWAP)

State Wildlife Action Plans are documents developed by states and approved by the federal US Fish and Wildlife Service that are intended to examine the health of wildlife and habitats in order to develop action items to conserve them before they become too rare or costly to protect. Each state identifies its own list of Species of Greatest Conservation Need (SGCN).

Kentucky

The KDFWR manages the Kentucky State Wildlife Action Plan via the Kentucky Comprehensive Wildlife Conservation Strategy (CWCS). The 2013 version of the Wildlife Action Plan lists approximately 300 species; however, the 2023 10-year planned update will increase the included species list to over 500⁵⁹ species and include expansion of existing categories as well as the addition of new species categories including both invertebrates and plants.

Illinois

The Illinois Department of Natural Resources (IDNR) leads the Illinois Wildlife Action Plan (IWAP) that is comprised of two documents: the 'Illinois Comprehensive Wildlife Conservation Plan and Strategy' and the 'IWAP Implementation Guide'.

Stormwater Pollution Prevention Plan

Kentucky's delegated National Pollutant Discharge Elimination System (NPDES) program 'KPDES' requires that construction projects with impacts greater than 1 acre develop a Stormwater Pollution Prevention Plan (SWPPP)including an erosion and sediment control plan. The SWPPP requires submission and approval by the KDOW and/or IDNR.

⁵⁹ July 2023. Kentucky Department of Fish and Wildlife Resources, personal communication.



5. Initial Corridors A, B, & C: Potential Impacts

Three initial corridors (A, B, & C) were evaluated for potential impacts to ecological resources quantified on each full 2,000-ft corridor footprints. After initial evaluation and comparison, it was determined that revised corridors may allow for improved resource avoidance; revised corridors 1 & 2 are discussed in detail in Section 6.

Initial Corridor A | Northern Concept

Represents a 1,000-foot-wide buffer (2,000-foot total width) and encompasses 2,317 acres. It would provide a far north connection to I-57 in Illinois, between Urbandale and Golden Lily.

Initial Corridor B | Middle Concept

Represents a 1,000-foot-wide buffer (2,000-foot total width) and encompasses 2,201 acres. This concept would provide the most direct connection to I-57 in Illinois at existing Exit 1, between Future City and Urbandale.

Initial Corridor C | Southern Concept

Represents a 1,000-foot-wide buffer (2,000-foot total width) and encompasses 2,395 acres. It would provide the most southern connection into Illinois near Future City.

5.1. Terrestrial Resources Impacts & Mitigation

5.1.1 Bats

The study area has low karst potential, and no known caves or hibernacula were identified during this desktop review. Although much of this proposed road corridor is new alignment, any existing bridge or large culvert structures should be inspected for their potential to provide suitable bat roosting habitat during the summer and winter.

Forested acreage within the three corridors ranged between 756 - 840 acres when estimated with GAP data. Multiple federally listed and protected bat species are known to utilized forested areas including clusters of dead hanging leaves, snags or loose bark on trees for summer habitat and maternity roosting. KYTC has a Programmatic Agreement with Federal Highway Administration (FHWA) that provides a regulatory framework for mitigating potential impacts to bats and their habitats. This 2020 KYTC-FHWA Programmatic Bat Program for Foraging Habitat and Summer/Temporary Roosting (2020 PA) currently includes gray and Indiana bats species but is in process of being revised to included northern long-

US 60

1-80250 | US 60 Connectivity Study Ballard County, Kentucky DRAFT Ecological Report

eared bat since its recent up-listing to federally Endangered status. The 2020 PA extends five-miles beyond the Kentucky borders, so would be applicable for the full project extent in both Kentucky and Illinois. The majority of all three corridors lies within designated "Summer 1" habitat for the northern long-eared bat; however, areas east of Highway 60 and west of the Ohio River are designated as "Potential" habitat for the northern long-eared bat. All three corridors lie fully within designated "Summer 1" habitat for the Indiana bat.

Additionally, the centroid of the Indiana bat Summer 1 polygon (indicating a known maternity roost tree) lies within Corridor C, or possibly on the southern edge of Corridor B. The exact location of this known maternity roost tree would need to be verified with US Fish and Wildlife Service, as that precise information is not made publicly available. Avoidance and minimization measures in the vicinity of this known maternity roost tree location should be anticipated.

The comparison table below shows the three corridors in terms of estimated forested acreage, dominant forest-dwelling bat habitat type, and utilizes the current Year 2023 standard land acreage value (\$4,700/acre), and the habitat multiplier rates (0.50 - 2.75) as defined in the 2020 KYTC-FHWA Programmatic Bat Program for Foraging Habitat and Summer/Temporary Roosting (2020 PA). These estimates also assume the most conservative cost which requires all tree removal actions to occur during the inactive season (October 15 – March 31). As consistent with the 2020 PA conditions, mitigation payment would be due to the Imperiled Bat Conservation Fund (IBCF) managed by Kentucky Natural Land Trust (KNLT) in partnership with the US Fish and Wildlife Service.

Table 6. Forest-dwelling Bat Summer Habitat Impacts & Mitigation Estimates

	Corridor A	Corridor B	Corridor C
Forested Area Present (acres)	840 acres	756 acres	819 acres
Bat Habitat Designation	Summer 1	Summer 1	Summer 1
Tree Removal Allowed Dates	October 15 – March 31		
Bat Habitat Rate Multiplier	1.25	1.25	1.25
Standard Land Acreage Value (\$/acre)	\$4,700/acre		
Estimated Total IBCF Contribution*	\$4,935,000	\$4,441,500	\$4,811,625

[†] Imperiled Bat Conservation Fund Contribution Estimate using the 2020 PA Equation: (# forested acres) * (# habitat rate multiplier) * (\$ standard land acreage value)



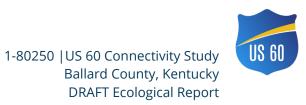
5.1.2 Birds

Three bald eagle nests were identified during initial field reviews of the study area with two of the bald eagle nests observed along or adjacent to Corridor A. A plane flyover survey would be recommended to identify all bald eagle nests and egret or heron rookeries within the study area or corridor(s). Avoidance and minimization measures should be anticipated for any corridor actions that would occur in the vicinity of an eagle nest or known rookery.

This western Kentucky region's landscape is already a compilation of forested lands interspersed with agricultural crop fields within the study area. Impacts by Corridors A, B, and C all would bisect a significant amount of available habitat for both resident and migratory birds. Permanent deforestation and fragmentation could significantly impact bird species.

The study area is a critical hotspot for migrating waterfowl and neotropical songbirds, attracting dozens of species like snow geese (*Anser caerulescens*), American white pelicans (*Pelecanus erythrorhynchos*), bald eagles, wood ducks (*Aix sponsa*), scarlet tanagers (*Piranga olivacea*), and Kentucky warblers (*Geothlypis formosa*). Birds serve a significant role in both public and private hunting ventures within western Kentucky. Resident and migratory populations also bring visitors to the area for ecotourism activities such as birdwatching, wildlife photography, and trail hiking.

Both Corridor B and Corridor C include impacts to the Swan Lake Unit of Boatwright WMA (290 acres and 330 acres, respectively). The Boatwright WMA – Swan Lake Unit has established use restrictions designated in Kentucky state regulation 301 KAR 4:050 that requires it to be closed to all public access from October 15 through March 31 to serve as a waterfowl refuge. With the western Kentucky region and Boatwright WMA property serving as a major flyway for numerous migratory bird species, especially waterfowl, this waterfowl refuge is providing strong ecological services to numerous waterfowl populations and an umbrella protection for other species that share in use of this type of habitat.



5.2. Aquatic Resources Impacts & Mitigation

5.2.1 Water Resources

The USACE's Louisville District currently regulates impacts to Waters of the United States (WOTUS) in compliance with the 2008 Compensatory Mitigation for Losses of Aquatic Resources Final Rule [33 CFR Part 332] (2008 Final Mitigation Rule) and utilizes the Revised 2022 Louisville District Assessment Protocol Guidance Manual (LDAP).

Project cost estimates provided are based on current regulatory guidelines (2008 Final Mitigation Rule & Revised 2022 LDAP); however, it is noteworthy that additional review and mitigation efforts may be required for impacts to any waters within Wetland Reserves Program easements or other protected land designations related to water resources protection. Protected lands within the three proposed corridors are discussed in more detail within Section 5.3. It is also noteworthy that Kentucky is currently in initial development of a Kentucky-specific Stream Quantification Tool (SQT) which are similarly already available in numerous states across the U.S. Based on the scale of this proposed project, it would be possible for a new mitigation tool and guidelines to become required.

A comparison of the three study corridors' potential impacts to acreage of water resource feature types is provided in Tables 7, 8 and 9.

Corridor A impacts the least NHD waterbody (73 acres) but was moderate in all other impacts categories.

Corridor B impacts the least amount of NHD streams (49,548 linear feet), and the most NWI wetlands (738 acres), NWI total waters (932 acres).

Corridor C impacts the greatest amount of NHD streams (78,728 linear feet), NHD waterbody (222 acres), Bald Cypress/Swamp Wetlands (119 acres), but the least NWI total waters (891 acres).



Table 7. National Hydrography Dataset (NHD) Stream Impacts & Mitigation Estimates

	Corridor A	Corridor B	Corridor C	
Artificial Path (LF)	9,497	8,900	9,472	
Connector (LF)			2,200	
Intermittent Stream (LF)	26,908	14,944	34,817	
Perennial Stream (LF)	26,719	25,704	32,239	
Total NHD Streams (LF)	63,124	49,548	78,728	
Low-Gradient Stream	•			
Mississippi Valley Inte	rior River Bioregio	n, LDAP Guideline	5	
Artificial Path & Connector Stream		1.00		
Flows (Assumed WOTUS)				
Intermittent Stream Flow,		1.50		
Average Quality Ratio Multiplier				
Perennial Stream Flow,	2.25			
Average Quality Ratio Multiplier				
Total Adjusted Mitigation Unit	109,976.75	89,150	136,435.25	
(AMU)				
Add 20% Multiplier for Temporal	131,972	106,980	163,722	
Loss				
July 2023 Cost Per AMU in KDFWR-	\$522/AMU			
FILO 'Jackson Purchase' Service				
Area				
Est. Total KDFWR-FILO Stream	\$68,889,384	\$55,843,560	\$85,462,884	
Cost⁺				

[†] Assumes that All Waters have 'Average' quality rating Rapid Bioassessment Protocol (RBP) in low-gradient streams according to LDAP guidelines; additionally assumes that 'Artificial Path' and 'Connector' water resources are jurisdictional WOTUS features. Based on 2023 KDFWR Fee In Lieu Of (FILO) Cost per Adjusted Mitigation Unit (AMU) Credit for Streams in the 'Jackson Purchase' Service Area. Stream Team Program Webpage Accessed July 26, 2023.

Table 8. National Hydrography Dataset (NHD) Waterbody Impacts & Mitigation

	Corridor A	Corridor B	Corridor C
Lake/Pond (acres)	27	40	103
Swamp/Marsh (acres)	46	63	119
Total NHD Waterbody (acres)	73	103	222

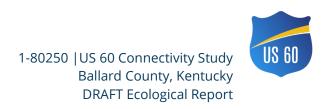
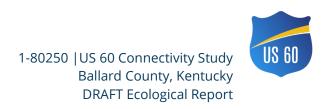


Table 9. National Wetland Inventory (NWI) Wetland Impacts & Mitigation Estimates

		Corr	idor A	Corridor I	В	Corrido	r C
Emergent Wetland (PEM; ac	res)		44	107		192	
Forested/Shrub Wetland (PF	O/PSS;	6	31	631		487	
ac.)							
Bald Cypress Swa	mp (acres) [^]	(4	46)	(63)		(119)	
Total NWI Wetla	nds (acres) 675 738 67				679		
Freshwater Pond (acres)			7	18		21	
Lake (acres)			41	24		66	
Riverine - Ohio River (acres)		1	81	152		125	
Total NWI Pond/Lake/Riv	verine (ac.)	•	48	42		87	
Total All NWI Wat	ers (acres)		904	9	932		891
	Wetlands	Mitigati	on Guide	lines			
Riverine Ratio Multiplier	N/A ; Assumed captured via Perennial Stream Mitigation				n		
Freshwater Pond & Lake	1:1						
Ratio Multiplier ⁺							
PEM Ratio Multiplier	2:1						
PFO/PSS Ratio Multiplier	3:1						
Bald Cypress Swamp	4:1						
Ratio Multiplier							
Calcu	lated Adjus	sted Mit	igation U	nits (AMU)			
Riverine	-0-			-0-		-0-	
Freshwater Pond & Lake	48			42		87	
All wetlands and swamps	2,027	7	2	,170		1,964	
Total Adjusted Mitigation	2,075	5	2	,212		2,051	
Unit (AMU)							
Add 20% Multiplier for	2,490)	2	,654		2,461	
Temporal Loss							
July 2023 Cost Per AMU in			\$78,	000/AMU			
KDFWR-FILO 'Jackson							
Purchase' Service Area							
Est. Total KDFWR-FILO	\$194,220	,000	\$207,	,012,000	\$	191,958,00	10
Wetland Cost ⁺							

[^]Bald Cypress Swamp acreage is reported here as a subset of the NWI Freshwater Forested/Shrub Wetland acreage and is based on the NHD Waterbody Swamp/Marsh designation shown in Table 7.

^{*} Ratio Multipliers assumed based on past project coordination experiences within the Corps Louisville District. Based on 2023 KDFWR Fee In Lieu Of (FILO) Cost per Adjusted Mitigation Unit (AMU) Credit for Wetlands in the 'Jackson Purchase' Service Area. Stream Team Program Webpage Accessed July 26, 2023.



5.2.2 Freshwater Mussels Impacts & Mitigation

Ohio River, Tributaries, and Backwater Sloughs

All three study corridors would require a new bridge crossing of the Ohio River that could affect freshwater mussels and their host fish dependent on the project's design and impact within the waterbody and riparian area. In addition to the Ohio River mainstem, its tributaries and connected backwater sloughs may also serve as suitable habitat conditions for freshwater mussel species. With the large expanse of the Ohio River system, an initial bathymetric survey may assist in identification of habitat potential and help guide the technical mussel survey's distribution of quantitative and qualitative efforts across the landscape to confirm less suitable areas and focus primary efforts towards areas displaying more suitable habitat conditions. With potential for migration between the Ohio River and perennial wetlands in flooding, selection of a survey area would need to be coordinated with USFWS offices and may include focus on the Ohio River and its adjacent perennial tributaries.

Observed presence of federally protected species with associated project action impacts resulting in a "may affect, likely to adversely affect" determination would require formal consultation resulting in issuance of a Biological Opinion from USFWS. It is also important to recognize that federally protected mussels are often present in low numbers and any observance of a dense or diverse mussel bed assemblage may also elevate the Section 7 determination to "may affect, likely to adversely affect."

"Take" in a Biological Opinion scenario can only be issued directly to another federal agency (i.e., FHWA), so must be coordinated accordingly. The USFWS regulations allow up to a total of 135 days (90 for consultation +45 for preparation and submittal of a biological opinion) from the date that formal consultation is initiated by the lead federal agency (i.e., FHWA) for the Service to issue the Biological Opinion; however, any requests for additional information may temporarily pause this timeclock.



5.2.3 Fisheries Impacts & Mitigation

Ohio River & Tributaries

Corridors A, B and C would involve a new bridge crossing of the Ohio River with undetermined footprint within the waterbody and its riparian corridor. Some fish species can also serve the role of host fish during freshwater mussel reproduction; however, with proper avoidance and minimization measures and the use of sediment and erosion control best management practices (BMPs), adverse effects to host fish species in the Ohio River may be unlikely. Additional consideration may be needed for any reaches of the Ohio River with tributary confluences that may serve as breeding refuges for fish species.

Fish Lake

Corridors A and B would both have significant impacts to Fish Lake. Three state-listed fish species are known within the Boatwright WMA - Peal Unit's Fish Lake including: cypress darter, redspotted sunfish, and taillight shiner.

OKNP has designated the cypress darter, redspotted sunfish, and taillight shiner as state-threatened species and all three are included within the Kentucky's State Wildlife Action Plan. In Illinois, the redspotted sunfish is designated as state-endangered and the taillight shiner is designated as state-threatened. Both the redspotted sunfish and taillight shiner are also included in Illinois' State Wildlife Action Plan.

Recreational Fishing & Boating

Boatwright WMA includes numerous lakes, ponds, swamps and sloughs accessible for both passive recreation and active hunting and fishing activities. The WMA provides access to its visitors via small roadway corridors and features like parking lots, picnic areas, restrooms, campgrounds, picnic areas, wildlife viewing platforms, waterfowl blinds, fishing pier, and boat ramps. In addition to impacts on wildlife populations and habitats, spanning over or through water features would also affect fishing and boating access points.

A total of four boat ramps are located within the study corridors. Fish Lake boat ramp is located between Corridors A and B. Flat Lake and Burnt Pond boat ramps are within Corridor B. Buck Lake boat ramp is within Corridor C.



5.3. Protected Lands Impacts & Mitigation

The study's Socioeconomic Analysis Report discusses protected lands in greater detail, especially in terms of deed restrictions, hunting lands management potential mitigation requirements, and general legal stipulations; however, protected lands are discussed in terms of ecological use, habitat protection, and permit requirements below. Additional mitigation costs may be required for additional ecological-related factors such as loss of public hunting and fishing lands but are unable to be estimated at this time.

A comparison of the three study corridors' potential impacts to acreage of protected land types is provided in Table 10.

Corridor A impacts the least amount of Boatwright WMA (347 acres) and Public Hunting and Fishing Lands (360 acres) but is the only corridor option with impacts to USACE-owned land which would require a Section 408 permit.

Corridor B impacts the greatest acreage of the Boatwright WMA (893 acres) and Public Hunting and Fishing Lands (881 acres). It also includes impacts to two acres of Emergency Watershed Protection Program – Floodplain Easement (EWPP-FPE).

Corridor C impacts the greatest variety of protected lands including Boatwright WMA (603 acres; 2 Units), Wetland Reserve Program (WRP) easements (68 acres), Emergency Watershed Protection Program – Floodplain Easements (EWPP-FPE; 66 acres), and three acres of Illinois Department of Natural Resources (Illinois DNR) Property.

Both Corridor B and Corridor C include impacts to the Swan Lake Unit of Boatwright WMA (290 acres and 330 acres, respectively). The Boatwright WMA – Swan Lake Unit has established use restrictions designated in Kentucky state regulation 301 KAR 4:050 that requires it to be closed to all public access from October 15 through March 31 to serve as a waterfowl refuge. With the western Kentucky region and Boatwright WMA property serving as a major flyway for numerous migratory bird species, especially ducks and geese, this waterfowl refuge is providing strong ecological services to numerous waterfowl populations and an umbrella protection for other species that share in use of this type of habitat.



Table 10. Protected Lands Impacts Comparison by Corridor

	Corridor A	Corridor B	Corridor C
Boatwright WMA (acres)	347	893	603
Burnt Pond Unit		79	
East Virginia Payne Unit		65	
Peal Unit	230	410	313
Stevens Unit	63		
Swan Lake Unit		339	290
West Virginia Payne Unit	54		
USACE-Owned Land (acres)	35	0	0
WRP Easements (acres)	0	0	68
EWPP-FPE Easements (acres)	0	2	66
Illinois DNR Property (acres)	0	0	3
Public Hunting and Fishing Lands (acres)	360	881	607

5.4. Human Disturbance Impacts

Although this study area's landscape is primarily lowlands habitat interspersed with agricultural crop fields, deforestation and conversion of land to agricultural or urban use is already a major threat to many wildlife species. Conversion of land into a transportation corridor would also aid in deforestation and habitat fragmentation within the region. The further fragmentation of mature bottomland forest is of particular concern, and negative impacts are likely for species that require large contiguous tracts of mature forest habitats. Fragmentation could also change size and available habitat areas for migratory waterfowl species. Additionally, the significant alteration or loss of major aquatic habitat features within the study area could include various lakes within Boatwright WMA that provide both wildlife habitat and ecotourism value.

The US 60 corridor could increase public access to the area. Addition of new or more frequent human encounters via fragmented habitat edges could result in sensitive species experiencing a 'fight or flight' response, possibly resulting in species' abandonment of the area or negative impacts to species' reproduction. Introduction of additional vehicular traffic also increases general risk of collision incidents with wildlife.



Highway roadsides are often subject to increased trash and debris. Plastics and other noncompostable materials can be harmful to wildlife including birds, mammals, fishes, reptiles, and amphibians.

5.5. Ecotourism Impacts

Although discussed in greater detail in the Socioeconomic Analysis Report, brief discussion of ecological impacts in relation to ecotourism is noteworthy.

The International Ecotourism Society defines ecotourism as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education"60. A few examples of common ecotourism activities include hiking, horseback riding, cycling, kayaking, wildlife viewing and birdwatching, wildlife photography, and observation of astronomical phenomena.

"Ballard County is home to over 30, 000 acres of land for outdoor enthusiasts ... [and] within a 6-hour drive for 60% of the total population of the United States who are looking for an outdoor challenge and other recreational pursuits."61 According to Kentucky Department of Tourism's 2020 studies, Kentucky's Western Waterlands Region generated \$664.9 million economic impact by tourism to the region⁶². Nearly 5.9 million total visits were made in 2020 (an 8.5% decline from previous year, possibly related to pandemic conditions) with approximately 7% related to outdoors purposes⁶³.

The US 60 corridor would increase public access and potentially awareness to the ecological value within this study area, possibly increasing ecotourism revenue, but the route may more likely be a connector that acts primarily as a pass-through rather than a destination. Although ecotourism aligns well with a "leave no trace" mentality, highway roadsides are often subject to increased trash and debris. Plastics and other non-compostable materials can be harmful to wildlife including birds, mammals, fishes, reptiles, and amphibians. Introduction of additional vehicular traffic also increases general risk of collision incidents with wildlife.

⁶⁰ International Ecotourism Society. Accessed January 16, 2024. https://ecotourism.org/what-is-ecotourism/

⁶¹ Ballard County. Accessed January 16, 2024. https://www.discoverballardcounty.com/things-to-do/

⁶²Kentucky Department of Tourism. 2020 Study. Kentucky's Western Waterlands Region. Accessed: July 24, 2023. https://www.kentuckytourism.com/sites/default/files/2021-

^{08/2020%20}Western%20Waterlands%20Economic%20Impact.jpg

⁶³Travel USA Visitor Profile for Western Waterlands. 2020 Study by Longwoods Travel USA for KY State Government. Accessed: July 24, 2023. https://www.kentuckytourism.com/sites/default/files/2021-08/WW Kentucky%20Travel%20USA%202020%20Overnight%20Report062821%20-170-187.pdf



The further fragmentation of mature bottomland forest is of particular concern, and negative impacts are likely for species that require large contiguous tracts of mature forest habitats. Fragmentation could also change size and available habitat areas for migratory waterfowl species. Additionally, the significant alteration or loss of major aquatic habitat features within the study area could include various lakes within Boatwright WMA that provide both wildlife habitat and ecotourism value.

5.6. Initial Corridors A, B, & C Comparison Conclusions

Corridor A would impact the least acreage of NWI wetlands (675 acres of PEM/PFO/PSS); however, Corridor C impacted the least acreage of total NWI identified features (891 acres). Corridor A also impacts the least acreage of Protected Lands (347 acres) and Public Hunting and Fishing Lands (360 acres), avoiding all WRP and EWFPP-PE easements and the Illinois DNR Property; however, Corridor A is the only corridor option that does impact a USACE-owned property which would require a Section 408 permit. Two of the bald eagle nests observed during preliminary field work were located along or adjacent to Corridor A, although it is likely that bald eagles may be found throughout the study area during additional survey efforts.

Corridor B would impact the least acreage of forested lands (756 acres; Summer 1 habitat) but has potential to include the known Indiana bat maternity roost tree. Further coordination with USFWS would be required to verify the maternity roost tree's precise location in relation to these proposed project corridors. Corridor B also impacts the smallest amount of NHD waters (49,548 linear feet).

Based on comparison of Protected Lands alone, Corridor A may be preferrable.

A summary of the estimated ecological mitigation costs estimated in this report compared by study corridor is presented below in Table 10. Additional mitigation costs may be required for additional ecological-related factors such as impacts to freshwater mussel beds and/or loss of public hunting and fishing lands but are unable to be estimated at this time.



DRAFT Ecological Report Table 11. Summary Estimated Mitigation Cost Comparison by Study Corridor

Estimated Mitigation Costs (\$)	Corridor A	Corridor B	Corridor C
Bat - Forested Trees	\$4,935,000	\$4,441,500	\$4,811,625
IBCF Contribution			
NHD Streams	\$68,889,384	\$55,843,560	\$85,462,884
KDFWR-FILO Purchase			
NWI Wetlands	\$194,220,000	\$207,012,000	\$191,958,000
KFWR-FILO Purchase			
TOTAL	\$268,044,384	\$267,297,060	\$282,232,509



6. Revised Corridors 1 & 2: Potential Impacts & Mitigation

Two revised corridors (1 & 2) were created to better avoid known resources.

Impacts to ecological resources and estimated mitigations are presented here in detail. Although each of the two revised corridors encompasses a 1,000ft wide area, an approximately 15% design was developed within each corridor footprint to better understand the scale of potential impacts. The quantities presented herein reflect the 15% design, not the representative corridors.

Corridor 1 | Northern Concept

Initial Corridor A was adjusted to avoid identified properties protected in perpetuity, evolving into Corridor 1. Corridor 1 represents a 500-foot-wide buffer (1,000-foot total width) and encompasses 1,200 acres. It would provide a far north connection to I-57 in Illinois, between Urbandale and Golden Lily. Impacts presented are based on an approximate 15% design footprint encompassing 233 acres within the 1,000-ft corridor.

Corridor 2 | Southern Concept

Due to the number of properties protected in perpetuity in the central and southern portions of the study area, Initial Corridors B and C were combined to create Corridor 2. Corridor 2 represents a 500-foot-wide buffer (1,000-foot total width) and encompasses 1,336 acres. This concept would provide the most direct connection to I-57 in Illinois at existing Exit 1, between Future City and Urbandale. Impacts presented are based on an approximate 15% design footprint encompassing 180 acres within the 1,000-ft corridor.

6.1. Terrestrial Resources Impacts & Mitigation

6.1.1 Bats

The study area has low karst potential, and no known caves or hibernacula were identified during this desktop review. Although much of this proposed road corridor is new alignment, any existing bridge or large culvert structures should be inspected for their potential to provide suitable summer and winter bat roosting habitat.

Forested acreage was 83 acres for Corridor 1 and 56 acres for Corridor 2 when estimated with GAP data. Multiple federally listed and protected bat species are known to utilized forested areas including clusters of dead hanging leaves, snags or loose bark on trees for summer habitat and maternity roosting. KYTC has a Programmatic Agreement with FHWA

US 60

1-80250 | US 60 Connectivity Study Ballard County, Kentucky DRAFT Ecological Report

that provides a regulatory framework for mitigating potential impacts to bats and their habitats. This 2020 KYTC-FHWA Programmatic Bat Program for Foraging Habitat and Summer/Temporary Roosting (2020 PA) currently includes gray and Indiana bats species but is in process of being revised to included northern long-eared bat since its recent up-listing to federally Endangered status. The 2020 PA extends five-miles beyond the Kentucky borders, so would be applicable for the full project extent in both Kentucky and Illinois.

The majority of the two revised corridors lies within designated "Summer 1" habitat for the northern long-eared bat; however, areas east of Highway 60 and west of the Ohio River are designated as "Potential" habitat for the northern long-eared bat. Both revised corridors lie fully within designated "Summer 1" habitat for the Indiana bat species.

Additionally, the centroid of the Indiana bat Summer 1 polygon (indicating a known maternity roost tree) lies within Corridor 2. The exact location of this known maternity roost tree would need to be verified with USFWS, as that precise information is not made publicly available. Avoidance and minimization measures in the vicinity of this known maternity roost tree location should be anticipated.

The comparison table below shows the two corridors in terms of estimated forested acreage, dominant forest-dwelling bat habitat type, and utilizes the current Year 2023 standard land acreage value (\$4,700/acre), and the habitat multiplier rates (0.50 - 2.75) as defined in the 2020 KYTC-FHWA Programmatic Bat Program for Foraging Habitat and Summer/Temporary Roosting (2020 PA). These estimates also assume the most conservative cost which requires all tree removal actions to occur during the inactive season (October 15 – March 31). As consistent with the 2020 PA conditions, mitigation payment would be due to the Imperiled Bat Conservation Fund (IBCF) managed by KNLT in partnership with the USFWS.

Table 12. Forest-dwelling Bat Summer Habitat Impacts & Mitigation Estimates

	Corridor 1	Corridor 2
Forested Area Present (acres)	83 acres	56 acres
Bat Habitat Designation	Summer 1	Summer 1
Tree Removal Allowed Dates	October 15 – March 31	
Bat Habitat Rate Multiplier	1.25	1.25
Standard Land Acreage Value (\$/acre)	\$4,700/acre	
Estimated Total IBCF Contribution ⁺	\$487,625	\$329,000

^{*} Imperiled Bat Conservation Fund Contribution Estimate using the 2020 PA Equation: (# forested acres) * (# habitat rate multiplier) * (\$ standard land acreage value)



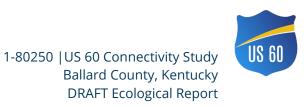
6.1.2 Birds

Three bald eagle nests were identified during initial field reviews of the study area with two of the bald eagle nests observed along or adjacent to Corridor 1. A plane flyover survey would be recommended to identify all bald eagle nests and egret or heron rookeries within the study area or corridor(s). Avoidance and minimization measures should be anticipated for any corridor actions that would occur in the vicinity of an eagle nest or known rookery.

This western Kentucky region's landscape is already a compilation of forested lands interspersed with agricultural crop fields within the study area. Impacts by both revised Corridors 1 and 2 all would bisect a significant amount of available habitat for both resident and migratory birds. Permanent deforestation and fragmentation could significantly impact bird species.

The study area is a critical hotspot for migrating waterfowl and neotropical songbirds, attracting dozens of species like snow geese, American white pelicans, bald eagles, wood ducks, scarlet tanagers, and Kentucky warblers. Birds serve a significant role in both public and private hunting ventures within western Kentucky. Resident and migratory populations also bring visitors to the area for ecotourism activities such as birdwatching, wildlife photography, and trail hiking.

Corridor 2 includes impact to 40 acres of the Swan Lake Unit of Boatwright WMA. The Boatwright WMA – Swan Lake Unit has established use restrictions designated in Kentucky state regulation 301 KAR 4:050 that requires it to be closed to all public access from October 15 through March 31 to serve as a waterfowl refuge. With the western Kentucky region and Boatwright WMA property serving as a major flyway for numerous migratory bird species, especially ducks and geese. This waterfowl refuge is providing strong ecological services to numerous waterfowl populations and an umbrella protection for other species that share in use of this type of habitat.



6.2. Aquatic Resources Impacts & Mitigation

6.2.1 Water Resources

The USACE's Louisville District currently regulates impacts to Waters of the United States (WOTUS) in compliance with the 2008 Compensatory Mitigation for Losses of Aquatic Resources Final Rule [33 CFR Part 332] (2008 Final Mitigation Rule) and utilizes the Revised 2022 Louisville District Assessment Protocol Guidance Manual (LDAP).

Project cost estimates provided are based on current regulatory guidelines (2008 Final Mitigation Rule & Revised 2022 LDAP); however, it is noteworthy that additional review and mitigation efforts may be required for impacts to any waters within Wetland Reserves Program easements or other protected land designations related to water resources protection. Protected lands within the two proposed corridors are discussed in more detail within Section 6.3. It is also noteworthy that Kentucky is currently in initial development of a Kentucky-specific Stream Quantification Tool (SQT) which are similarly already available in numerous states across the U.S. Based on the scale of this proposed project, it would be possible for a new mitigation tool and guidelines to become required.

A comparison of the two revised study corridors' potential impacts to acreage of water resource feature types is provided in Tables 13, 14 and 15.

Corridor 1 impacts the least NHD waterbody (3 acres), but the most NHD streams (4,972 linear feet), NWI wetlands (76 acres) and NWI total waters (92 acres).

Corridor 2 impacts the least amount of NHD streams (4,118 linear feet), but the most NHD waterbody (7 acres), NWI wetlands (50 acres), and NWI total waters (55 acres).



Table 13. National Hydrography Dataset (NHD) Stream Impacts & Mitigation Estimates

	Corridor 1	Corridor 2		
Artificial Path (LF)	166	123		
Connector (LF)				
Intermittent Stream (LF)	1,632	2,007		
Perennial Stream (LF)	3,174	1,988		
Total NHD Streams (LF)	4,972	4,118		
Low-Gradient Streams Rapid Bioassessment Protocol,				
Mississippi Valley Interior River Bioregion, LDAP Guidelines				
Artificial Path & Connector Stream Flows	1.00			
(Assumed WOTUS)				
Intermittent Stream Flow,	1.50			
Average Quality Ratio Multiplier				
Perennial Stream Flow,	2.	25		
Average Quality Ratio Multiplier				
Total Adjusted Mitigation Unit (AMU)	9,755.5	7,606.5		
Add 20% Multiplier for Temporal Loss	11,707 9,128			
July 2023 Cost Per AMU in KDFWR-FILO	\$522/AMU			
'Jackson Purchase' Service Area				
Est. Total KDFWR-FILO Stream Cost ⁺	\$6,111,054	\$4,764,816		

⁺ Assumes that All Waters have 'Average' quality rating Rapid Bioassessment Protocol (RBP) in low-gradient streams according to LDAP guidelines; additionally assumes that 'Artificial Path' and 'Connector' water resources are jurisdictional WOTUS features. Based on 2023 KDFWR Fee In Lieu Of (FILO) Cost per Adjusted Mitigation Unit (AMU) Credit for Streams in the 'Jackson Purchase' Service Area. Stream Team Program Webpage Accessed October 23, 2023.

Table 14. National Hydrography Dataset (NHD) Waterbody Impacts & Mitigation

	Corridor 1	Corridor 2
Lake/Pond (acres)	1	1
Swamp/Marsh (acres)	2	6
Total NHD Waterbody (acres)	3	7

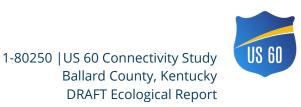


Table 15. National Wetland Inventory (NWI) Wetland Impacts & Mitigation Estimates

	Corridor 1	Corridor 2	
Freshwater Emergent Wetland (acres)	8	5	
	68	45	
Freshwater Forested/Shrub Wetland (acres)			
Bald Cypress Swamp (acres) [^]	(2)	(6)	
Total NWI Wetlands (acres)	76	50	
Freshwater Pond (acres)	2	1	
Lake (acres)	8	1	
Riverine - Ohio River (acres)	6	3	
Total NWI Pond/Lake/Riverine (acres)	16	5	
Total All NWI Waters (acres)	92	55	
Wetlands Mitigation Guidelines			
Riverine Ratio Multiplier	N/A ; Assumed captured via Perennial		
	Stream N	Mitigation	
Freshwater Pond & Lake Ratio Multiplier ⁺	1:1		
PEM Ratio Multiplier	2:1		
PFO/PSS Ratio Multiplier	3:1		
Bald Cypress Swamp Ratio Multiplier	4	:1	
Calculated Adjusted Mitig	gation Units (AMU)		
Riverine	-0-	-0-	
Freshwater Pond & Lake	10	2	
All wetlands and swamps	222	151	
Total Adjusted Mitigation Unit (AMU)	232 153		
Add 20% Multiplier for Temporal Loss	278 184		
July 2023 Cost Per AMU in KDFWR-FILO	\$78,000/AMU		
'Jackson Purchase' Service Area			
Est. Total KDFWR-FILO Wetland Cost ⁺	\$21,684,000	\$14,352,000	

[^]Bald Cypress Swamp acreage is reported here as a subset of the NWI Freshwater Forested/Shrub Wetland acreage and is based on the NHD Waterbody Swamp/Marsh designation shown in Table 13.

[†] Ratio Multipliers assumed based on past project coordination experiences within the Corps Louisville District. Based on 2023 KDFWR Fee In Lieu Of (FILO) Cost per Adjusted Mitigation Unit (AMU) Credit for Wetlands in the 'Jackson Purchase' Service Area. Stream Team Program Webpage Accessed October 23, 2023.



6.2.2 Freshwater Mussels Impacts & Mitigation

Ohio River, Tributaries, and Backwater Sloughs

Both study alternatives would require a new bridge crossing of the Ohio River that could affect freshwater mussels and their host fish dependent on the project's design and impact within the waterbody and riparian area. In addition to the Ohio River mainstem, its tributaries and connected backwater sloughs may also serve as suitable habitat conditions for freshwater mussel species. With the large expanse of the Ohio River system, an initial bathymetric survey may assist in identification of habitat potential and help guide the technical mussel survey's distribution of quantitative and qualitative efforts across the landscape to confirm less suitable areas and focus primary efforts towards areas displaying more suitable habitat conditions. With potential for migration between the Ohio River and perennial wetlands in flooding, selection of a survey area would need to be coordinated with US Fish and Wildlife Service offices and may include focus on the Ohio River and its adjacent perennial tributaries.

Observed presence of federally protected species with associated project action impacts resulting in a "may affect, likely to adversely affect" determination would require formal consultation resulting in issuance of a Biological Opinion from USFWS. It is also important to recognize that federally protected mussels are often present in low numbers and any observance of a dense or diverse mussel bed assemblage may also elevate the Section 7 determination to "may affect, likely to adversely affect."

"Take" in a Biological Opinion scenario can only be issued directly to another federal agency (i.e., FHWA), so must be coordinated accordingly. The USFWS regulations allow up to a total of 135 days (90 for consultation +45 for preparation and submittal of a biological opinion) from the date that formal consultation is initiated by the lead federal agency (i.e., FHWA) for the Service to issue the Biological Opinion; however, any requests for additional information may temporarily pause this timeclock.

6.2.3 Fisheries Impacts & Mitigation

Ohio River & Tributaries

Both Corridors 1 and 2 would involve a new bridge crossing of the Ohio River with undetermined footprint within the waterbody and its riparian corridor. Some fish species can also serve the role of host fish during freshwater mussel reproduction; however, with proper avoidance and minimization measures and the use of sediment and erosion control best management practices (BMPs), adverse effects to host fish species in the Ohio River



may be unlikely. Additional consideration may be needed for any reaches of the Ohio River with tributary confluences that may serve as breeding refuges for fish species.

Lakes

Corridor 1 would have significant impacts to Flat Lake. Flat Lake is considered the most popular for public use within the Boatwright WMA (KDFWR, pers. comm.).

Recreational Fishing & Boating

Boatwright WMA includes numerous lakes, ponds, swamps and sloughs accessible for both passive recreation and active hunting and fishing activities. The WMA provides access to its visitors via small roadway corridors and features like parking lots, picnic areas, restrooms, campgrounds, picnic areas, wildlife viewing platforms, waterfowl blinds, fishing pier, and boat ramps. In addition to impacts on wildlife populations and habitats, spanning over or through water features would also affect fishing and boating access points.

No boat ramps are located within the revised study corridors.

6.3. Protected Lands Impacts & Mitigation

The Socioeconomic Analysis Report discusses protected lands in greater detail, especially in terms of deed restrictions, hunting lands management potential mitigation requirements, and general legal stipulations; however, protected lands are discussed in terms of ecological use, habitat protection, and permit requirements below. Additional mitigation costs may be required for additional ecological-related factors such as loss of public hunting and fishing lands but are unable to be estimated at this time.

A comparison of the two study corridors' potential impacts to acreage of protected land types is provided in Table 15.

Corridor 1 impacts a total of 23 acres in Boatwright WMA including: Peal Unit, Stevens Unit, Upper Blenderman Unit and Zola Taress Unit. Upper Blenderman and Zola Taress are two Units that were previously avoided in Corridors A, B, and C routes.

Corridor 2 will impact the most acreage within Boatwright WMA, occurring in the Peal Unit and Swan Lake Unit.

Corridor 2 includes impacts to the Swan Lake Unit of Boatwright WMA (40 acres). The Boatwright WMA – Swan Lake Unit has established use restrictions designated in Kentucky state regulation 301 KAR 4:050 that requires it to be closed to all public access from October 15 through March 31 to serve as a waterfowl refuge. With the western Kentucky region and

Boatwright WMA property serving as a major flyway for numerous migratory bird species, especially ducks and geese. This waterfowl refuge is providing strong ecological services to numerous waterfowl populations and an umbrella protection for other species that share in use of this type of habitat.

Table 16. Protected Lands Impacts Comparison by Corridor

	Corridor 1	Corridor 2
Boatwright WMA (acres)	23	68
Burnt Pond Unit		
East Virginia Payne Unit		
Peal Unit	10.5	28
Stevens Unit	<0.05	
Swan Lake Unit		40
West Virginia Payne Unit		
Upper Blenderman Unit	8	
Zola Taress Unit	4.5	
USACE-Owned Land (acres)	0	0
WRP Easements (acres)	0	0
EWPP-FPE Easements (acres)	0	0
Illinois DNR Property (acres)	0	0
Public Hunting and Fishing Lands (acres)	23	68

6.4. Human Disturbance Impacts

Although this study area's landscape is primarily lowlands habitat interspersed with agricultural crop fields, deforestation and conversion of land to agricultural or urban use is already a major threat to many wildlife species. Conversion of land into a transportation corridor would also aid in deforestation and habitat fragmentation within the region. The further fragmentation of mature bottomland forest is of particular concern, and negative impacts are likely for species that require large contiguous tracts of mature forest habitats. Fragmentation could also change size and available habitat areas for migratory waterfowl species. Additionally, the significant alteration or loss of major aquatic habitat features within the study area could include various lakes within Boatwright WMA that provide both wildlife habitat and ecotourism value.



The US 60 corridor could increase public access to the area. Addition of new or more frequent human encounters via fragmented habitat edges could result in sensitive species experiencing a 'fight or flight' response, possibly resulting in species' abandonment of the area or negative impacts to species' reproduction. Introduction of additional vehicular traffic also increases general risk of collision incidents with wildlife.

Highway roadsides are often subject to increased trash and debris. Plastics and other non-compostable materials can be harmful to wildlife including birds, mammals, fishes, reptiles, and amphibians.

6.5. Ecotourism Impacts

Although discussed in greater detail in the Socioeconomic Analysis Report, brief discussion of ecological impacts in relation to ecotourism is noteworthy.

The International Ecotourism Society defines ecotourism as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education"⁶⁴. A few examples of common ecotourism activities include hiking, horseback riding, cycling, kayaking, wildlife viewing and birdwatching, wildlife photography, and observation of astronomical phenomena.

"Ballard County is home to over 30, 000 acres of land for outdoor enthusiasts ... [and] within a 6-hour drive for 60% of the total population of the United States who are looking for an outdoor challenge and other recreational pursuits." According to Kentucky Department of Tourism's 2020 studies, Kentucky's Western Waterlands Region generated \$664.9 million economic impact by tourism to the region⁶⁵. Nearly 5.9 million total visits were made in 2020 (an 8.5% decline from previous year, possibly related to pandemic conditions) with approximately 7% related to outdoors purposes⁶⁶.

The US 60 corridor would increase public access and potentially awareness to the ecological value within this study area, possibly increasing ecotourism revenue, but the route may more likely be a connector that acts primarily as a pass-through rather than a destination.

⁶⁵Kentucky Department of Tourism. 2020 Study. Kentucky's Western Waterlands Region. Accessed: July 24, 2023. https://www.kentuckytourism.com/sites/default/files/2021-

^{08/2020%20}Western%20Waterlands%20Economic%20Impact.jpg

⁶⁶Travel USA Visitor Profile for Western Waterlands. 2020 Study by Longwoods Travel USA for KY State Government. Accessed: July 24, 2023. https://www.kentuckytourism.com/sites/default/files/2021-08/WW_Kentucky%20Travel%20USA%202020%20Overnight%20Report062821%20-170-187.pdf



Although ecotourism aligns well with a "leave no trace" mentality, highway roadsides are often subject to increased trash and debris. Plastics and other non-compostable materials can be harmful to wildlife including birds, mammals, fishes, reptiles, and amphibians. Introduction of additional vehicular traffic also increases general risk of collision incidents with wildlife.

The further fragmentation of mature bottomland forest is of particular concern, and negative impacts are likely for species that require large contiguous tracts of mature forest habitats. Fragmentation could also change size and available habitat areas for migratory waterfowl species. Additionally, the significant alteration or loss of major aquatic habitat features within the study area could include various lakes within Boatwright WMA that provide both wildlife habitat and ecotourism value.

7. Corridors 1 & 2 Comparison - Conclusions

Corridor 1 has the most impacts to NHD streams, NWI wetlands, NWI waterbodies, and acreage of tree removal. Corridor 1 would impact Flat Lake, considered the most popular for public use (KDFWR, pers. comm.).

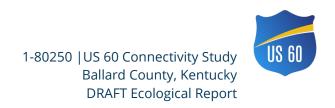
Corridor 2 has fewer impacts to NWI wetlands but was estimated to include more acres of bald cypress swamp wetlands than Corridor 1. Corridor 2 has the most impacts to Boatwright WMA. Not only are Corridor 2's WMA impacts nearly triple that of Corridor 1, Corridor 2 also includes impacts to Boatwright WMA's Swan Lake Unit which is designated as a waterfowl refugia.

By volume of known ecological features impacted, Corridor 2 may be preferrable; however, based on comparison of Protected Lands impacts, Corridor 1 may be preferrable.

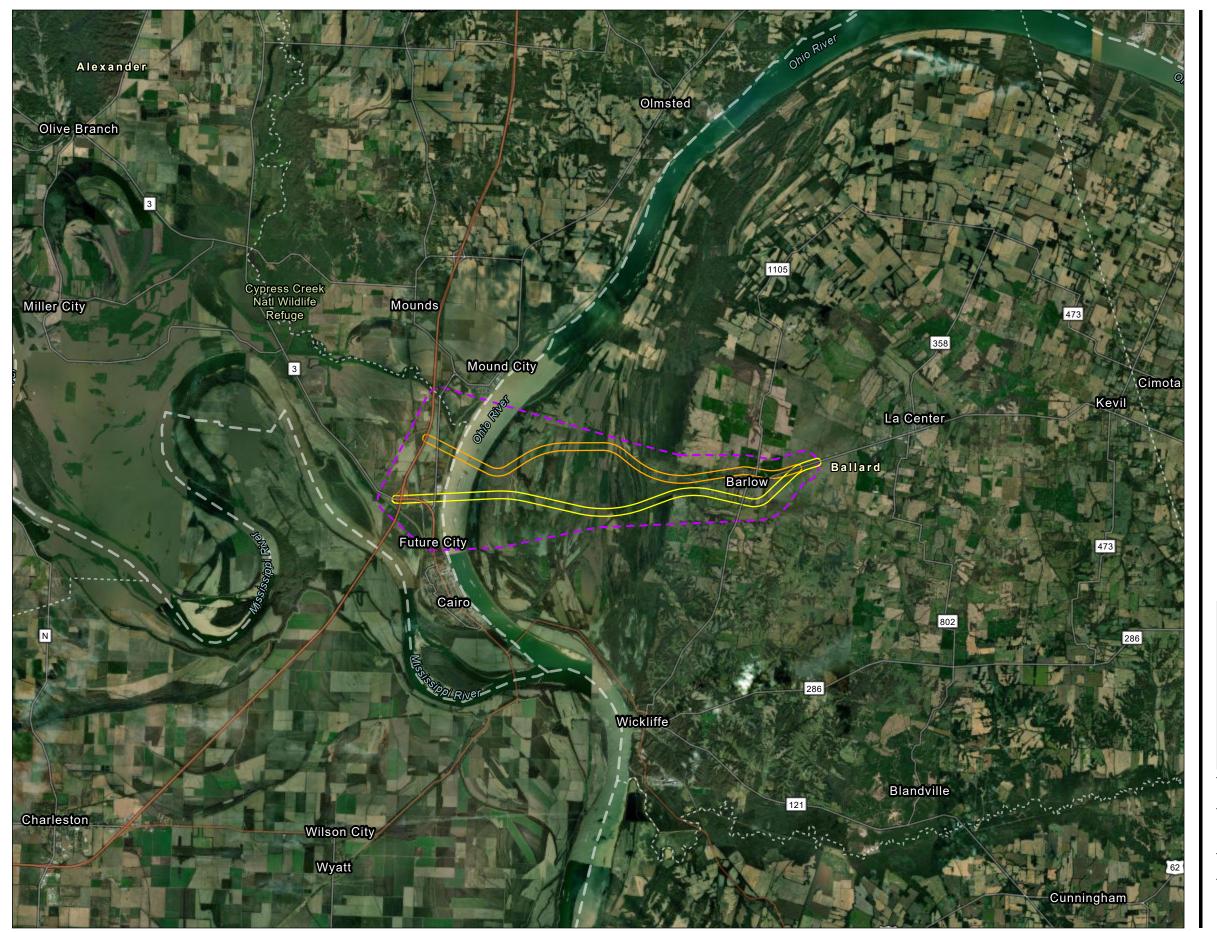
A summary of the estimated ecological mitigation costs estimated in this report compared by study corridor is presented below in Table 16. Additional mitigation costs may be required for additional ecological-related factors such as impacts to freshwater mussel beds and/or loss of public hunting and fishing lands but are unable to be estimated at this time. As identified, estimated mitigation costs are relatively comparable between Corridor options.

Table 17. Summary Estimated Mitigation Cost Comparison by Study Corridor

Estimated Mitigation Costs (\$)	Corridor 1	Corridor 2
Bat - Forested Trees	\$487,625	\$329,000
IBCF Contribution		
NHD Streams	\$6,111,054	\$4,764,816
KDFWR-FILO Purchase		
NWI Wetlands	\$21,684,000	\$14,352,000
KFWR-FILO Purchase		
TOTAL	\$28,282,679	\$19,445,8116



FIGURES





Legend -

US-60 Study Area

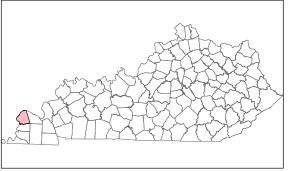
Corridor 1

Corridor 2



10.000 20.000 (At original document size of 11x17) 1:150,000

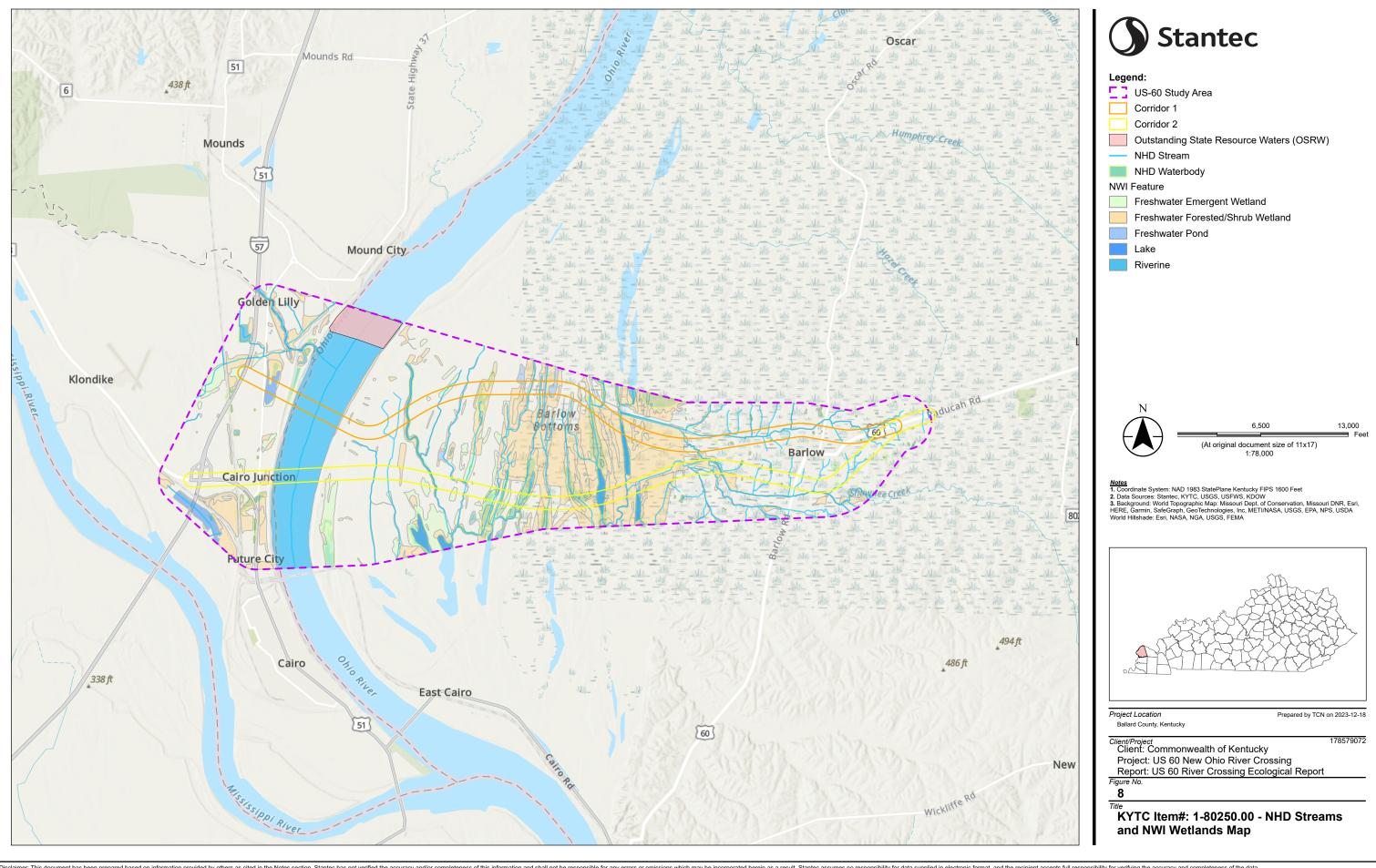
Notes
1. Coordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet
2. Data Sources: Stantec, KYTC
3. Background: World Imagery: Earthstar Geographics
Hybrid Reference Layer: Missouri Dept. of Conservation, Missouri DNR, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

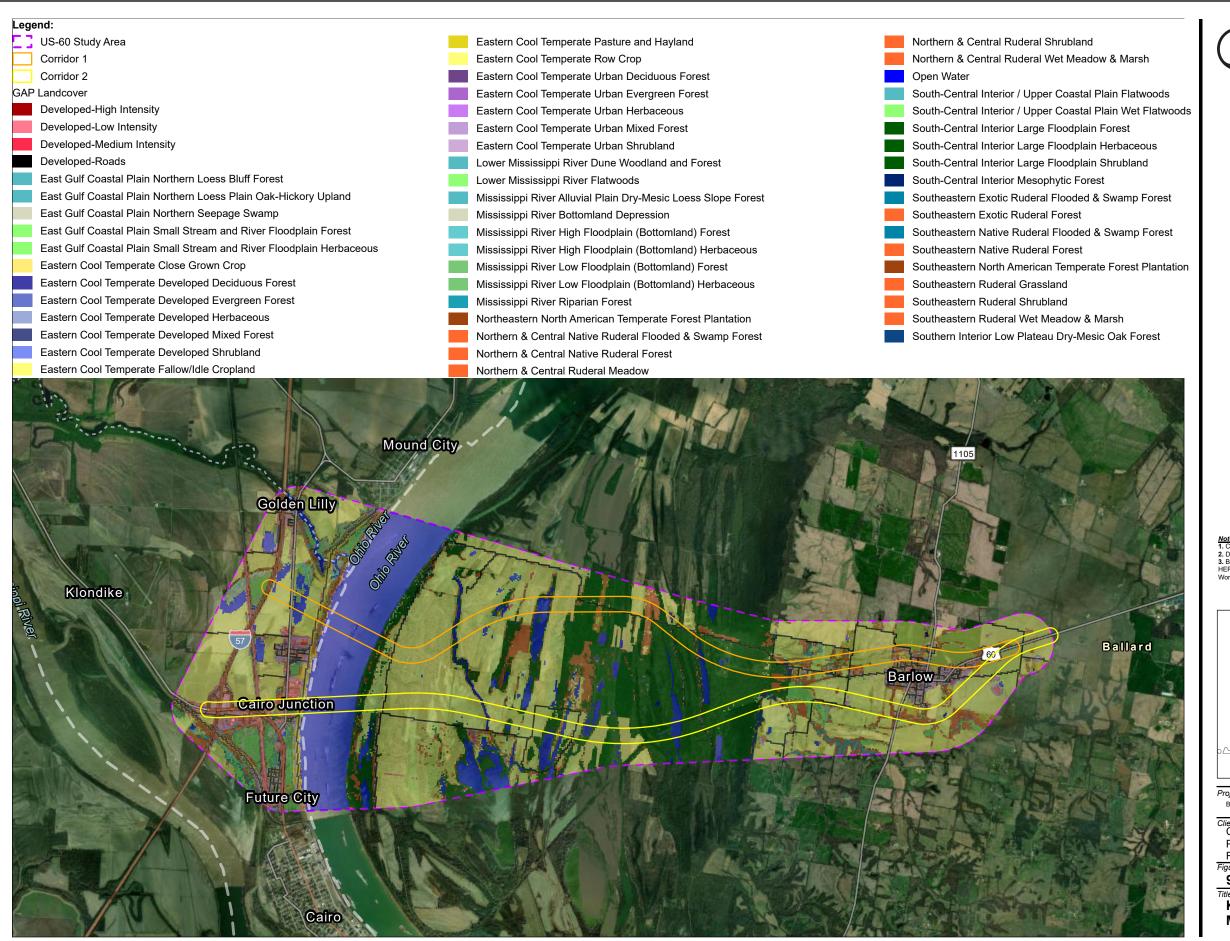


Project Location Ballard County, Kentucky Prepared by TCN on 2023-12-18

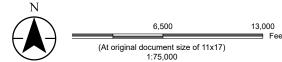
Client: Commonwealth of Kentucky Project: US 60 New Ohio River Crossing Report: US 60 River Crossing Ecological Report

KYTC Item#: 1-80250.00 - Area of Potential Effect Map



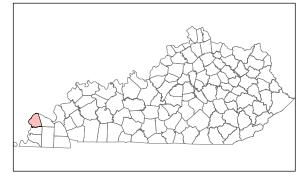






pordinate System: NAD 1983 StatePlane Kentucky FIPS 1600 Feet

2. Data Sources: Stanter, KYTC, USGS, GAP 2011
3. Background: Hybrid Reference Layer: Missouri Dept. of Conservation, Missouri DNR, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA



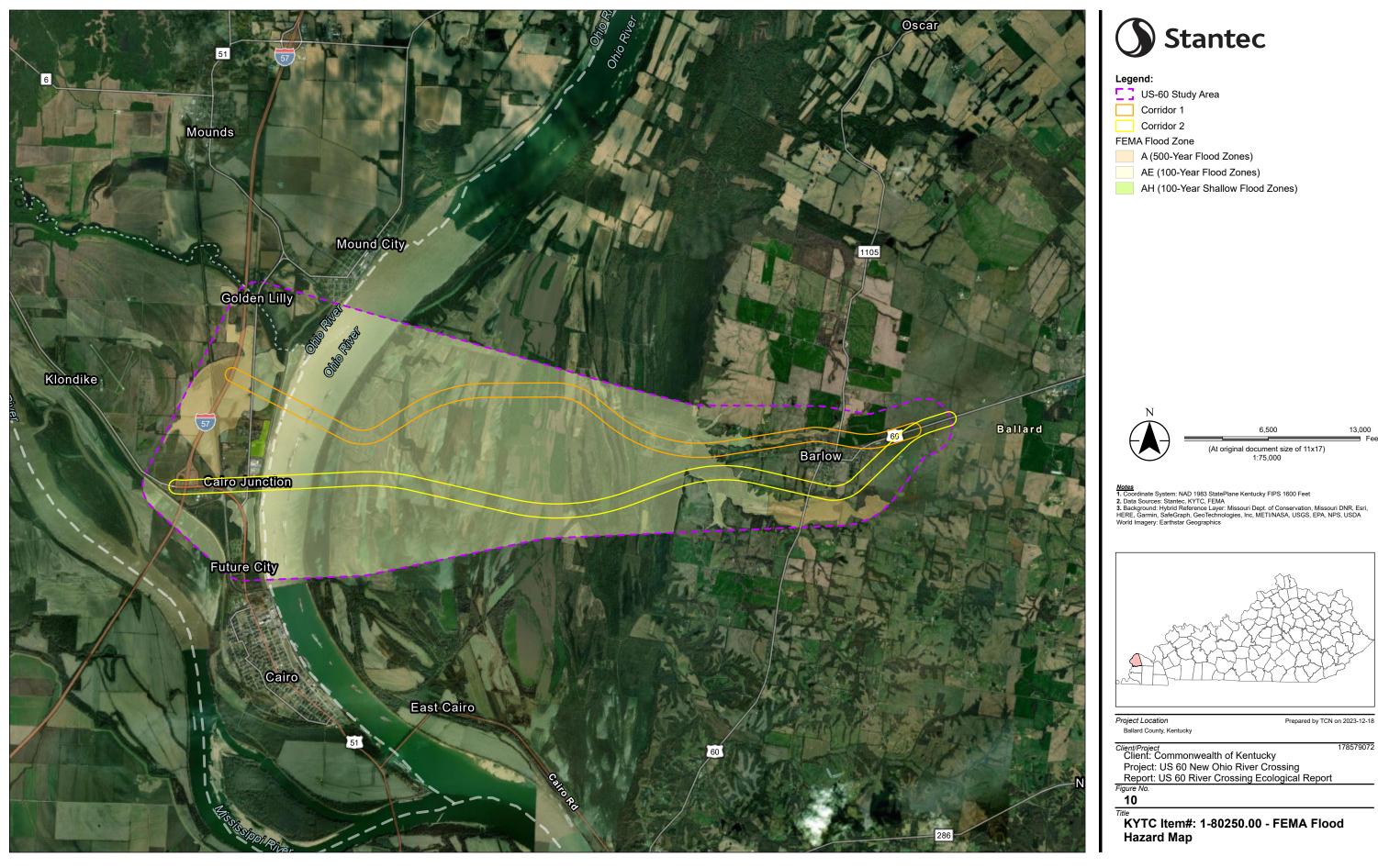
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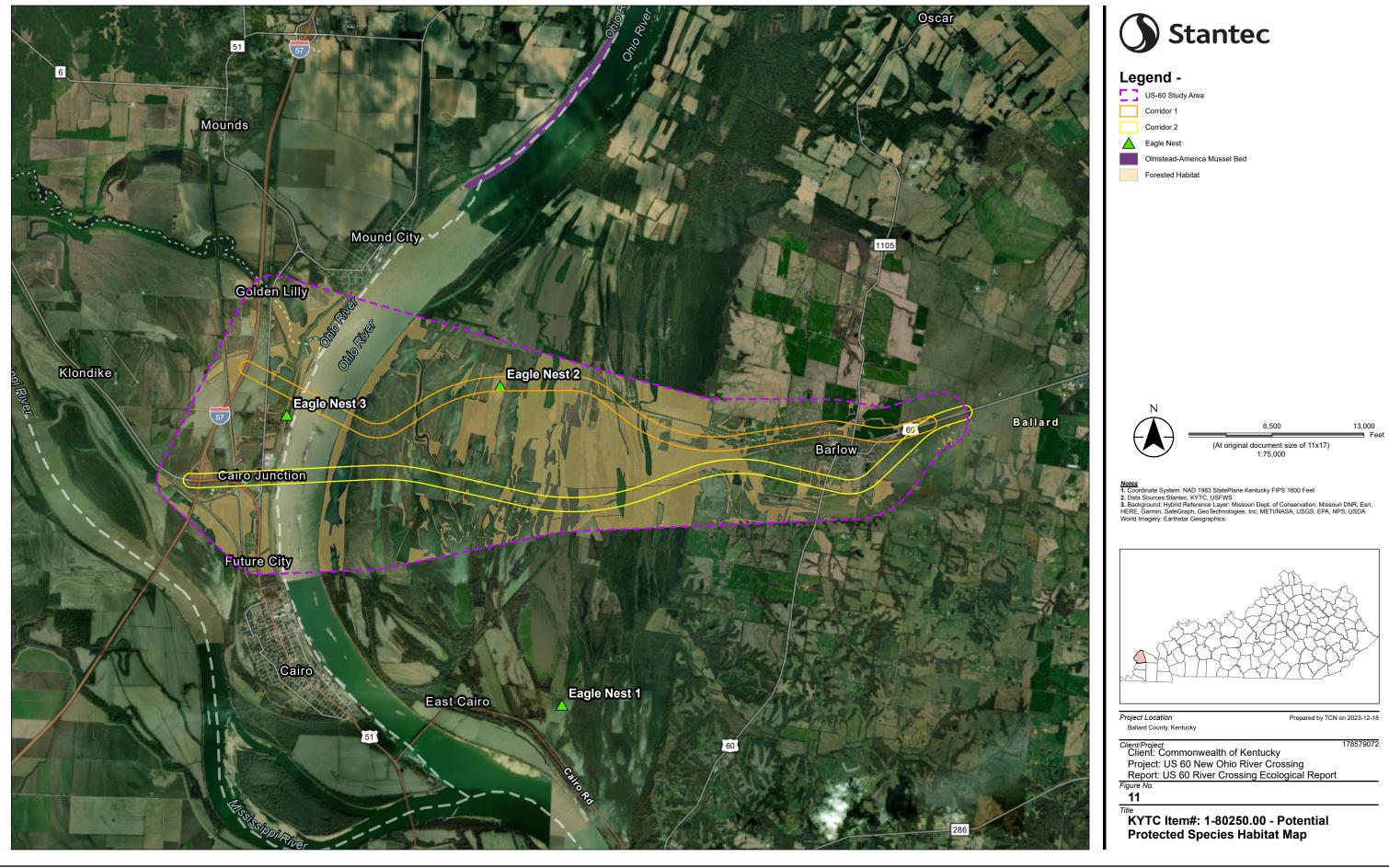
Prepared by TCN on 2023-12-18

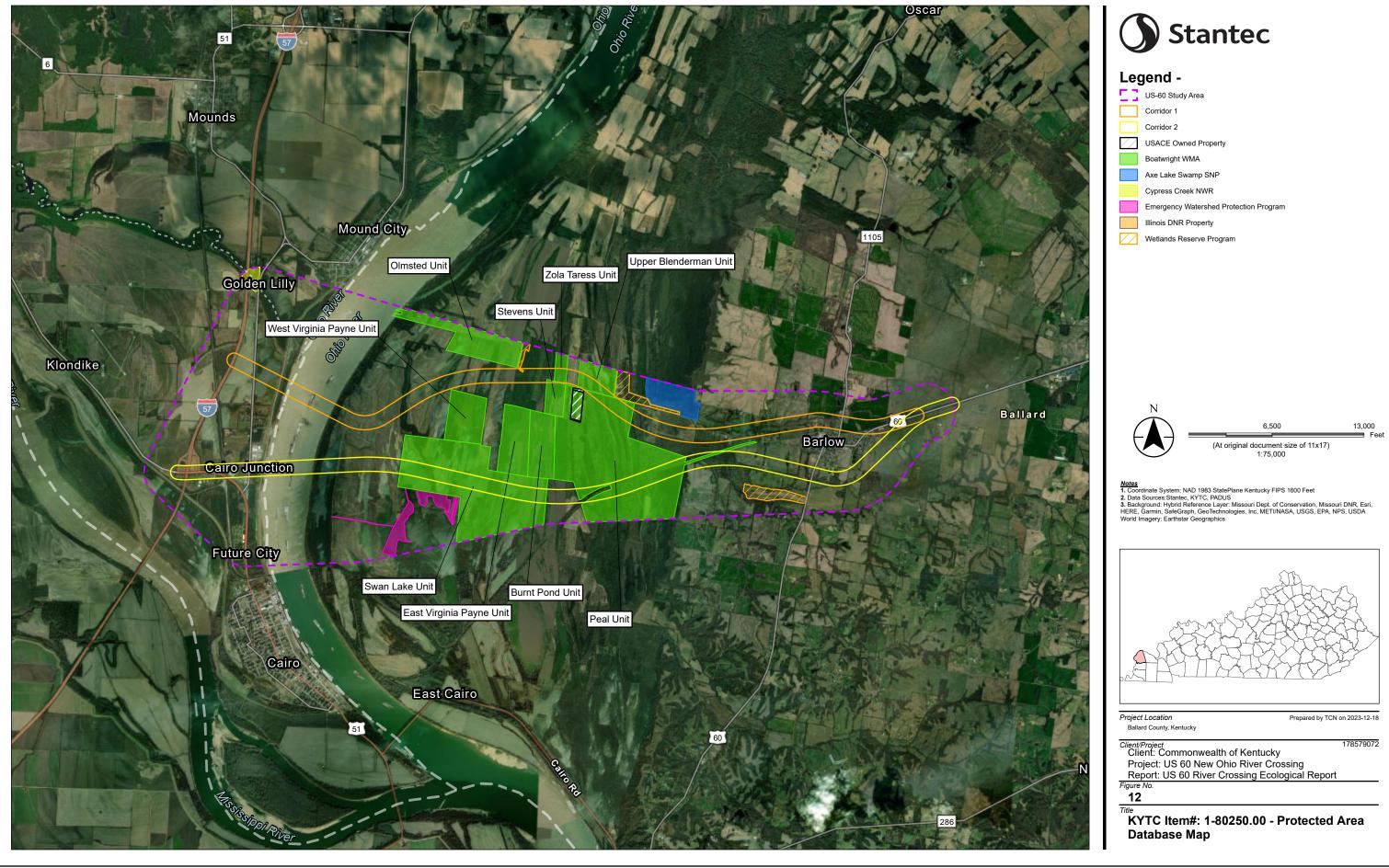
Client/Project Client: Commonwealth of Kentucky

Project: US 60 New Ohio River Crossing Report: US 60 River Crossing Ecological Report

KYTC Item#: 1-80250.00 - GAP/LANDFIRE









APPENDIX A



Table A1. Federally-listed Threatened and Endangered Species with the Potential to Occur within the US 60 Connectivity Study Area

Species	Status	Potential Occurrence within the Project Area	
Birds			
Piping Plover	FE/FT	Medium	
(Charadrius melodus)	. =/		
Whooping Crane	EXP	Low	
(Grus americana)			
Mammals			
Gray Bat	Endangered	High	
(Myotis grisescens)	Endangered		
Indiana Bat	Endangered	High	
(Myotis sodalis)	go.ou		
Little Brown Bat	Discretionary Status Review	High	
(Myotis lucifugus)	,	Llinh	
Northern Long-eared Bat	Endangered	High	
(Myotis septentrionalis) Tricolored Bat	_	High	
(Perimyotis subflavus)	Proposed Endangered	підіі	
Reptiles			
Alligator Snapping Turtle (Marochelys temminckii)	Proposed Threatened	Medium	
(Marocherys terriminickii)			
Fishes	<u>, </u>		
Lake Sturgeon	Discretionary Status Review	Medium	
(Acipenser fulvescens)			
Pallid Sturgeon (Scaphirhynchus albus)	Endangered	Medium	
Shovelnose Sturgeon			
(Scarphirhynchus platorynchus)	FT(S/A)	Medium	
Invertebrates			
Monarch Butterfly	Candidate	High	
(Danaus plexippus)	Carrarato	9	
Mussels			
Catspaw (Friedlands)	Endangered; EXP	High	
(Epioblasma obliquata) Clubshell	, , , , , , , , , , , , , , , , , , ,	5	
(Pleurobema clava)	Endangered	Low	
Fanshell			
(Cyprogenia stegaria)	Endangered	Low	
Fat Pocketbook	Endangered	Llink	
(Potamilus capax)	Endangered	High	
Longsolid	Threatened	Low	
(Fusconaia subrotunda)	meatened	LOW	
Northern Riffleshell	Threatened	Low	
(Epioblasma rangiana)			
Orangefoot Pimpleback (Plethobasus cooperianus)	Endangered	High	
Pink Mucket			
(Lampsilis abrupta)	Endangered	High	
Rabbitsfoot			
(Theliderma cylindrica)	Threatened	High	
(f.k.a. Quadrula cylindrica cylindrica)		 _	
Ring Pink (mussel)	Endangered	Low	
(Obovaria retusa)	Lindangered	LOW	



Species	Status	Potential Occurrence within the Project Area	
Rough Pigtoe (Pleurobema plenum)	Endangered	Low	
Sheepnose Mussel (Plethobasus cyphyus)	Endangered	High	
Sources: NatureServe Explorer 2024 ⁶⁷ ; USFWS 2023 ⁶⁸ ; OKNP 2023 ⁶⁹ ; KDFWR 2024 ⁷⁰ ; GBIF 2023 ⁷¹ .			

FT(S/A) = Federally listed threatened due to similarity of appearance

https://app.fw.ky.gov/speciesinfo/speciesinfo.asp

⁶⁷ Nature Serve Explorer. Accessed January 8, 2024. https://explorer.natureserve.org/

⁶⁸ USFWS. Information for Planning and Consultation (IPaC) Species List. July 28, 2023. Not for consultation use.

⁶⁹ OKNP. 2023. Kentucky Biological Assessment Tool: study area & 1 mile buffer.

⁷⁰ KDFWR. Species Info Search: Ballard County, KY. Accessed January 8, 2024.

⁷¹ Global Biodiversity Information Facility. 2023. Study area boundary. https://www.gbif.org/



Table A2. State-listed Threatened and Endangered Species with Observation Records within 1-mile of the US 60 Connectivity Study Area

Species	Status
Amphibians	
Northern Crawfish Frog	KSS
(Lithobates areolatus circulosus)	
Spotted Dusky Salamander	ISE
(Desmognathus conanti)	
Birds	
Brown Creeper	KST
(Certhia americana)	NO.
Fish Crow	KSS
(Corvus ossifragus)	
Great Egret	KST
(Ardea alba)	
Loggerhead Shrike	KSS/ISE
(Lanius Iudovicianus)	
Mississippi Kite	KSS
(Ictinia mississippiensis)	
Yellow-crowned Night-Heron	KST/ISE
(Nyctanassa violacea)	
Crayfishes	
Cajun Dwarf Crayfish	
(Cambarellus shufeldtii)	KSS
Shrimp Crayfish	NG5
(Faxonius lancifer)	KSE
Fishes	
Alligator Gar	
(Atractosteus spatula)	KSE
Bantum Sunfish	
(Lepomis symmetricus)	IST
Black Buffalo	
(Ictiobus niger)	KSS
Chain Pickerel	KSS
(Esox niger)	
Cypress Darter	KST
(Etheostoma proeliare)	
Cypress Minnow	KSE/ISE
(Hybognathus hayi)	
Flathead Chub	KSS
(Platygobio gracilis)	
Lake Chubsucker	KST
(Erimyzon sucetta)	
Mississippi Silverside	KST
(Menidia audens)	



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	DRAFT ECOlogical Re
Species	Status
Northern Madtom	KSS/ISE
(Noturus stigmosus)	
Plains Minnow	KSS
(Hybognathus placitus)	
Redspotted Sunfish	KST/IST
(Lepomis miniatus)	
Sicklefin Chub	KSE
(Macrhybopsis meeki)	
Sturgeon Chub	
(Macrhybopsis gelida)	KSE/ISE
Taillight Shiner	,
(Notropis maculatus)	KST/ISE
Invertebrates	- , -
Double-ringed Pennant	
(Celithemis verna)	KSE
Eastern Red Damsel	KJL
(Amphiagrion saucium)	KSE
, , ,	KJL
Mammals	
Rafinesque's Big-eared Bat	was tra-
(Corynorhinus rafinesquii)	KSS/ISE
Southeastern Myotis	
(Myotis austroriparius)	KSS/ISE
Mussels	
Black Sandshell	
(Ligumia recta)	KSS
Bleufer	
(Potamilus purpuratus)	KSE
Pocketbook	
(Lampsilis ovata)	KSE
Petromyzontida	
Chestnut Lamprey	
(Ichthyomyzon castaneus)	KSS
Plants	
American Frog's-bit	KST
(Limnobium spongia)	
Blue Jasmine Leatherflower	KST/ISE
	101/102
(Clematis crispa)	NH
Blue-jasmine Leather-flower (Calamagrostis canadensis var.	KH
macouniana)	
	KH
Bog Rush	ΝП
(Juncus elliottii)	NCL
Brown Bog Sedge	KSE
(Carex buxbaumii)	
Bush's Muhly	KSE
(Mehlenbergia bushii)	



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Species	Status
Carolina Fanwort	KST
(Cabomba caroliniana)	
Compass Plant	KST
(Silphium laciniatum)	
Illinois Pondweed	KST
(Potamogeton illinoensis)	
Lakecress	KST
(Rorippa aquatica)	
Large Sedge	KST/ISE
(Carex gigantea)	
Snow Melanthera	KSS
(Melanthera nivea)	
Sweet Coneflower	KSE
(Rudbeckia subtomentosa)	
Trailing Yellow Loosestrife	KSE
(Lysimachia radicans)	
Water Hickory	KSS/IST
(Carya aquatica)	
Reptiles	1
Western Mudsnake	KSS
(Farancia abacura reinwardtii)	
Snails	
Armored Rocksnail	KSS
(Lithasia armigera)	
Varicose Rocksnail	KSS
(Lithasia verrucosa)	
Sources: OKNP 2023 ⁷² . GBIF 2023 ⁷³ . IDI	NR 2020 ⁷⁴ .
Key:	
KH = Kentucky Historic Population KSE = Kentucky State Endangered	
KST = Kentucky State Endangered KST = Kentucky State Threatened	
KSS = Kentucky State Species of Concern	
ISE = Illinois State Endangered	
IST = Illinois State Threatened	

⁷² OKNP. 2023. Kentucky Biological Assessment Tool: study area & 1 mile buffer.

⁷³ Global Biodiversity Information Facility. 2023. Study area boundary. https://www.gbif.org/

⁷⁴ Illinois Department Natural Resources (IDNR). Checklist of Illinois Endangered and Threatened Animals and Plants. Effective May 28, 2020.



Table A3. Birds of Conservation Concern and State Wildlife Action Plan Species with Observation Records within US 60 Connectivity Study Area

Group	Common Name	Scientific Name	BCC ¹	KWAP ²	IWAP ³
Amphibians	American Toad	Anaxyrus americanus		Yes	
Amphibians	Bird-voiced Treefrog	Hyla avivoca		Yes	
Amphibians	Cope's Gray Treefrog	Hyla chrysoscelis		Yes	
Amphibians	Eastern Cricket Frog Acris crepitans			Yes	
Amphibians	Eastern Newt	Notophthalmus viridescens		Yes	Yes
Amphibians	Green Frog	Lithobates clamitans		Yes	
Amphibians	Green Treefrog	Hyla cinerea		Yes	
Amphibians	Lesser Siren	Siren intermedia		Yes	Yes
Amphibians	Mississippi Slimy Salamander	Plethodon mississippi		Yes	
Amphibians	Spotted Salamander	Ambystoma maculatum		Yes	
Amphibians	Three-toed Amphiuma	Amphiuma tridactylum		Yes	
Birds	American Bittern	Botaurus lentiginosus		Yes	Yes
Birds	American Black Duck	Anas rubripes		Yes	Yes
Birds	American Golden-plover	Pluvialis dominica	ВСС	Yes	Yes
Birds	American Kestrel	Falco spaeverius paulus	ВСС	Yes	
Birds	American Woodcock	Scolopax minor		Yes	Yes
Birds	Barn Owl	Tyto alba		Yes	Yes
Birds	Black Tern	Chlidonias niger		Yes	Yes
Birds	Black-bellied Plover	Pluvialis squatarola		Yes	
Birds	Black-crowned Night-Heron	Nycticorax nycticorax		Yes	Yes
Birds	Blue-winged Warbler	Vermivora cyanoptera		Yes	Yes
Birds	Bobolink	Dolichonyx oryzivorus		Yes	Yes
Birds	Buff-breasted Sandpiper	Calidris subruficollis		Yes	Yes
Birds	Cerulean Warbler	Setophaga cerulea		Yes	Yes
Birds	Common Gallinule	Gallinula galeata		Yes	Yes
Birds	Dickcissel	Spiza americana		Yes	Yes
Birds	Dunlin	Calidris alpina		Yes	
Birds	Eastern Meadowlark	Sturnella magna		Yes	Yes
Birds	Field Sparrow	Spizella pusilla		Yes	Yes
Birds	Grasshopper Sparrow	Ammodramus savannarum		Yes	Yes
Birds	Greater Scaup	Aythya marila		Yes	
Birds	Green Heron	Butorides virescens		Yes	
Birds	Hooded Merganser	Lophodytes cucullatus		Yes	
Birds	Kentucky Warbler	Geothlypis formosa	ВСС	Yes	Yes
Birds	Lapland Larkspur	Calcarius Iapponicus		Yes	
Birds	Least Bittern	Ixobrychus exilis		Yes	Yes
Birds	Least Flycatcher	Empidonax minimus		Yes	



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Group	Common Name	Scientific Name	BCC ¹	KWAP ²	IWAP ³
Birds	Lesser Scaup	Aythya affinis		Yes	Yes
Birds	Lesser Yellowlegs	Tringa flavipes	ВСС	Yes	Yes
Birds	Louisiana Waterthrush	Parkesia motacilla		Yes	
Birds	Northern Bobwhite	Colinus virginanus		Yes	Yes
Birds	Northern Harrier	Circus hudsonius		Yes	Yes
Birds	Osprey	Pandion haliaetus		Yes	Yes
Birds	Peregrine Falcon	Falco peregrinus		Yes	Yes
Birds	Pie-billed Grebe	Podilymbus podiceps		Yes	Yes
Birds	Prairie Warbler	Setophaga discolor		Yes	Yes
Birds	Prothonotary Warbler	Protonotaria citrea	ВСС	Yes	Yes
Birds	Red-headed Woodpecker	Melanerpes erythrocephalus	ВСС	Yes	Yes
Birds	Ruby-throated Hummingbird	Archilochus colubris		Yes	
Birds	Rusty Blackbird	Euphagus carolinus	ВСС	Yes	Yes
Birds	Sanderling	Calidris alba		Yes	
Birds	Savannah Sparrow	Passerculus sandwichensis		Yes	
Birds	Sedge Wren	Cistothorus stellaris		Yes	
Birds	Semipalmated Sandpiper	Calidris pusilla		Yes	
Birds	Sharp-shinned Hawk	Accipiter striatus		Yes	
Birds	Short-billed Dowitcher	Limnodromus griseus		Yes	Yes
Birds	Solitary Sandpiper	Tringa solitaria		Yes	
Birds	Sora	Porzana carolina		Yes	
Birds	Spotted Sandpiper	Actitis macularius		Yes	
Birds	Stilt Sandpiper	Calidris himantopus		Yes	
Birds	Swainson's Warbler	Limnothlypis swainsonii		Yes	Yes
Birds	Upland Sandpiper	Bartramia longicauda		Yes	Yes
Birds	Willow Flycatcher	Empidonax trailii		Yes	Yes
Birds	Wilson's Phalarope	Phalaropus tricolor		Yes	Yes
Birds	Wilson's Snipe	Gallinago delicata		Yes	Yes
Birds	Wood Thrush	Hylocichla mustelina	BCC	Yes	Yes
Birds	Yellow-billed Cuckoo	Coccyzus americanus		Yes	Yes
Crayfishes	Crawzilla Crawdad	Lacunicambarus chimera		Yes	
Crayfishes	Digger Crayfish	Creasrinus fodiens		Yes	
Crayfishes	Gray-speckled Crayfish	Faxonius palmeri palmeri		Yes	
Crayfishes	Vernal Crayfish	Procambarus viaeviridis		Yes	
Fishes	American Eel	Anguilla rostrata		Yes	Yes
Fishes	Bigmouth Shiner	Notropis dorsalis	<u> </u>	Yes	
Fishes	Blacktail Shiner	Cyprinella venusta		Yes	Yes
Fishes	Blue Sucker	Cycleptus elongatus		Yes	
Fishes	Highfin Carpsucker	Carpiodes velifer		Yes	
Fishes	Paddlefish	Polyodon spathula		Yes	Yes



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DIVAL L'Ecological Report					
Group	Common Name	Scientific Name	BCC ¹	KWAP ²	IWAP ³
Fishes	Pugnose Minnow	Opsopoeodus emiliae		Yes	Yes
Fishes	Red Shiner	Cyprinella lutrensis		Yes	
Fishes	Shoal Chub	Macrhybopsis hyostoma		Yes	Yes
Fishes	Silverband Shiner	Notropis shumardi		Yes	Yes
Fishes	Spottail Shiner	Notropis hudsonius		Yes	
Invertebrates	Rare Cane Borer Moth	Papaipema sp. 5		Yes	
Mammals	American Badger	Taxidea taxus		Yes	
Mammals	American Beaver	Castor canadensis		Yes	
Mammals	Cotton Deermouse	Peromyscus gossypinus		Yes	
Mammals	Gray Fox	Urocyon cinereoargenteus		Yes	
Mammals	Marsh Rice Rat	Oryzomys palustris		Yes	Yes
Mammals	Muskrat	Ondatra zibethicus		Yes	
Mammals	Southeastern Shrew	Sorex longirostris		Yes	
Mammals	Swamp Rabbit	Sylvilagus aquaticus		Yes	
Mussels	Butterfly Mussel	Ellipsaria lineolata		Yes	Yes
Mussels	Elephantear	Elliptio crassidens		Yes	Yes
Mussels	Hickorynut	Obovaria olivaria		Yes	
Mussels	Ohio Pigtoe	Pleurobema cordatum		Yes	Yes
Mussels	Plain Pocketbook	Lampsilis cardium		Yes	
Mussels	Pyramid Pigtoe	Pleurobema rubrum		Yes	
Mussels	Rabbitsfoot	Theliderma cylindrica		Yes	Yes
Reptiles	Northern Cottonmouth	Agkistrodon piscivorus		Yes	
Reptiles	Plain-bellied Kingsnake	Nerodia erythrogaster		Yes	
Reptiles	Six-lined Racerunner	Aspidoscelis sexlineata		Yes	
Reptiles	Western Ribbonsnake	Thamnophis proximus		Yes	
Turtles	Eastern Mud Turtle	Kinosternon subrubrum		Yes	
	Midland Smooth Softshell				
Turtles	Turtle	Apalone mutica mutica		Yes	
Turtles	Mississippi Man Turtlo	Graptemys pseudogeographica kohnii		Yes	
rurties	Mississippi Map Turtle	Graptemys pseudogeographica		162	
Turtles	Northern False Map Turtle	pseudographica		Yes	
	Southern Painted and Painted				
Turtles	Turtle Hybrid	Chrysemys dorsalis x picta		Yes	

Sources: USFWS 2023⁷⁵; GBIF 2023⁷⁶. KDFWR 2024⁷⁷; KWAP 2023⁷⁸; IWAP 2022⁷⁹.

Kev:

¹BCC = Bird of Conservation Concern

² KWAP = Kentucky State Wildlife Action Plan Species

³ IWAP = Illinois State Wildlife Action Plan Species

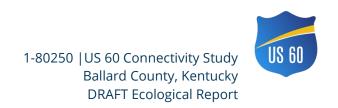
⁷⁵ USFWS. Information for Planning and Consultation (IPaC) Species List. July 28, 2023. Not for consultation use.

⁷⁶ Global Biodiversity Information Facility. 2023. Study area boundary. https://www.gbif.org/

⁷⁷ KDFWR. Species Info Search: Ballard County, KY. Accessed January 8, 2024. https://app.fw.ky.gov/speciesinfo/speciesinfo.asp

⁷⁸ IDNR. Illinois Wildlife Action Plan. 2022. Appendix 1a – Illinois Wildlife Species of Greatest Conservation Need.

⁷⁹ KDFWR. Kentucky Wildlife Action Plan. September 1, 2023.

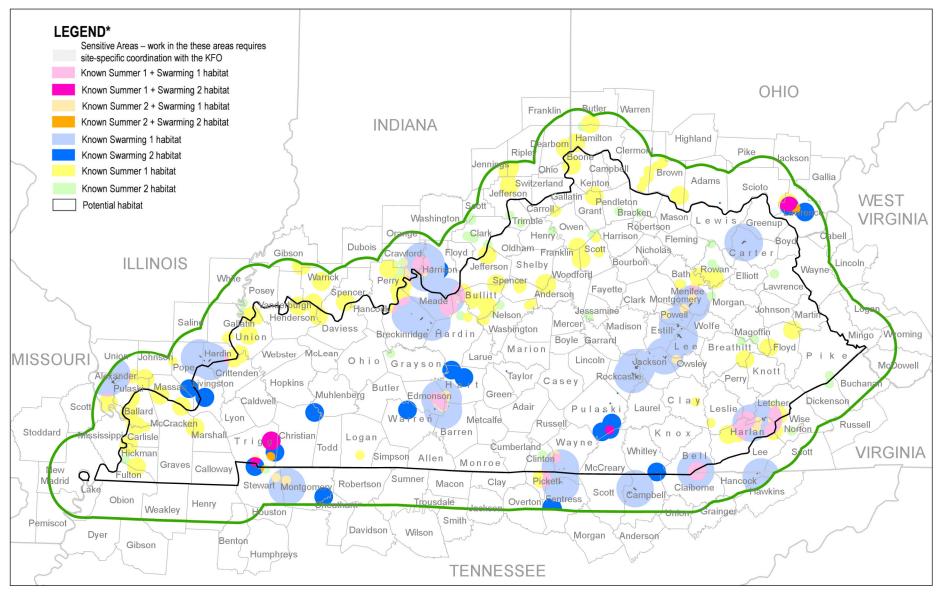


APPENDIX B



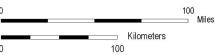
U.S. Fish & Wildlife Service

Known Indiana bat habitat in Kentucky and within 20 miles (August 2019)



NOTE: This map is based on species occurrence information and is subject to change as new data becomes available. Please contact our office at 502-695-0468 to ensure you are working with the most current version.

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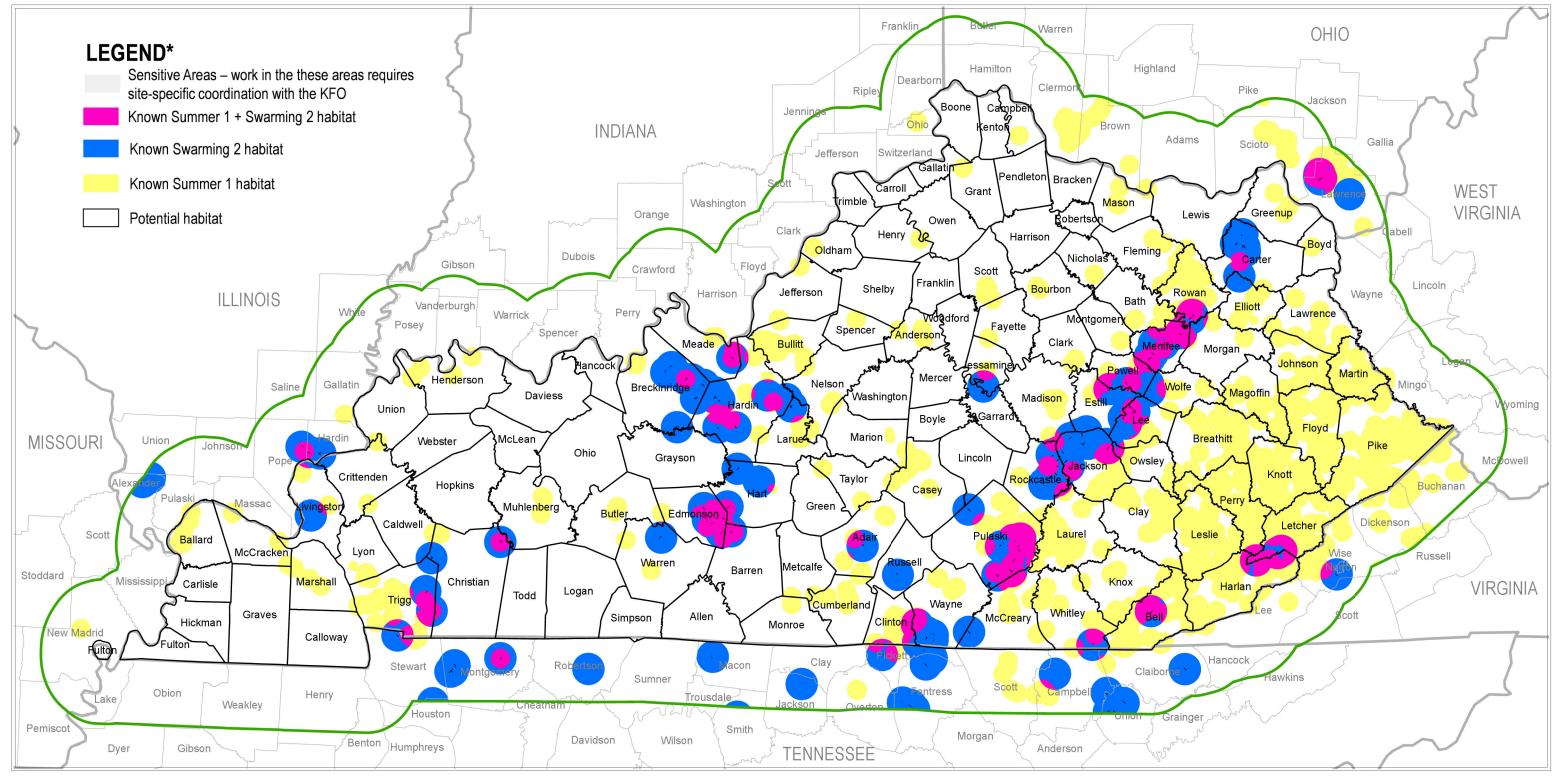
The USFWS makes no warranty for use of this map and cannot be held liable for actions or decisions based on map content. This map was produced as an appendix to the Conservation Strategy for Forest-Dwelling Bats in the Commonwealth of Kentucky and should only be used in the context of this Strategy.





U.S. Fish & Wildlife Service

Known northern long-eared bat habitat in Kentucky and within 20 miles (August 2019)



NOTE: This map is based on species occurrence information and is subject to change as new data become available. Please contact our office at 502/695-0468 to ensure you are working with the most current version. *For an explanation of terms, please see the Conservation Strategy for Forest-Dwelling Bats in the Commonwealth of Kentucky.

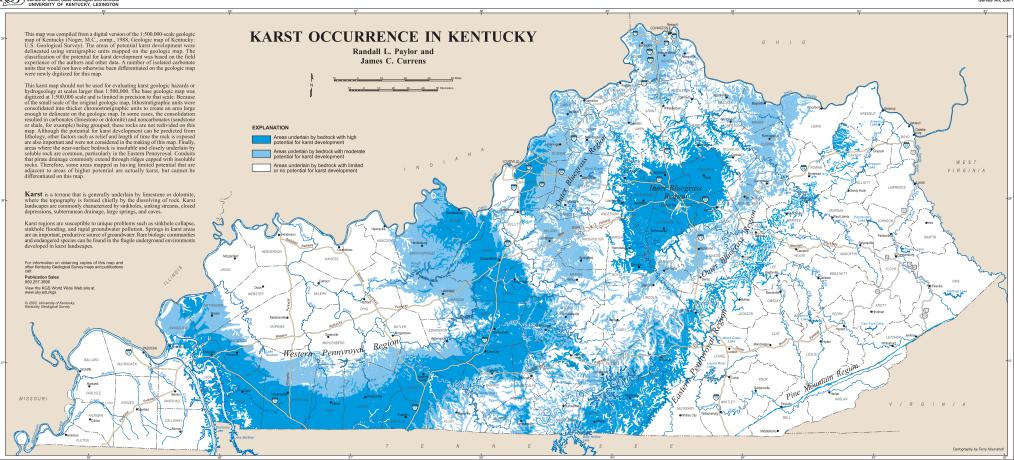


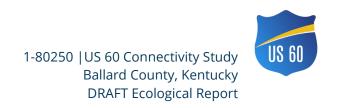
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APPENDIX C





APPENDIX D



Andy Beshear

Energy and Environment Cabinet Office of Kentucky Nature Preserves

300 Sower Boulevard Frankfort, Kentucky 40601 Telephone: 502-782-7828 EEC.KYBAT@ky.gov Rebecca W. Goodman

Sunni Carr Executive Director

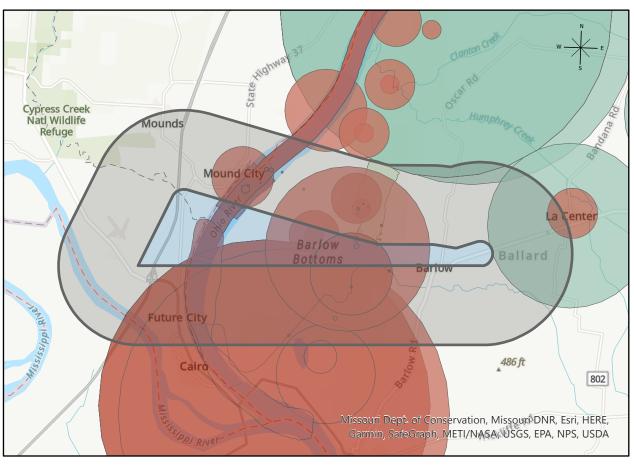
Requested on Tuesday, August 22, 2023 by Ellen Mullins, Stantec

Re: Kentucky Biological Assessment Data Request 230822E01

KY Transportation Cabinet - US60 Ballard Co PEL study - 1

Transportation, 3 mile buffer. BALLARD County, Kentucky

This letter is in response to your data request for the project referenced above. We have reviewed our Natural Heritage Program Database to determine if any of the endangered, threatened, or special concern plants, animals, features or exemplary natural communities monitored by the Office of Kentucky Nature Preserves are noted within your submitted project area.





Andy Beshear

Energy and Environment Cabinet Office of Kentucky Nature Preserves

300 Sower Boulevard Frankfort, Kentucky 40601 Telephone: 502-782-7828 EEC.KYBAT@ky.gov Rebecca W. Goodman

Sunni Carr Executive Director

This report includes the following items:

- A A report for occurrences which intersect the project area
- B A report for occurrences which intersect the buffer around the project area
- C A list of best management practices relevant to occurrences near to or within the project area
- D A list of best management practices relevant to the chosen project type

Thank you for using Office of Kentucky Nature Preserves' Biological Assessment Tool.

We would like to take this opportunity to remind you of the terms of the data request license, which you agreed upon in order to submit your request. The license agreement states "Data and data products received from the Office of Kentucky Nature Preserves, including any portion thereof, may not be reproduced in any form or by any means without the express written authorization of the Office of Kentucky Nature Preserves." The exact location of plants, animals, and natural communities, if released by the Office of Kentucky Nature Preserves, may not be released in any document or correspondence. These products are provided on a temporary basis for the express project (described above) of the requester, and may not be redistributed, resold or copied without the written permission of the Office of Kentucky Nature Preserves Biological Assessment Branch (300 Sower Blvd - 4th Floor, Frankfort, KY, 40601. Phone: 502-782-7828).

Please note that the quantity and quality of data collected by the Kentucky Natural Heritage Program are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Kentucky have never been thoroughly surveyed and new plants and animals are still being discovered. For these reasons, the Kentucky Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of Kentucky. Heritage reports summarize the existing information known to the Kentucky Natural Heritage Program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the occurrences being considered, nor should they be substituted for on-site surveys required for environmental assessments. We would greatly appreciate receiving any pertinent information obtained as a result of on-site surveys.

If you have any questions, or if we can be of further assistance, please do not hesitate to contact our office by email at EEC.KYBAT@ky.gov or by phone at 502-782-7828.

Sincerely

Alexis R. Schoenlaub Geoprocessing Specialist

Office of Kentucky Nature Preserves

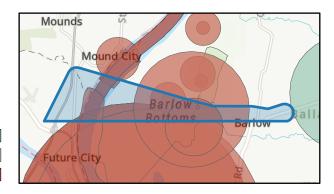
A.1. Project Area - Occurrence Report

TEAM KENTUCKY.

ENERGY AND ENVIRONMENT CABINET

The following table outlines occurrences found within your project footprint (if any). You can find more information about global and state rank status definitions on our Standard Occurrence Report Key . Please note that certain sensitive occurrences found within the buffer area may be listed in this table but are not represented on the map. Please contact the appropriate source as outlined in the "Directions" column should you have further questions related to sensitive occurrences found within the project area.





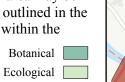
EO ID	Scientific Name	Common Name	G Rank	S Rank	Fed. Status	State Status	SWAP	Precision	Last Obs. Date
5561	Epioblasma obliquata	Catspaw	GI	SI	LE	E	Y	G	1978-Pre
24994	Myotis septentrionalis	Northern Long-Eared Bat	G2G3	SI	LE	E	Y	S	2009-06-09
537	Theliderma cylindrica	Rabbitsfoot	G3G4	S2	LT	E	Y	G	1967-Pre
1926	Theliderma cylindrica	Rabbitsfoot	G3G4	S2	LT	E	Y	M	No date
5515	Atractosteus spatula	Alligator Gar	G3G4	SI	None	E	Y	G	1980-pre
2833	Bald-cypress - Water tupelo forest		G3G5	SI	None	E		S	2002-09-12
3328	Cambarellus shufeldtii	Cajun Dwarf Crayfish	G5	S2S3	None	S		S	1984-07-21
24187	Canoparmelia texana	Texas Cloud Lichen	G3G5	S3?	None	N		S	2018-07-25
2307	Carya aquatica	Water Hickory	G5	S2S3	None	T		S	2000-10-27
11336	Celithemis verna	Double-ringed Pennant	G5	SI	None	E	Y	C	2005-Pre
1236	Corvus ossifragus	Fish Crow	G5	S3B	None	S		M	1993-06-24
5805	Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S3	None	S	Y	S	2001-07-18
10696	Etheostoma proeliare	Cypress Darter	G5	S2	None	T	Y	M	1986-11-17
9730	Farancia abacura reinwardtii	Western Mudsnake	G5T5	S3	None	S	Y	G	1948-08-01
1369	Faxonius lancifer	Shrimp Crayfish	G5	SI	None	E		S	1978-07-21
3349	Hybognathus placitus	Plains Minnow	G4	SI	None	S	Y	G	1980-pre
5015	Hypericum lobocarpum	Five-lobe St. John's Wort	G4Q	S3?	None	N		C	No Date
8087	Ichthyomyzon castaneus	Chestnut Lamprey	G4	S2	None	S	Y	G	1957
4141	Ictinia mississippiensis	Mississippi Kite	G5	S2S3B	None	S		M	1993-06
15968	Lanius ludovicianus	Loggerhead Shrike	G4	S3S4B,S4N	None	S	Y	Q	1988-06-02
15969	Lanius ludovicianus	Loggerhead Shrike	G4	S3S4B,S4N	None	S	Y	Q	1991-08-17
8769	Lepomis miniatus	Redspotted Sunfish	G5	S2	None	T	Y	M	1978-07-27
6568	Macrhybopsis gelida	Sturgeon Chub	G3	SI	None	E	Y	G	1980-pre
4515	Macrhybopsis meeki	Sicklefin Chub	G3	SI	None	E	Y	G	1980-pre
6039	Menidia audens	Mississippi Silverside	G5	S2	None	T		G	1975-pre
11669	Menidia audens	Mississippi Silverside	G5	S2	None	T		M	2000-08-09
3375	Myotis austroriparius	Southeastern Myotis	G4	S3	None	S	Y	S	2007-08-11
4453	Notropis maculatus	Taillight Shiner	G5	S2S3	None	T	Y	M	1978-07-27

A.2. Project Area – Occurrence Habitat and Location

The following table provides supplemental occurrence information found within your project footprint (if any). You can find more information about global and state rank status definitions on our Standard Occurrence Report Key . Please note that certain sensitive occurrences found within the buffer area may be listed in this table but are not represented on the map. Please contact the appropriate source as outlined in the "Directions" column should you have further questions related to sensitive occurrences found within the

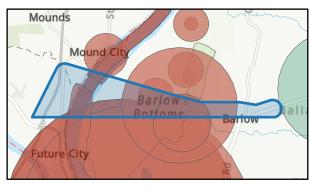


Map Credits: Missouri Dept. of Conservation, Missouri DNR, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA



Botanical

Zoological



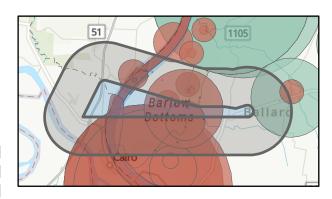
EOID	Scientific Name	Habitat	Location
774	Nycticeius humeralis	The evening bat is a colonial species that roosts in trees and houses. It apparently migrates southward in winter.	Barlow Bottoms, along Fish Lake Rd, just N of old RR grade (
537	Theliderma cylindrica		OHIO RIVER, LOWER PORTION OF OHIO ALONG ILLINOIS BORDER.
292	Noturus stigmosus	Large streams and rivers in moderate to swift current over gravel and sand, and sometimes debris or pondweed for cover (Burr and Warren 1986, Etnier and Starnes 1993).	Ohio River, at Mound City, Pulaski Co, Illinois.
1236	Corvus ossifragus	Beaches, bays, lagoons, inlets, swamps, near marshes, and, less freque ntly, deciduous or coniferous woodland, in inland situations primarily in baldcypress swamps and along major watercourses. Also garbage dump s.	Barlow Bottoms, including various locations on Ballard WMA,
1926	Theliderma cylindrica		OHIO RIVER AT MOUND CITY, ORM 972.8-973.1.
1369	Faxonius lancifer	Oxbow lakes and streams on the Gulf Coastal Plain (Page 1985), where it lives among organic debris, usually near bald cypress (Burr and Hobbs 1984).	FISH LAKE 4.8 KM W OF BARLOW AT KY 118 CROSSING (ACTUALLY HO
3328	Cambarellus shufeldtii	Inhabits swamps, sloughs, ditches, lakes, ponds, and sluggish streams (Hobbs 1989) on the coastal plain, and may burrow to survive droughts (Page 1985).	FISH LAKE 4.8 KM W OF BARLOW AT HWY 118 CROSSING (ACTUALLY H
4141	Ictinia mississippiensis	Tall forest, open woodland, prairie, semiarid rangeland, shelterbelts, wooded areas bordering lakes and streams in more open regions, scrubb y oaks and mesquite.	CW BLOCK OF QUADRANGLE.
4453	Notropis maculatus	Low gradient streams, oxbow lakes, and sloughs in and around cypress k nees, marginal vegetation, and accumulations of sticks and detritus (B urr and Page 1975, Burr and Warren 1986, Etnier and Starnes 1993).	FISH LAKE, 5 KM W OF BARLOW.
3349	Hybognathus placitus	Occurs over sand/silt bottom in areas with current in the main channel of the Mississippi River (Pflieger 1975, Burr and Warren 1986).	NEAR MOUTH OF THE OHIO RIVER.
3375	Myotis austroriparius	Primarily uses caves for hibernacula and uses caves, bridges, and holl ow trees as summer maternity and roosting sites.	Barlow Bottoms, Boatwright WMA, old rd ca 100 yds W of Buck
5515	Atractosteus spatula	Sluggish pools and backwaters of large rivers, backwaters, and oxbow l akes (Burr and Warren 1986, Page and Burr 1991, Etnier and Starnes 1993).	Mouth of the Ohio River.

A.2. Project Area – Occurrence Habitat and Location

The following table provides supplemental occurrence information found within your project footprint (if any). You can find more information about global and state rank status definitions on our Standard Occurrence Report Key . Please note that certain sensitive occurrences found within the buffer area may be listed in this table but are not represented on the map. Please contact the appropriate source as outlined in the "Directions" column should you have further questions related to sensitive occurrences found within the







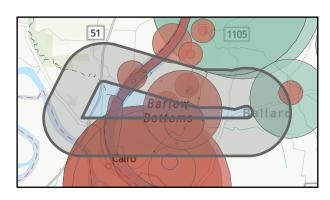
EOID	Scientific Name	Habitat	Location
5561	Epioblasma obliquata		Ohio River, along Illinois border (014A).
4515	Macrhybopsis meeki	Firm sand and/or gravel with some current in the main channel of large , turbid rivers (Burr and Warren 1986, Etnier and Starnes 1993). Young inhabit silty side channels or backwaters (Burr and Warren 1986).	CONFLUENCE OF OHIO AND MISSISSIPPI RIVERS.
5805	Corynorhinus rafinesquii	This bat uses a variety of sites for roosting including caves, protect ed sites along clifflines, large, hollow trees, old mine portals, aban doned tunnels, cisterns, old or seldom used buildings, etc.	Barlow Bottoms along Fish Lake Rd just N of old RR grade (23
6568	Macrhybopsis gelida	Adults inhabit large, turbid rivers where they live in swift, shallow water over sand or gravel bottoms (Smith 1979, Burr and Warren 1986, E tnier and Starnes 1993).	Ohio River near it's mouth.
6039	Menidia audens		MISSISSIPPI RIVER (VICINITY OF CONFLUENCE WITH OHIO RIVER AC
8769	Lepomis miniatus	Occurs in well-vegetated swamps, sloughs, bottomland lakes, and low gr adient streams (Burr and Mayden 1979, Pflieger 1975, Smith 1979, Burr and Warren 1986, Etnier adn Starnes 1993).	FISH LAKE, 4.8 KM W BARLOW.
9730	Farancia abacura reinwardtii	Wooded swamps, sloughs.	Near Barlow.
10696	Etheostoma proeliare	Small to medium-size sluggish streams, oxbows, and wetlands where the bottom is soft and aquatic vegetation abounds (Burr and Mayden 1979, K uehne and Barbour 1983, Page 1983, Burr and Warren 1986).	FISH LAKE, 4.8 KM W BARLOW.
11669	Menidia audens		Ohio River, Ballard Co: Ohio River Mile 977.7
11336	Celithemis verna	Ponds, lakes, and rarely ditches and streams, with sparse emergent pla nts or a marginal zone of grassy plants (Dunkle 1989). Usually found a t newly created or infertile waters (Dunkle 1989), but in Kentucky it has been found in a eutrophic pond.	Ballard County.
15968	Lanius ludovicianus		CW block of quadrangle
15969	Lanius ludovicianus		SE block of quadrangle
3212	Nycticeius humeralis	The evening bat is a colonial species that roosts in trees and houses. It apparently migrates southward in winter.	Axe Lake Swamp State Nature Preserve, along levee cutting th

A.2. Project Area – Occurrence Habitat and Location

The following table provides supplemental occurrence information found within your project footprint (if any). You can find more information about global and state rank status definitions on our Standard Occurrence Report Key . Please note that certain sensitive occurrences found within the buffer area may be listed in this table but are not represented on the map. Please contact the appropriate source as outlined in the "Directions" column should you have further questions related to sensitive occurrences found within the







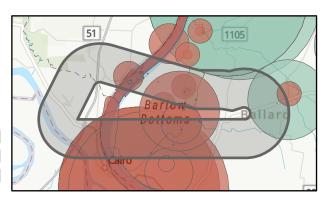
EOID	Scientific Name	Habitat	Location
8087	Ichthyomyzon castaneus	Moderate-size creeks, large rivers, and reservoirs. Substrate consists of gravel and rubble with areas of sand and silt. Larvae require clea r streams with stable bars of silt, sand and organic detritis (Becker 1983, Pflieger 1975, Rohde and Lanteigne-Cour	OHIO RIVER AT CAIRO, ILLINOIS.
2833	Bald-cypress - Water tupelo forest		Axe Lake Swamp, ca 3.0 air mi NW of Barlow.
2307	Carya aquatica	Bottomlands and floodplain swamps.	2.5 MI W OF BARLOW ON HALLOWAY LANDING RD, CA 600 FT E OF CL
9275	Silphium laciniatum	Prairies and barrens.	Ballard County
13591	Rudbeckia subtomentosa	Prairies and low grounds such as open stream terrace woodlands.	Ballard Co.
16688	Silphium integrifolium		From Paducah, KY, take Hwy60 west for 14 miles.
5015	Hypericum lobocarpum		Ballard County.
24187	Canoparmelia texana		Axe Lake Swamp State Nature Preserve
24994	Myotis septentrionalis	Species hibernates in caves, mines, abandoned tunnels, and other shelt ered locations and is often overlooked as bats may be wedged into crac ks. Summer roosts include hollow trees, peeling bark, disused barns an d houses, and rock crevices in clifflines.	Sensitive Element - Contact KDFWR at kdfwr.kfwis@ky.gov

B. Buffer Area - Occurrence Report (1 of 3)

The following table outlines occurrences found within your buffered project footprint (if any). You can find more information about global and state rank status definitions on our Standard Occurrence Report Key. Please note that certain sensitive occurrences found within the buffer area may be listed in this table but are not represented on the map. Please contact the appropriate source as outlined in the "Directions" column should you have further questions related to sensitive occurrences found within the project area.







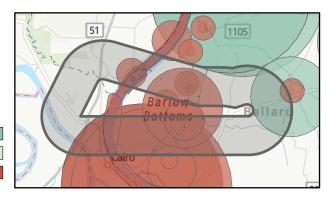
EO ID Scientific Name	Common Name	G Ranl	s S Rank	Fed. Statu	ıs State Statu	s SWAI	Precision	ı Last Obs. Da
1137 Haliaeetus leucocephalus	Bald Eagle	G5	S3B,S3S4N	Delisted	S	Y	S	2003
5444 Haliaeetus leucocephalus	Bald Eagle	G5	S3B,S3S4N	Delisted	S	Y	S	2003
25768 Haliaeetus leucocephalus	Bald Eagle	G5	S3B,S3S4N	Delisted	S	Y	S	2019-03-21
25773 Haliaeetus leucocephalus	Bald Eagle	G5	S3B,S3S4N	Delisted	S	Y	S	2019-03-21
25777 Haliaeetus leucocephalus	Bald Eagle	G5	S3B,S3S4N	Delisted	S	Y	S	2019-03-21
11408 Sternula antillarum athalassos	Interior Least Tern	G4T3Q	SIS2B	Delisted	E	Y	S	2007-07
5561 Epioblasma obliquata	Catspaw	GI	SI	LE	E	Y	G	1978-Pre
13764 Myotis septentrionalis	Northern Long-Eared Bat	G2G3	SI	LE	E	Y	S	1991-07-30
13759 Myotis septentrionalis	Northern Long-Eared Bat	G2G3	SI	LE	E	Y	S	1991-06-04
24993 Myotis septentrionalis	Northern Long-Eared Bat	G2G3	SI	LE	E	Y	S	2001-07-12
24996 Myotis septentrionalis	Northern Long-Eared Bat	G2G3	SI	LE	E	Y	S	2009-06-07
11997 Myotis sodalis	Indiana Bat	G2	SIS2	LE	E	Y	S	2007-08-11
11996 Myotis sodalis	Indiana Bat	G2	SIS2	LE	E	Y	S	2007-05-21
24995 Myotis sodalis	Indiana Bat	G2	SIS2	LE	E	Y	S	2009-06-07
25001 Myotis sodalis	Indiana Bat	G2	SIS2	LE	E	Y	S	2007-05-20
7346 Plethobasus cyphyus	Sheepnose	G3	SI	LE	E	Y	S	1988-07-27
Theliderma cylindrica	Rabbitsfoot	G3G4	S2	LT	E	Y	G	1967-Pre
1926 Theliderma cylindrica	Rabbitsfoot	G3G4	S2	LT	E	Y	M	No date
11565 Theliderma cylindrica	Rabbitsfoot	G3G4	S2	LT	E	Y	S	No Date
11332 Amphiagrion saucium	Eastern Red Damsel	G5	SIS2	None	E	Y	M	1972-06-06
1961 Ardea alba	Great Egret	G5	S2B	None	T	Y	S	2007-06-12
5515 Atractosteus spatula	Alligator Gar	G3G4	SI	None	E	Y	G	1980-pre
2833 Bald-cypress - Water tupelo forest		G3G5	SI	None	E		S	2002-09-12
5242 Cabomba caroliniana	Carolina Fanwort	G5	S2	None	T		M	1958-06-10
5079 Cabomba caroliniana	Carolina Fanwort	G5	S2	None	T		S	1986-06-29
0658 Cabomba caroliniana	Carolina Fanwort	G5	S2	None	T		S	1991-05-30
0136 Cabomba caroliniana	Carolina Fanwort	G5	S2	None	T		S	2019-09-28
7611 Calamagrostis canadensis var. macouniana	Blue-joint Reedgrass	G5T5?	SH	None	H		G	1974-06-03
7926 Carex buxbaumii	Brown Bog Sedge	G5	SI	None	E	Y	G	1970-05-18
6739 Carex gigantea	Large Sedge	G4	S2S3	None	T		G	1976-07-10
2307 Carya aquatica	Water Hickory	G5	S2S3	None	T		S	2000-10-27
11336 Celithemis verna	Double-ringed Pennant	G5	SI	None	E	Y	C	2005-Pre
3952 Certhia americana	Brown Creeper	G5	S1S2B,S4S5N	None	T		S	1997-07-03
11554 Clematis crispa	Blue Jasmine Leather-flower	G5	S2	None	T		S	2006-05-12
1236 Corvus ossifragus	Fish Crow	G5	S3B	None	S		M	1993-06-24

B. Buffer Area - Occurrence Report (2 of 3)

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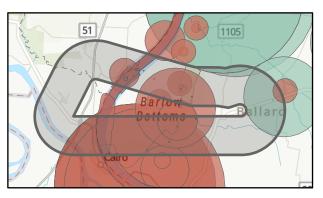
EO ID	Scientific Name	Common Name	G Ran	k S Rank	Fed. Sta	itus State St	atus SWA	P Precision	Last Obs. Dat
5805	Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S3	None	S	Y	S	2001-07-18
5453	Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S3	None	S	Y	S	2007-08-11
23566	Elodea canadensis	Broad Waterweed	G5	S3?	None	N		M	1958-05-31
4566	Erimyzon sucetta	Lake Chubsucker	G5	S2	None	T	Y	S	1986-04-23
10883	Erimyzon sucetta	Lake Chubsucker	G5	S2	None	T	Y	S	2003-06-24
5684	Esox niger	Chain Pickerel	G5	S3	None	S	Y	S	1999-09-09
11193	Esox niger	Chain Pickerel	G5	S3	None	S	Y	S	2004-04-14
810	Etheostoma proeliare	Cypress Darter	G5	S2	None	T	Y	S	1982-05-07
10696	Etheostoma proeliare	Cypress Darter	G5	S2	None	T	Y	M	1986-11-17
9730	Farancia abacura reinwardtii	Western Mudsnake	G5T5	S3	None	S	Y	G	1948-08-01
6661	Hybognathus hayi	Cypress Minnow	G4G5	SI	None	E	Y	S	1970-08-30
6807	Hybognathus hayi	Cypress Minnow	G4G5	SI	None	E	Y	S	1994-03-22
3349	Hybognathus placitus	Plains Minnow	G4	SI	None	S	Y	G	1980-pre
5015	Hypericum lobocarpum	Five-lobe St. John's Wort	G4Q	S3?	None	N		C	No Date
9855	Ichthyomyzon castaneus	Chestnut Lamprey	G4	S2	None	S	Y	M	1951
8087	Ichthyomyzon castaneus	Chestnut Lamprey	G4	S2	None	S	Y	G	1957
4141	Ictinia mississippiensis	Mississippi Kite	G5	S2S3B	None	S		M	1993-06
12814	Ictiobus niger	Black Buffalo	G5	S3	None	S		S	2008-08-11
11126	Ictiobus niger	Black Buffalo	G5	S3	None	S		S	2004-04-14
10536	Juncus elliottii	Bog Rush	G4G5	SH	None	H		G	1970-05-28
24915	Lampsilis ovata	Pocketbook	G5	SI	None	E	Y	S	2020-06-20
15953	Lanius ludovicianus	Loggerhead Shrike	G4	S3S4B,S4.	N None	S	Y	Q	1988
15968	Lanius ludovicianus	Loggerhead Shrike	G4	S3S4B,S4.	N None	S	Y	Q	1988-06-02
15969	Lanius ludovicianus	Loggerhead Shrike	G4	S3S4B,S4.	N None	S	Y	Q	1991-08-17
1539	Lepomis miniatus	Redspotted Sunfish	G5	S2	None	T	Y	S	1999-05-13
8769	Lepomis miniatus	Redspotted Sunfish	G5	S2	None	T	Y	M	1978-07-27
9953	Lepomis miniatus	Redspotted Sunfish	G5	S2	None	T	Y	S	1999-09-09
11194	Lepomis miniatus	Redspotted Sunfish	G5	S2	None	T	Y	S	2004-04-14
12050	Lepomis miniatus	Redspotted Sunfish	G5	S2	None	T	Y	S	2004-08-04
2399	Lepomis miniatus	Redspotted Sunfish	G5	S2	None	T	Y	S	1982-05-07
24916	Ligumia recta	Black Sandshell	G4G5	S4	None	S	Y	S	2020-06-20
1694	Limnobium spongia	American Frog's-bit	G4	S2S3	None	T		M	1962-07-14
6075	Limnobium spongia	American Frog's-bit	G4	S2S3	None	T		S	2001-07-12
11555	Limnobium spongia	American Frog's-bit	G4	S2S3	None	T		S	2006-05-12
	Lithasia armigera	Armored Rocksnail	G3G4	S3S4	None	S		S	2007-06-25

B. Buffer Area - Occurrence Report (3 of 3)

The following table outlines occurrences found within your buffered project footprint (if any). You can find more information about global and state rank status definitions on our Standard Occurrence Report Key. Please note that certain sensitive occurrences found within the buffer area may be listed in this table but are not represented on the map. Please contact the appropriate source as outlined in the "Directions" column should you have further questions related to sensitive occurrences found within the project area.







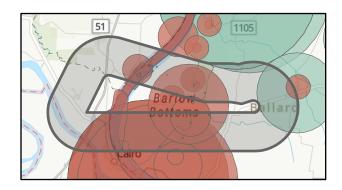
EO ID	Scientific Name	Common Name	G Rank	S Rank	Fed. Status	State Status	SWAP	Precision	Last Obs. Dat
11953	Lithasia verrucosa	Varicose Rocksnail	G4	S3S4	None	S		S	2007-06-25
3751	Lithobates areolatus circulosus	Northern Crawfish Frog	G4T4	S3	None	S		M	1963-04-26
14235	Lysimachia radicans	Trailing Loosestrife	G4G5	SI	None	E	Y	S	2016-07-28
6568	Macrhybopsis gelida	Sturgeon Chub	G3	SI	None	E	Y	G	1980-pre
4515	Macrhybopsis meeki	Sicklefin Chub	G3	SI	None	E	Y	G	1980-pre
10810	Melanthera nivea	Snow Squarestem	G5	S3?	None	S		S	2003-10-17
6039	Menidia audens	Mississippi Silverside	G5	S2	None	T		G	1975-pre
11125	Menidia audens	Mississippi Silverside	G5	S2	None	T		S	2004-04-14
931	Muhlenbergia bushii	Bush's Muhly	G5	S1S2	None	E		G	1971-09-08
3375	Myotis austroriparius	Southeastern Myotis	G4	S3	None	S	Y	S	2007-08-11
425	Notropis maculatus	Taillight Shiner	G5	S2S3	None	T	Y	M	1970-08-30
4453	Notropis maculatus	Taillight Shiner	G5	S2S3	None	T	Y	M	1978-07-27
4073	Notropis maculatus	Taillight Shiner	G5	S2S3	None	T	Y	S	1986-04-23
7757	Notropis maculatus	Taillight Shiner	G5	S2S3	None	T	Y	M	1970-08-31
13986	Notropis maculatus	Taillight Shiner	G5	S2S3	None	T	Y	S	2009-09-24
292	Noturus stigmosus	Northern Madtom	G3	S2S3	None	S	Y	M	1959-08-27
7714	Nyctanassa violacea	Yellow-crowned Night-heron	G5	S2B	None	T	Y	S	1993-06-24
774	Nycticeius humeralis	Evening Bat	G5	S4	None	N		S	2001-07-11
7206	Nycticeius humeralis	Evening Bat	G5	S4	None	N		S	1993-06-02
3212	Nycticeius humeralis	Evening Bat	G5	S4	None	N		S	2003-08-20
9710	Platygobio gracilis	Flathead Chub	G5	SI	None	S	Y	M	1980-09-06
968	Potamilus purpuratus	Bleufer	G5	SI	None	E	Y	M	2002-08-15
2622	Potamogeton illinoensis	Illinois Pondweed	G5	S2	None	T		M	1958-06-01
2105	Rorippa aquatica	Lakecress	G4?	S1S2	None	T		G	1974-06-24
13591	Rudbeckia subtomentosa	Sweet Coneflower	G5	SI	None	E		C	1947-06
16688	Silphium integrifolium	Rosinweed	G5	S3S4	None	N		M	1986-07-19
9957	Silphium laciniatum	Compassplant	G5	S2	None	T		S	2018-07-18
9275	Silphium laciniatum	Compassplant	G5	S2	None	T		C	1947-06

C. Occurrence References and Recommendations (1 of 3)

OKNP references the following references and recommendations regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact the applicable office should you have further questions with regard to these references and recommendations related to the project area.





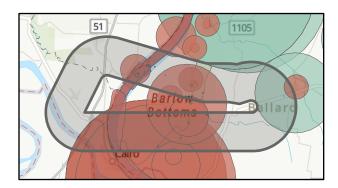


C. Occurrence References and Recommendations (2 of 3)

OKNP references the following references and recommendations regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact the applicable office should you have further questions with regard to these references and recommendations related to the project area.







Per the U.S. Fish and Wildlife Service's recommendations: In-channel activities in the rivers near this project may potentially directly or indirectly affect one or more species of mussels. Projects that do not involve in-channel activities have the potential to indirectly impact listed mussel species and their habitats. Upland disturbance in watersheds containing federally listed mussel species can degrade streams and rivers by increasing siltation/sedimentation or introducing pollutants.

When practicable, we recommend siting projects to avoid impacting streams and rivers that contain federally listed mussel species and utilizing methods, such as horizontal directional drilling and clear span bridges, to avoid direct impacts to the species and their habitats. The following are some general recommendations to minimize indirect impacts to streams and rivers and reduce impacts to federally listed mussels:

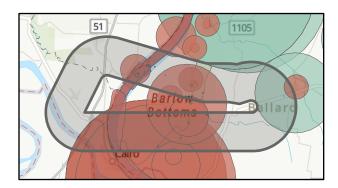
- Utilize Best Management Practices to minimize erosion from work areas;
- Limit vegetation removal to minimize impacts in riparian areas;
- Revegetate disturbed areas with native vegetation;
- Use bioengineering techniques to restore disturbance to stream banks;
- Install upland sediment basins, where appropriate, to minimize sediment input into streams and rivers;
- Install detention structures to manage stormwater runoff into streams and river; and
- Minimize the addition of impervious surfaces in the watershed.

C. Occurrence References and Recommendations (3 of 3)

OKNP references the following references and recommendations regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact the applicable office should you have further questions with regard to these references and recommendations related to the project area.







Per the U.S. Fish and Wildlife Service's recommendations: Birds covered under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) should be considered during project reviews. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish & Wildlife Service (50 C.F.R. § 10.12 and 16 U.S.C. § 668(a)). For more information regarding these acts go to: http://www.fws.gov/migratorybirds/RegulationsandPolicies.html.

The MBTA currently has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within a NEPA document (if there is a federal nexus), a Bird- or Eagle-specific Conservation Plan, or both. Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds to the project-related stressors; proponents should also implement a rigorous plan to monitor the effectiveness of conservation measure. For more information on avian stressors and recommended conservation measures go to: http://www.fws.gov/migratorybirds/ CurrentBirdIssues/Hazards/BirdHazards.html.

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 http://www.fws.gov/migratorybirds/AboutUS.html.

There are federally known Indiana bat habitats (outer-tier) within your project footprint. Contact USFWS at (502) 695-0468 or KentuckyES@fws.gov

There are federally known Indiana bat habitats (Summer 1) within your project footprint. Contact USFWS at (502) 695-0468 or KentuckyES@fws.gov

There are federally known Indiana bat habitats (Summer 2) within your project footprint. Contact USFWS at (502) 695-0468 or KentuckyES@fws.gov

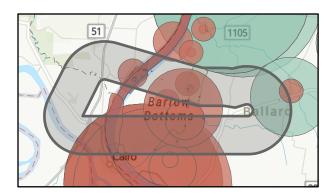
There are federally known Northern long-eared bat habitats (Summer 1) within your project footprint. Contact USFWS at (502) 695-0468 or KentuckyES@fws.gov

D. Project References and Recommendations (1 of 1)

OKNP references the following references and recommendations regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact the applicable office should you have further questions with regard to these references and recommendations related to the project area.









Thank you for using the Office of Kentucky Nature Preserves Biological Assessment Tool.

OKNP's species dataset relies on continuous monitoring and surveying for species of concern throughout the state. Any records of species of concern found within this project area would greatly benefit the quality and comprehensiveness of the statewide dataset for rare, threatened and endangered species. If you would like to contribute any additional species information, please do not hesitate to contact our office by email at EEC.KYBAT@ky.gov or by phone at 502-782-7828.

Line							GROUP_MEMBER	Fed_Protect	State_Protect	SWAP_Priority	
	OBJECTID	EO_ID	SCIENTIFIC_NAME	S_COMMON_NAME	G_RANK	S_RANK	_TYPE_DESC	_Desc	_Status_Desc		last_obs_date
1	38420	425	Notropis maculatus	Taillight Shiner	G5	S2S3	Zoological	None	T	Υ	1970-08-30
2	43572	774	Nycticeius humeralis	Evening Bat	G5	S4	Zoological	None	N		2001-07-11
			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								
3	43624	537	Theliderma cylindrica	Rabbitsfoot	G3G4	S2	Zoological	LT	E	Υ	1967-Pre
4	43631	810	Etheostoma proeliare	Cypress Darter	G5	S2	Zoological	None	Т	Υ	1982-05-07
			·								
5	43889	1236	Corvus ossifragus	Fish Crow	G5	S3B	Zoological	None	S		1993-06-24
6	44878	1111	Ictinia mississippiensis	Mississippi Kite	G5	S2S3B	Zoological	None	S		1993-06
U	++0/0	4141	τοιτια πιοσισσιμμιστισιο	ινιιοσιοσιμμι κιτο	33	32330	Zoological	IVOITE	3		1333-00
7	44914	4453	Notropis maculatus	Taillight Shiner	G5	S2S3	Zoological	None	T	Υ	1978-07-27

Line							GROUP_MEMBER	Fed_Protect	State_Protect	SWAP_Priority_	
No.	OBJECTID	EO_ID	SCIENTIFIC_NAME	S_COMMON_NAME	G_RANK	S_RANK	_TYPE_DESC	_Desc	_Status_Desc		last_obs_date
8	44997	3349			G4	S1	Zoological	None	S	Y	1980-pre
9	45026	2275	Mustic austroringrius	Southoastorn Mustic	G4	\$3	Zoological	None	S	Y	2007-08-11
10						S1			<u>5</u>	Y	1980-pre
10	45290	2212	Atractosteus spatuia	Alligator Gar	G3G4	21	ZOOlogical	None	Е.	Ť	1980-pre
11	45357	5561	Epioblasma obliquata	Catspaw	G1	S1	Zoological	LE	E	Y	1978-Pre
12	45474	4515	Macrhybopsis meeki	Sicklefin Chub	G3	S 1	Zoological	None	E	Υ	1980-pre
13	45758	5805	Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S 3	Zoological	None	S	Υ	2001-07-18

Line							GROUP_MEMBER	Fed_Protect	State_Protect	SWAP_Priority_	
No.	OBJECTID	EO_ID	SCIENTIFIC_NAME	S_COMMON_NAME	G_RANK	S_RANK	_TYPE_DESC	_Desc	_Status_Desc		last_obs_date
14	46027	6568	Macrhybopsis gelida	Sturgeon Chub	G3	S1	Zoological	None	E	Υ	1980-pre
	10027	0300	Maciny bopolo genda	Stargeon chas	03	J1	Zoological	TTOTIC	_		1300 pre
15	46125	6039	Menidia audens	Mississippi Silverside	G5	S2	Zoological	None	Т		1975-pre
16	46945	8769	Lepomis miniatus	Redspotted Sunfish	G5	S2	Zoological	None	Т	v	1978-07-27
10	40343	8703	Lepoinis miniatus	neuspotteu sumsn	03	32	Zoological	None	'	'	1376-07-27
17	47181	9730	Farancia abacura reinwardtii	Western Mudsnake	G5T5	S3	Zoological	None	S	Y	1948-08-01
	17101	3730	Tarancia abacara remwaratii	Western Waashake	0313	33	Zoological	TTOTIC	3		13 10 00 01
18	47872	10696	Etheostoma proeliare	Cypress Darter	G5	S2	Zoological	None	Т	Y	1986-11-17
	17072	10030	Etheostoma prochare	cypress burter	03	J2	Zoological	TTOTIC			1300 11 17
							<u></u>				
19	48153	12050	Lepomis miniatus	Redspotted Sunfish	G5	S2	Zoological	None	T	Υ	2004-08-04

Line											
	Line No.	Line No.	Line No.	Line No.	Line No.	Line No.	Line No.	Line No.	Line No.	Line No.	Line No.
20	48622	11997	Myotis sodalis	Indiana Bat	G2	S1S2	Zoological	LE	E	Υ	2007-08-11
21	50146	11336	Celithemis verna	Double-ringed Pennant	G5	S1	Zoological	None	E	Υ	2005-Pre
				Ü							
22	50272	13986	Notropis maculatus	Taillight Shiner	G5	S2S3	Zoological	None	T	Υ	2009-09-24
23	50349	13759	Myotis septentrionalis	Northern Long-Eared Bat	G2G3	S1	Zoological	LE	E	Y	1991-06-04
	300 13	_5,55	,					-			->
						S3S4B,S4					
24	51563	15968	Lanius ludovicianus	Loggerhead Shrike			Zoological	None	S	Υ	1988-06-02

Line							GROUP_MEMBER	Fed_Protect	State_Protect	SWAP_Priority_	
No.	OBJECTID	EO_ID	SCIENTIFIC_NAME	S_COMMON_NAME	G_RANK	S_RANK	_TYPE_DESC	_Desc	_Status_Desc	Desc	last_obs_date
25	51564	15969	Lanius ludovicianus	Loggerhead Shrike		S3S4B,S4 N		None	S	Y	1991-08-17
26	53619	2399	Lepomis miniatus	Redspotted Sunfish	G 5	S2	Zoological	None	Т	Y	1982-05-07
27	54213	8087	Ichthyomyzon castaneus	Chestnut Lamprey	G4	S2	Zoological	None	S	Y	1957
28	57054	9275	Silphium laciniatum	Compassplant	G5	S2	Botanical	None	Т		1947-06
29	57282	10658	Cabomba caroliniana	Carolina Fanwort	G5	S2	Botanical	None	т		1991-05-30
30	58075	13591	Rudbeckia subtomentosa	Sweet Coneflower	G5	S1	Botanical	None	E		1947-06

Line							GROUP_MEMBER	Fed_Protect	State_Protect	SWAP_Priority_	
No.	OBJECTID	EO_ID	SCIENTIFIC_NAME	S_COMMON_NAME	G_RANK	S_RANK	_TYPE_DESC	_Desc	_Status_Desc	Desc	last_obs_date
31	58636	14235	Lysimachia radicans	Trailing Loosestrife	G4G5	S1	Botanical	None	E	Υ	2016-07-28
32	59713	5015	Hypericum lobocarpum	Five-lobe St. John's Wort	G4Q	S3?	Botanical	None	N		No Date
						S3B,S3S4					
33	63191	25777	Haliaeetus leucocephalus	Bald Eagle	G5	N	Zoological	Delisted	S	Υ	2023

Line							GROUP_MEMB		State_Prot	SWAP_Priori		
Line No.	OBJECTID	EO_ID	SCIENTIFIC_NAME	S_COMMON_NAME	G_RANK			Fed_Protect_Desc			last_obs_date	eo type
110.	COSECUE	20_15	302.00.00	<u> </u>	<u></u>	5_10.1111	<u> </u>	rea_rotest_pese		<u>,,,_</u> ,,_,,_	iust_083_uute	со_турс
1	38420	425	Notropis maculatus	Taillight Shiner	G5	S2S3	Zoological	None	Т	Υ	1970-08-30	
2	43572	774	Nycticeius humeralis	Evening Bat	G5	S4	Zoological	None	N		2001-07-11	breeding
3	43624	537	Theliderma cylindrica	Rabbitsfoot	G3G4	S2	Zoological	LT	E	Υ	1967-Pre	
4	43631	810	Etheostoma proeliare	Cypress Darter	G 5	S2	Zoological	None	т	Y	1982-05-07	
	42000	1226	Consus ossifragus	Fish Craw	CF	can	Zaglagical	None	c		1002.05.24	
5	43889		-	Fish Crow				None	S		1993-06-24	
6	44878	4141	Ictinia mississippiensis	Mississippi Kite	G5	S2S3B	Zoological	None	S		1993-06	
7	44914	4453	Notropis maculatus	Taillight Shiner	G5	S2S3	Zoological	None	Т	Υ	1978-07-27	
8	44997	3349	Hybognathus placitus	Plains Minnow	G4	S1	Zoological	None	S	Y	1980-pre	

Line							GROUP_MEMB		State_Prot ect Status	SWAP_Priori		
	OBJECTID	EO_ID	SCIENTIFIC_NAME	S_COMMON_NAME	G_RANK			Fed_Protect_Desc			last_obs_date	eo_type
9	45026	3375	Myotis austroriparius	Southeastern Myotis	G4	S3	Zoological	None	S	Υ	2007-08-11	breeding
10	45296	5515	Atractosteus spatula	Alligator Gar	G3G4	S 1	Zoological	None	E	Υ	1980-pre	
11	45357	5561	Epioblasma obliquata	Catspaw	G1	S1	Zoological	LE	E	Υ	1978-Pre	
12	45474	4515	Macrhybopsis meeki	Sicklefin Chub	G3	S 1	Zoological	None	E	Υ	1980-pre	
13	45758	5805		Rafinesque's Big-eared Bat	G3G4	S3	Zoological	None	S	Y	2001-07-18	roost
14	46027	6568	Macrhybopsis gelida	Sturgeon Chub	G3	S1	Zoological	None	E	Υ	1980-pre	
15	46125							None	Т		1975-pre	

Line							GROUP_MEMB			SWAP_Priori		
No.	OBJECTID	EO_ID	SCIENTIFIC_NAME	S_COMMON_NAME	G_RANK	S_RANK	ER_TYPE_DESC	Fed_Protect_Desc	_Desc	ty_Desc	last_obs_date	eo_type
							<u>.</u>					
16	46945	8769	Lepomis miniatus	Redspotted Sunfish	G5	S2	Zoological	None	Т	Υ	1978-07-27	
17	47181	9730	Farancia abacura reinwardtii	Western Mudsnake	G5T5	S3	Zoological	None	S	Υ	1948-08-01	
18	47872	10606	Etheostoma proeliare	Cypress Darter	G5	S2	Zoological	None	_	Y	1986-11-17	
10	4/6/2	10090	Etheostoma proenare	Cypress Darter	G5	32	Zoological	None		T	1900-11-17	
19	48153	12050	Lepomis miniatus	Redspotted Sunfish	G5	S2	Zoological	None	Т	Υ	2004-08-04	
				•								
20	48622	11997	Myotis sodalis	Indiana Bat	G2	S1S2	Zoological	LE	E	Υ	2007-08-11	breeding
				Double-ringed								
21	50146	11336	Celithemis verna		G5	S1	Zoological	None	E	Υ	2005-Pre	

Line							GROUP_MEMB		State_Prot ect_Status	SWAP_Priori		
No.	OBJECTID	EO_ID	SCIENTIFIC_NAME	S_COMMON_NAME	G_RANK	S_RANK	ER_TYPE_DESC	Fed_Protect_Desc	_Desc	ty_Desc	last_obs_date	eo_type
22	50272	13986	Notropis maculatus	Taillight Shiner	G5	S2S3	Zoological	None	Т	Υ	2009-09-24	
23	50349	12750	Myotis septentrionalis	Northern Long-Eared Bat	G2G3	S1	Zoological	LE	E	Y	1991-06-04	breeding
23	30349	13733	iviyotis septentrionalis	bat	0203	31	Zoological	LL	_	1	1991-00-04	breeding
24	51563	15968	Lanius ludovicianus	Loggerhead Shrike	G4	S3S4B,S4N	Zoological	None	S	Υ	1988-06-02	
25	51564	15969	Lanius ludovicianus	Loggerhead Shrike	G4	S3S4B,S4N	Zoological	None	S	Υ	1991-08-17	
26	53619	2399	Lepomis miniatus	Redspotted Sunfish	G 5	S2	Zoological	None	Т	Y	1982-05-07	
27	54213			Chestnut Lamprey				None	S		1957	

Line No.	OBJECTID	EO_ID	SCIENTIFIC_NAME	s_common_name	G_RANK		GROUP_MEMB ER_TYPE_DESC	Fed_Protect_Desc		SWAP_Priori	last_obs_date	eo_type
28	57054	9275	Silphium laciniatum	Compassplant	G5	S2	Botanical	None	Т		1947-06	
29	57282	10658	Cabomba caroliniana	Carolina Fanwort	G5	S2	Botanical	None	Т		1991-05-30	
30	58075	13591	Rudbeckia subtomentosa	Sweet Coneflower	G5	S1	Botanical	None	E		1947-06	
31	58636	14235	Lysimachia radicans	Trailing Loosestrife	G4G5	S 1	Botanical	None	E	Υ	2016-07-28	
32	59713	5015	Hypericum lobocarpum	Five-lobe St. John's Wort	G4Q	S3?	Botanical	None	N		No Date	
33	63191	25777	Haliaeetus leucocephalus	Bald Eagle	G 5	S3B,S3S4N	Zoological	Delisted	s	Υ	2023	

Line										
No.	RANKNAME	RANKORDER	EORANK	CLASSIFICATION	PREC	SENS	DIRECTIONS	HABITAT	lead_resp	EO_Bestsource
								Low gradient streams, oxbow lakes, and		
								sloughs in and around cypress knees,		
								marginal vegetation, and accumulations		
								of sticks and detritus (Burr and Page		BURR AND PAGE. 1975.
		_					PRAIRIE LAKE, 5 KM W OF GUM	1975, Burr and Warren 1986, Etnier and		TRANS KY ACAD SCI
1	Historic	2	Н	Fishes	М	2	CORNERS.	Starnes 1993).		36:71-74. INHS 78024.
							Barlow Bottoms, along Fish Lake	The evening bat is a colonial species that		Palmer-Ball, B. and P.
							Rd, just N of old RR grade (046A)	roosts in trees and houses. It apparently		Moosman. Mist-net
2	Extant	1	Ε	Mammals	S	2	and nr NE end of Fish Lake (046B).	migrates southward in winter.		survey.
										PARMALEE, P.W. 1967.
							OHIO RIVER, LOWER PORTION OF			ILL STATE MUS
3	Extant	1	. E	Freshwater Mussels	G	2	OHIO ALONG ILLINOIS BORDER.			POPULAR SCI SERIES 8.
								Small to medium-size sluggish streams,		
								oxbows, and wetlands where the		
								bottom is soft and aquatic vegetation		BURR AND WARREN.
							SHAWNEE CREEK AT FISH LAKE	abounds (Burr and Mayden 1979,		1986. KNPC SCI TECH
							ROAD, 4.5 KM WSW OF KY 60-KY	Kuehne and Barbour 1983, Page 1983,		SER 4. SIUC FILES. SIUC
4	Extant	1	. NR	Fishes	S	2	1105 JCT AT BARLOW.	Burr and Warren 1986).		7942.
								Beaches, bays, lagoons, inlets, swamps,		
								near marshes, and, less frequently,		
								deciduous or coniferous woodland, in		
							Barlow Bottoms, including various	inland situations primarily in baldcypress		
_			_				locations on Ballard WMA,	swamps and along major watercourses.		
5	Extant	1	. E	Breeding Birds	М	2	Wickliffe (002A).	Also garbage dumps.		Palmer-Ball, B. Site visit.
								Tall forest, open woodland, prairie,		
								semiarid rangeland, shelterbelts, wooded areas bordering lakes and		
										KY BREEDING BIRD
6	Extant	1	E	Breeding Birds	М	,	CW BLOCK OF QUADRANGLE.	streams in more open regions, scrubby oaks and mesquite.		ATLAS.
U	EXIAIII			breeding birds	IVI		CW BLOCK OF QUADRANGLE.	Low gradient streams, oxbow lakes, and		ATLAS.
								sloughs in and around cypress knees,		
								marginal vegetation, and accumulations		
								of sticks and detritus (Burr and Page		BURR AND PAGE. 1975.
				1				1975, Burr and Warren 1986, Etnier and		TRANS KY ACAD SCI
7	Historic	7	Н	Fishes	М	2	FISH LAKE, 5 KM W OF BARLOW.	Starnes 1993).		36:71-74. INHS 77980.
			†		1		,	Occurs over sand/silt bottom in areas		
								with current in the main channel of the		
								Mississippi River (Pflieger 1975, Burr and		BURR, B.M. 1980.
8	Historic)	Н	Fishes	G	2	NEAR MOUTH OF THE OHIO RIVER.	, , ,		BRIMLEYANA 3:53-84.

Line										
No.	RANKNAME	RANKORDER	EORANK	CLASSIFICATION	PREC	SENS	DIRECTIONS	HABITAT	lead_resp	EO_Bestsource
							Barlow Bottoms, Boatwright WMA,			
							old rd ca 100 yds W of Buck Lake			
							Rd nr S end Buck Lake (018A), Fish			
							Lake Rd N of old RR grade (018B), S			Hendricks, W.D., J.
							Axe Lake Swamp (018C), E margin			Major, and D. Sparks.
							of Clear Lake, ca 600 m N of	Primarily uses caves for hibernacula and		Jackson Purchase
							Holloway Landing Rd (018D), and	uses caves, bridges, and hollow trees as		Inventory, mistnet
9	Extant	1	E	Mammals	S	1	Waller Ben Tract at Gum Co	summer maternity and roosting sites.		survey.
								Sluggish pools and backwaters of large		
								rivers, backwaters, and oxbow lakes		BURR, B.M. 1980.
								(Burr and Warren 1986, Page and Burr		BRIMLEYANA 3:53-84.
10	Historic	2	Н	Fishes	G	2	Mouth of the Ohio River.	1991, Etnier and Starnes 1993).		INHS PHOTOGRAPH.
										JOHNSON, R.I. 1978.
			_	<u>.</u>	I_		Ohio River, along Illinois border			BULL MUS COMP ZOOL
11	Extant	1	. E	Freshwater Mussels	G	2	(014A).	Firm sand and/or gravel with some		148(6):237-320.
								current in the main channel of large,		
								turbid rivers (Burr and Warren 1986,		
								Etnier and Starnes 1993). Young inhabit		
							CONFLUENCE OF OHIO AND	silty side channels or backwaters (Burr		BURR, B.M. 1980.
12	Historic	2	Н	Fishes	G	2	MISSISSIPPI RIVERS.	and Warren 1986).		BRIMLEYANA 3:53-84.
		_			Ť		Barlow Bottoms along Fish Lake Rd			
							just N of old RR grade (235A),	This bat uses a variety of sites for		
							along E shore of Flat Lake (235B,	roosting including caves, protected sites		Palmer-Ball, B., P.
							235C), nr NE end of Fish Lake	along clifflines, large, hollow trees, old		Moosman (EKU), J.
							(235D), nr S end of Fish Lake	mine portals, abandoned tunnels,		MacGregor, M.
					1		(235E), and along Fish Lake Rd .18	cisterns, old or seldom used buildings,		Gumbert, et al. Mistnet
13	Extant	1	Ε	Mammals	S	1	miles SE of old RR grade (235F).	etc.		survey and telemetry.
								Adults inhabit large, turbid rivers where		
								they live in swift, shallow water over		
								sand or gravel bottoms (Smith 1979,		21122 2 44 1222
	l	_	l	E. 1				Burr and Warren 1986, Etnier and		BURR, B.M. 1980.
14	Historic	2	Н	Fishes	G	2	Ohio River near it's mouth.	Starnes 1993).		BRIMLEYANA 3:53-84.
							MISSISSIPPI RIVER (VICINITY OF			PFLIEGER, W.L. 1975. THE FISHES OF
							CONFLUENCE WITH OHIO RIVER			MISSOURI. MO DEPT
10	Historic	,	H	Fishes	G	7	ACCORDING TO MAP).			CONSER.
12	HISTOLIC		J ¹¹	1 131163	lo		ACCORDING TO WAY).			CONSEN.

Line No.	RANKNAME	RANKORDER	EORANK	CLASSIFICATION	PREC	SENS	DIRECTIONS	НАВІТАТ	lead_resp	EO_Bestsource
								Occurs in well-vegetated swamps,		
								sloughs, bottomland lakes, and low		
								gradient streams (Burr and Mayden		BURR AND MAYDEN.
								1979, Pflieger 1975, Smith 1979, Burr		1979. TRANS KY ACAD
								and Warren 1986, Etnier adn Starnes		SCI 40(1-2):58-67. INHS
16	Historic	2	Н	Fishes	M	2	FISH LAKE, 4.8 KM W BARLOW.	1993).		82793.
										List, J.C. KU 214418 (JCL
17	Historic	2	Н	Reptiles	G	2	Near Barlow.	Wooded swamps, sloughs.		133).
								Small to medium-size sluggish streams,		
								oxbows, and wetlands where the		
								bottom is soft and aquatic vegetation		BURR AND MAYDEN.
								abounds (Burr and Mayden 1979,		1979. TRANS KY ACAD
								Kuehne and Barbour 1983, Page 1983,		SCI 40:58-67. INHS
18	Extant	1	В	Fishes	М	2	FISH LAKE, 4.8 KM W BARLOW.	Burr and Warren 1986).		82797.
							·	Occurs in well-vegetated swamps,		
								sloughs, bottomland lakes, and low		KYDFWR. 2005. Annual
								gradient streams (Burr and Mayden		performance report:
							Shawnee Creek, Ballard County:	1979, Pflieger 1975, Smith 1979, Burr		period 01 April 04 to 31
							0.5 mi upstream from Oldham Rd,	and Warren 1986, Etnier adn Starnes		March 2005. PArt II.
19	Extant	1	D	Fishes	S	2	near Barlow	1993).		Projects 2-6.
								Primarily use caves for hibernacula,		
								although they are occasionally found in		
								old mine portals. During summer,		Mann, Adam, et al.
								colonies are found behind slabs of		(Environmental
								exfoliating bark of dead trees, often in		Solutions & Innovations,
							Boatwright WMA, West Payne	bottomland or floodplain habitats, but		Inc.). Mist-net survey
20	Extant	1	. E	Mammals	S	1	Tract S of Holloway Landing Road.	also in upland situations.		and summary.
								Ponds, lakes, and rarely ditches and		
								streams, with sparse emergent plants or		
								a marginal zone of grassy plants (Dunkle		
								1989). Usually found at newly created or	1	
								infertile waters (Dunkle 1989), but in		
								Kentucky it has been found in a		
21	Historic	2	Н	Insects	С	2	Ballard County.	eutrophic pond.		Carl Cook Collection.

Line No.	RANKNAME	RANKORDER	EORANK	CLASSIFICATION	PREC	SENS	DIRECTIONS	HABITAT	lead_resp	EO_Bestsource
2:	Extant	1	E	Fishes	S	2	Shawnee Creek, near Barlow, 0.3 stream miles downstream of Oldham Road crossing of Shawnee Creek, 0.5 stream miles downstream of Oldham Road crossing of Little Shawnee Creek.	Low gradient streams, oxbow lakes, and sloughs in and around cypress knees, marginal vegetation, and accumulations of sticks and detritus (Burr and Page 1975, Burr and Warren 1986, Etnier and Starnes 1993).		Thomas, M., Brandt, S., Cicerello, R., Burr, B., Hopman, L., and L. White. Site survey 2009- 09-24. Data obtained from EDAS 2014, Station ID WFD07002503.
2:	B Extant	1	NR	Mammals	S	1	Peal Unit, Ballard Wildlife Mgmnt Area, old rd ca 100 yds w of Buck Lake Rd, near s end of Buck Lake.	Species hibernates in caves, mines, abandoned tunnels, and other sheltered locations and is often overlooked as bats may be wedged into cracks. Summer roosts include hollow trees, peeling bark, disused barns and houses, and rock crevices in clifflines.		Hendricks, W.D., J. Major, and D. Sparks. Jackson Purchase Inventory, mistnet survey.
24	Extant	1	NR	Breeding Birds	Q	2	CW block of quadrangle			Palmer-Ball, B.L., Jr. 1996. The Kentucky Breeding Bird Atlas. The University Press of Kentucky, Lexington.
2!	Extant	1	NR	Breeding Birds	Q	2	SE block of quadrangle			Palmer-Ball, B.L., Jr. 1996. The Kentucky Breeding Bird Atlas. The University Press of Kentucky, Lexington.
20	Extant	1	В	Fishes	S	2	SHAWNEE CREEK AT CROSSING ON FISH LAKE ROAD, APPROX 1.9 KM S OF HOLLOWAY LANDING ROAD.	Occurs in well-vegetated swamps, sloughs, bottomland lakes, and low gradient streams (Burr and Mayden 1979, Pflieger 1975, Smith 1979, Burr and Warren 1986, Etnier adn Starnes 1993).		KNPC files. SIUC.
2.	'Historic	2	н?	Fishes	G	2	OHIO RIVER AT CAIRO, ILLINOIS.	Moderate-size creeks, large rivers, and reservoirs. Substrate consists of gravel and rubble with areas of sand and silt. Larvae require clear streams with stable bars of silt, sand and organic detritis (Becker 1983, Pflieger 1975, Rohde and Lanteigne-Cour		STARRETT, HARTH, AND SMITH. 1960. COPEIA 1960:337-346.

Line										
No.	RANKNAME	RANKORDER	EORANK	CLASSIFICATION	PREC	SENS	DIRECTIONS	HABITAT	lead_resp	EO_Bestsource
20	Historic	١,	Н?	Vascular Plants	_	,	Ballard County	Prairies and barrens.		Anderson, W.A. 1947. Castanea 12(2): 50-56.
20	HISTORIC		п:	Vasculai Piailts	-		Southeast of Buck Lake, ca 0.5 air	Frances and parteris.		Evans, M. Sight record.
							mi SW of jct old railroad grade and			Jackson Purchase
20	Extant	l ,	$ _{\Delta}$	Vascular Plants	s	2	Fish Lake Rd.	Swamps, ponds and quiet streams.		Inventory Report.
	Extunt	1		Vascular Flarits	+		TISTI LUKE NO.	Prairies and low grounds such as open	+	Anderson, W.A. 1947.
30	Historic	2	Н	Vascular Plants	С	2	Ballard Co.	stream terrace woodlands.		Castanea 12(2): 50-56.
31	Extant	1	C?	Vascular Plants	s	2	Population was observed approximately 400 feet from the northeastern section of Buck Lake in Ballard WMA.	Swamps and wet soil, usually in shade (Gleason & Cronquist 1991).		Prater, Austin. Copperhead Environmental Consulting Botanist. Wetland and rare plant surveys in Ballard County. Email communication with Littlefield, 2016-08-02.
32	Historic	2	Н	Vascular Plants	С	2	Ballard County.			Athey, R. 225 MEM.
22	Extant	1	F	Breeding Birds	S	1	Sensitive Element - Contact KDFWR at kdfwr.kfwis@ky.gov	Primarily associated with larger rivers and lakes although also occurs along medium sized stream floodplains. In winter, may associate with waterfowl concentrations or congregate in areas with abundant dead fish.	KDFWR	KDFWR. 2023. Data exchange from KDFWR to OKNP

Line										lead_res	
No.	eo_type	RANKNAME	RANKORDER	EORANK	CLASSIFICATION	PREC	SENS	DIRECTIONS	НАВІТАТ	p	EO_Bestsource
									Low gradient streams, oxbow		
									lakes, and sloughs in and around		
									cypress knees, marginal		
									vegetation, and accumulations of		
									sticks and detritus (Burr and Page		BURR AND PAGE. 1975.
								PRAIRIE LAKE, 5 KM W OF GUM	1975, Burr and Warren 1986,		TRANS KY ACAD SCI
1		Historic	2	Н	Fishes	M	2	CORNERS.	Etnier and Starnes 1993).		36:71-74. INHS 78024.
									The evening bat is a colonial		
								Barlow Bottoms, along Fish Lake Rd,	species that roosts in trees and		Palmer-Ball, B. and P.
								just N of old RR grade (046A) and nr	houses. It apparently migrates		Moosman. Mist-net
2	breeding	Extant	1	E	Mammals	S	2	NE end of Fish Lake (046B).	southward in winter.		survey.
	_										PARMALEE, P.W. 1967.
								OHIO RIVER, LOWER PORTION OF			ILL STATE MUS
3		Extant	1	E	Freshwater Mussels	G	2	OHIO ALONG ILLINOIS BORDER.			POPULAR SCI SERIES 8.
									Small to medium-size sluggish		
									streams, oxbows, and wetlands		
									where the bottom is soft and		
									aquatic vegetation abounds (Burr		BURR AND WARREN.
								SHAWNEE CREEK AT FISH LAKE	and Mayden 1979, Kuehne and		1986. KNPC SCI TECH
								ROAD, 4.5 KM WSW OF KY 60-KY	Barbour 1983, Page 1983, Burr and		SER 4. SIUC FILES. SIUC
4		Extant	1	NR	Fishes	S	2	1105 JCT AT BARLOW.	Warren 1986).		7942.
									Beaches, bays, lagoons, inlets,		
									swamps, near marshes, and, less		
									frequently, deciduous or		
									coniferous woodland, in inland		
								Barlow Bottoms, including various	situations primarily in baldcypress		
_				L			_	locations on Ballard WMA, Wickliffe	swamps and along major		
5		Extant	1	E	Breeding Birds	M	2	(002A).	watercourses. Also garbage		Palmer-Ball, B. Site visit.
									Tall forest, open woodland, prairie,		
									semiarid rangeland, shelterbelts,		
									wooded areas bordering lakes and		
									streams in more open regions,		KY BREEDING BIRD
6		Extant	1	E	Breeding Birds	М	2	CW BLOCK OF QUADRANGLE.	scrubby oaks and mesquite.		ATLAS.
			_	 -		1		211 222 011 011 020 1011 111 0221	Low gradient streams, oxbow		
									lakes, and sloughs in and around		
									cypress knees, marginal		
									vegetation, and accumulations of		
									sticks and detritus (Burr and Page		BURR AND PAGE. 1975.
									1975, Burr and Warren 1986,		TRANS KY ACAD SCI
7		Historic	2	Н	Fishes	М	2	FISH LAKE, 5 KM W OF BARLOW.	Etnier and Starnes 1993).		36:71-74. INHS 77980.

Line										lead res	
No.	eo_type	RANKNAME	RANKORDER	EORANK	CLASSIFICATION	PREC	SENS	DIRECTIONS	НАВІТАТ	p _	EO_Bestsource
									Occurs over sand/silt bottom in		
									areas with current in the main		
									channel of the Mississippi River		
									(Pflieger 1975, Burr and Warren		BURR, B.M. 1980.
8	3	Historic	2	Н	Fishes	G	2	NEAR MOUTH OF THE OHIO RIVER.	1986).		BRIMLEYANA 3:53-84.
								Barlow Bottoms, Boatwright WMA,			
								old rd ca 100 yds W of Buck Lake Rd			
								nr S end Buck Lake (018A), Fish Lake			
								Rd N of old RR grade (018B), S Axe	Primarily uses caves for		Hendricks, W.D., J.
								Lake Swamp (018C), E margin of	hibernacula and uses caves,		Major, and D. Sparks.
								Clear Lake, ca 600 m N of Holloway	bridges, and hollow trees as		Jackson Purchase
								Landing Rd (018D), and Waller Ben	summer maternity and roosting		Inventory, mistnet
9	breeding	Extant	1	E	Mammals	S	1	Tract at Gum Co	sites.		survey.
									Sluggish pools and backwaters of		
									large rivers, backwaters, and		
									oxbow lakes (Burr and Warren		BURR, B.M. 1980.
									1986, Page and Burr 1991, Etnier		BRIMLEYANA 3:53-84.
10		Historic	2	Н	Fishes	G	2	Mouth of the Ohio River.	and Starnes 1993).		INHS PHOTOGRAPH.
											JOHNSON, R.I. 1978.
								Ohio River, along Illinois border			BULL MUS COMP ZOOL
11		Extant	1	E	Freshwater Mussels	G	2	(014A).			148(6):237-320.
									Firm sand and/or gravel with some		
									current in the main channel of		
									large, turbid rivers (Burr and		
									Warren 1986, Etnier and Starnes		
									1993). Young inhabit silty side		
								CONFLUENCE OF OHIO AND	channels or backwaters (Burr and		BURR, B.M. 1980.
12	!	Historic	2	Н	Fishes	G	2	MISSISSIPPI RIVERS.	Warren 1986).		BRIMLEYANA 3:53-84.
								Barlow Bottoms along Fish Lake Rd			
				ĺ				just N of old RR grade (235A), along	This bat uses a variety of sites for		
				ĺ				E shore of Flat Lake (235B, 235C), nr	roosting including caves, protected		Palmer-Ball, B., P.
								NE end of Fish Lake (235D), nr S end	sites along clifflines, large, hollow		Moosman (EKU), J.
								of Fish Lake (235E), and along Fish	trees, old mine portals, abandoned		MacGregor, M.
				ĺ				Lake Rd .18 miles SE of old RR grade	tunnels, cisterns, old or seldom		Gumbert, et al. Mistnet
13	roost	Extant	1	E	Mammals	S	1	(235F).	used buildings, etc.		survey and telemetry.

Line										lead_res	
No.	eo_type	RANKNAME	RANKORDER	EORANK	CLASSIFICATION	PREC	SENS	DIRECTIONS	HABITAT	р	EO_Bestsource
									Adults inhabit large, turbid rivers		
									where they live in swift, shallow		
									water over sand or gravel bottoms		
									(Smith 1979, Burr and Warren		BURR, B.M. 1980.
14		Historic	2	Н	Fishes	G	2	Ohio River near it's mouth.	1986, Etnier and Starnes 1993).		BRIMLEYANA 3:53-84.
								MISSISSIPPI RIVER (VICINITY OF			PFLIEGER, W.L. 1975. THE FISHES OF
								CONFLUENCE WITH OHIO RIVER			MISSOURI. MO DEPT
15		Historic	,	Н	Fishes	G	,	ACCORDING TO MAP).			CONSER.
		Thistoric		11	risiles	-		ACCORDING TO WAF).			CONSER.
									Occurs in well-vegetated swamps,		
									sloughs, bottomland lakes, and low		
									gradient streams (Burr and		BURR AND MAYDEN.
									Mayden 1979, Pflieger 1975, Smith		1979. TRANS KY ACAD
									1979, Burr and Warren 1986,		SCI 40(1-2):58-67. INHS
16		Historic	2	Н	Fishes	М	2	FISH LAKE, 4.8 KM W BARLOW.	Etnier adn Starnes 1993).		82793.
											List, J.C. KU 214418 (JCL
17		Historic	2	Н	Reptiles	G	2	Near Barlow.	Wooded swamps, sloughs.		133).
									Small to medium-size sluggish		
									streams, oxbows, and wetlands		
									where the bottom is soft and		
									aquatic vegetation abounds (Burr		BURR AND MAYDEN.
									and Mayden 1979, Kuehne and		1979. TRANS KY ACAD
									Barbour 1983, Page 1983, Burr and		SCI 40:58-67. INHS
18		Extant	1	В	Fishes	М	2	FISH LAKE, 4.8 KM W BARLOW.	Warren 1986).		82797.
									Occurs in well-vegetated swamps,		
									sloughs, bottomland lakes, and low		KYDFWR. 2005.
									gradient streams (Burr and		Annual performance
								Shawnee Creek, Ballard County: 0.5	Mayden 1979, Pflieger 1975, Smith		report: period 01 April
								mi upstream from Oldham Rd, near	1979, Burr and Warren 1986,		04 to 31 March 2005.
19		Extant	1	D	Fishes	S	2	Barlow	Etnier adn Starnes 1993).		PArt II. Projects 2-6.

Line						Line	Line				
No.	Line No.	Line No.	Line No.	Line No.	Line No.	No.	No.	Line No.	Line No.	Line No.	Line No.
20	breeding	Extant	1	E	Mammals	S	1	Boatwright WMA, West Payne Tract S of Holloway Landing Road.	Primarily use caves for hibernacula, although they are occasionally found in old mine portals. During summer, colonies are found behind slabs of exfoliating bark of dead trees, often in bottomland or floodplain habitats, but also in upland situations.		Mann, Adam, et al. (Environmental Solutions & Innovations, Inc.). Mist- net survey and summary.
21		Historic		Н	Insects	С		Ballard County. Shawnee Creek, near Barlow, 0.3 stream miles downstream of Oldham Road crossing of Shawnee Creek, 0.5 stream miles downstream of Oldham Road crossing of Little	1975, Burr and Warren 1986,		Carl Cook Collection. Thomas, M., Brandt, S., Cicerello, R., Burr, B., Hopman, L., and L. White. Site survey 2009- 09-24. Data obtained from EDAS 2014,
22	breeding	Extant	1	NR NR	Mammals Breeding Birds	s	1	Peal Unit, Ballard Wildlife Mgmnt Area, old rd ca 100 yds w of Buck Lake Rd, near s end of Buck Lake. CW block of quadrangle	Etnier and Starnes 1993). Species hibernates in caves, mines, abandoned tunnels, and other sheltered locations and is often overlooked as bats may be wedged into cracks. Summer roosts include hollow trees, peeling bark, disused barns and houses, and rock crevices in clifflines.		Hendricks, W.D., J. Major, and D. Sparks. Jackson Purchase Inventory, mistnet survey. Palmer-Ball, B.L., Jr. 1996. The Kentucky Breeding Bird Atlas. The University Press of Kentucky, Lexington.

Line										lead_res	
No.	eo_type	RANKNAME	RANKORDER	EORANK	CLASSIFICATION	PREC	SENS	DIRECTIONS	HABITAT	р	EO_Bestsource
											Palmer-Ball, B.L., Jr.
											1996. The Kentucky
											Breeding Bird Atlas. The
25		F. 4 4	4	NID.	December 20 and a		١,	CE black of condensate			University Press of
25		Extant	1	NR	Breeding Birds	Q		SE block of quadrangle			Kentucky, Lexington.
									Occurs in well-vegetated swamps,		
									sloughs, bottomland lakes, and low		
									gradient streams (Burr and		
								SHAWNEE CREEK AT CROSSING ON	Mayden 1979, Pflieger 1975, Smith		
								FISH LAKE ROAD, APPROX 1.9 KM S	1979, Burr and Warren 1986,		
26		Extant	1	В	Fishes	S	2	OF HOLLOWAY LANDING ROAD.	Etnier adn Starnes 1993).		KNPC files. SIUC.
									Moderate-size creeks, large rivers,		
									and reservoirs. Substrate consists		
									of gravel and rubble with areas of		
									sand and silt. Larvae require clear		
									streams with stable bars of silt,		
									sand and organic detritis (Becker		STARRETT, HARTH, AND
						_			1983, Pflieger 1975, Rohde and		SMITH. 1960. COPEIA
27		Historic	2	H?	Fishes	G	2	OHIO RIVER AT CAIRO, ILLINOIS.	Lanteigne-Cour		1960:337-346.
											A
30		Historia	_	112	Vacaular Diame		,	Ballard County	Draining and harress		Anderson, W.A. 1947.
28		Historic	2	H?	Vascular Plants	С	1 2	Ballard County	Prairies and barrens.		Castanea 12(2): 50-56.
								Southeast of Buck Lake, ca 0.5 air mi			Evans, M. Sight record.
								SW of jct old railroad grade and Fish			Jackson Purchase
29		Extant	1	Α	Vascular Plants	s		Lake Rd.	Swamps, ponds and quiet streams.		Inventory Report.
						1					
									Prairies and low grounds such as		Anderson, W.A. 1947.
30		Historic	2	Н	Vascular Plants	С	2	Ballard Co.	open stream terrace woodlands.		Castanea 12(2): 50-56.

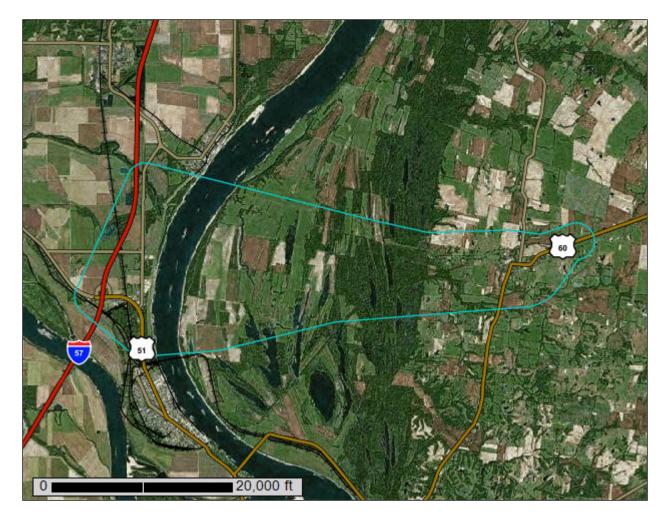
Line										lead_res	
No.	eo_type	RANKNAME	RANKORDER	EORANK	CLASSIFICATION	PREC	SENS	DIRECTIONS	HABITAT	p	EO_Bestsource
											Prater, Austin.
											Copperhead
											Environmental
											Consulting Botanist.
											Wetland and rare plant
								Population was observed			surveys in Ballard
								approximately 400 feet from the			County. Email
								northeastern section of Buck Lake in	Swamps and wet soil, usually in		communication with
31		Extant	1	C?	Vascular Plants	S	2	Ballard WMA.	shade (Gleason & Cronquist 1991).		Littlefield, 2016-08-02.
32		Historic	2	Н	Vascular Plants	С	2	Ballard County.			Athey, R. 225 MEM.
									Primarily associated with larger		
									rivers and lakes although also		
									occurs along medium sized stream		
									floodplains. In winter, may		
									associate with waterfowl		KDFWR. 2023. Data
								Sensitive Element - Contact KDFWR	concentrations or congregate in		exchange from KDFWR
33		Extant	1	E	Breeding Birds	S	1	at kdfwr.kfwis@ky.gov	areas with abundant dead fish.	KDFWR	to OKNP



APPENDIX E



Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants Custom Soil Resource
Report for
Alexander County, Illinois,
Ballard and McCracken
Counties, Kentucky, and
Pulaski County, Illinois
US_60_Study_Area



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

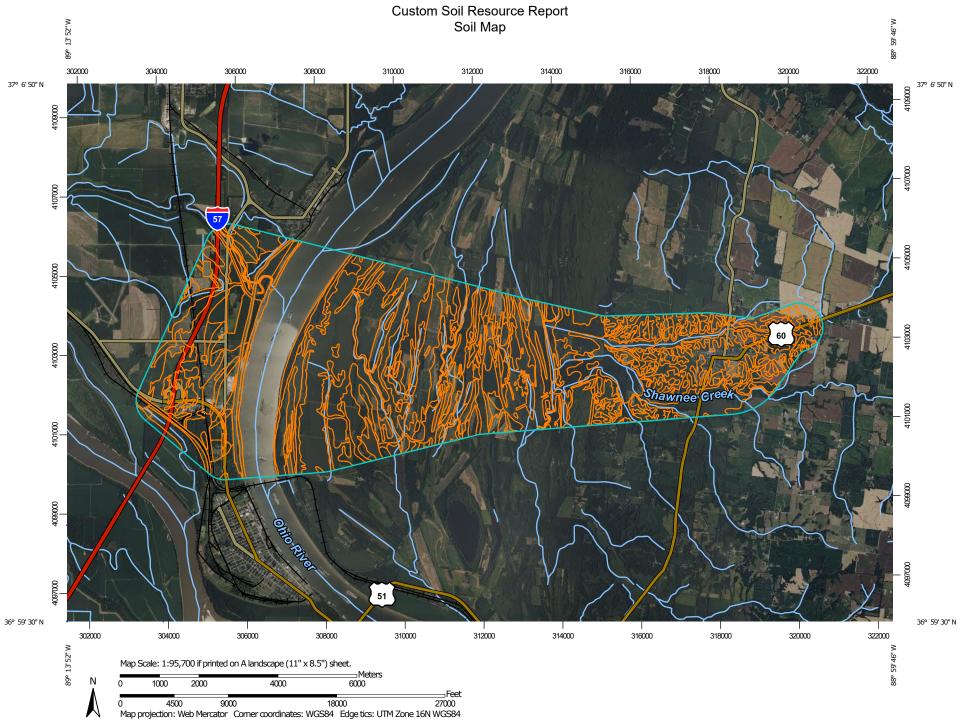
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

Area of Interest (AOI)

Ar

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

-

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

8

Spoil Area Stony Spot



Very Stony Spot



Wet Spot Other

Δ

Special Line Features

Water Features

~

Streams and Canals

Transportation

+++ Rails

Interstate Highways

US Routes

Major RoadsLocal Roads

Background

Marie Contract

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12.000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Alexander County, Illinois Survey Area Data: Version 19, Aug 31, 2022

Soil Survey Area: Ballard and McCracken Counties, Kentucky

Survey Area Data: Version 16, Sep 8, 2022

Soil Survey Area: Pulaski County, Illinois Survey Area Data: Version 16, Aug 31, 2022

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 21, 2022—Sep 13, 2022

MAP LEGEND

MAP INFORMATION

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
801B	Orthents, silty, undulating	287.2	1.8%
802D	Orthents, loamy, hilly	190.2	1.2%
1843A	Bonnie and Petrolia soils, undrained, 0 to 2 percent slopes, frequently flooded	36.1	0.2%
1845A	Darwin and Jacob silty clays, undrained, 0 to 2 percent slopes, frequently flooded	16.0	0.1%
1846A	Karnak and Cape silty clays, undrained, 0 to 2 percent slopes, frequently flooded	109.4	0.7%
3070L	Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration	9.1	0.1%
3071L	Darwin silty clay, 0 to 2 percent slopes, frequently flooded, long duration	0.4	0.0%
3284L	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration	52.4	0.3%
3449L	Armiesburg-Sarpy complex, 0 to 2 percent slopes, frequently flooded, long duration	124.2	0.8%
3597L	Armiesburg silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration	40.1	0.2%
7122C2	Colp silt loam, 5 to 10 percent slopes, eroded, rarely flooded	5.6	0.0%
7401A	Okaw silty clay loam, 0 to 2 percent slopes, rarely flooded	52.7	0.3%
8070A	Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded	17.9	0.1%
8071A	Darwin silty clay, 0 to 2 percent slopes, occasionally flooded	546.1	3.4%
8085A	Jacob silty clay, 0 to 2 percent slopes, occasionally flooded	46.2	0.3%
8162A	Gorham silty clay loam, 0 to 2 percent slopes, occasionally flooded	132.2	0.8%
8180A	Dupo silt loam, 0 to 2 percent slopes, occasionally flooded	0.4	0.0%
8284A	Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded	249.0	1.5%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8288A	Petrolia silty clay loam, 0 to 2 percent slopes, occasionally flooded	25.6	0.2%
8422A	Cape silty clay loam, 0 to 2 percent slopes, occasionally flooded	208.5	1.3%
8422A+	Cape silt loam, overwash, 0 to 2 percent slopes, occasionally flooded	42.4	0.3%
8426A	Karnak clay, 0 to 2 percent slopes, occasionally flooded	180.9	1.1%
8452A	Riley silty clay loam, 0 to 2 percent slopes, occasionally flooded	87.9	0.5%
8589A	Bowdre silty clay, 0 to 3 percent slopes, occasionally flooded	14.9	0.1%
8590A	Cairo silty clay, 0 to 2 percent slopes, occasionally flooded	165.2	1.0%
8597A	Armiesburg silty clay loam, 0 to 2 percent slopes, occasionally flooded	179.7	1.1%
W	Water	146.1	0.9%
Subtotals for Soil Survey A	rea	2,966.2	18.3%
Totals for Area of Interest		16,166.9	100.0%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CaA	Calloway silt loam, 0 to 2 percent slopes	77.3	0.5%
CaB2	Calloway silt loam, 2 to 4 percent slopes, eroded	5.3	0.0%
CnA	Chavies fine sandy loam, 0 to 3 percent slopes, frequently flooded	20.3	0.1%
Fa	Falaya-Collins complex, 0 to 2 percent slopes, occasionally flooded	488.1	3.0%
Fc	Falaya-Collins complex, 0 to 2 percent slopes, frequently flooded	378.6	2.3%
FeB	Feliciana silt loam, 2 to 6 percent slopes	24.5	0.2%
FeD3	Feliciana silt loam, 12 to 20 percent slopes, severely eroded	42.7	0.3%
FeE3	Feliciana silt loam, 20 to 30 percent slopes, severely eroded	6.9	0.0%
FnE2	Feliciana-Brandon complex, 25 to 45 percent slopes, eroded	10.9	0.1%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GrA	Grenada silt loam, 0 to 2 percent slopes	119.0	0.7%
GrB2	Grenada silt loam, 2 to 6 percent slopes, eroded	810.2	5.0%
GrB3	Grenada silt loam, 4 to 6 percent slopes, severely eroded	375.2	2.3%
GrC3	Grenada silt loam, 6 to 12 percent slopes, severely eroded	197.5	1.2%
HhA	Henshaw silt loam, 0 to 2 percent slopes, frequently flooded	130.0	0.8%
Hm	Huntington-Combs complex, 0 to 2 percent slopes, frequently flooded	1,791.7	11.1%
Hn	Huntington and Nolin silty clay loams, 0 to 2 percent slopes, frequently flooded	1,518.4	9.4%
Ка	Karnak silty clay, 0 to 2 percent slopes, frequently flooded	4.9	0.0%
Kn	Karnak silty clay, ponded	73.5	0.5%
KrA	Kurk silt loam, 0 to 2 percent slopes	5.2	0.0%
LoB2	Loring silt loam, 2 to 6 percent slopes, eroded	254.0	1.6%
LoC2	Loring silt loam, 6 to 12 percent slopes, eroded	3.6	0.0%
LoC3	Loring silt loam, 6 to 12 percent slopes, severely eroded	176.3	1.1%
LpD3	Loring-Purchase complex, 12 to 20 percent slopes, severely eroded	262.0	1.6%
Me	Melvin silty clay loam, 0 to 2 percent slopes, frequently flooded	505.6	3.1%
Mn	Melvin silty clay loam, ponded	1,150.9	7.1%
Ne	Newark-Lindside complex, 0 to 2 percent slopes, frequently flooded	1,222.1	7.6%
RtA	Routon silt loam, 0 to 2 percent slopes	4.4	0.0%
UoA	Uniontown silt loam, 0 to 2 percent slopes, frequently flooded	436.4	2.7%
uYefA	Yeager fine sand, 0 to 4 percent slopes, frequently flooded	268.8	1.7%
Vb	Vicksburg silt loam, 0 to 2 percent slopes, occasionally flooded	76.3	0.5%
W	Water	1,999.7	12.4%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
Wa	Waverly silt loam, 0 to 2 percent slopes, occasionally flooded, brief	36.3	0.2%	
We	Waverly silt loam, 0 to 2 percent slopes, frequently flooded, brief	8.4	0.1%	
WnA	Wheeling silt loam, 0 to 2 percent slopes, frequently flooded	288.7	1.8%	
WnB	Wheeling silt loam, 2 to 6 percent slopes, frequently flooded	0.6	0.0%	
Subtotals for Soil Survey Area		12,774.1	79.0%	
Totals for Area of Interest		16,166.9	100.0%	

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
801B	Orthents, silty, undulating	140.1	0.9%
802D	Orthents, loamy, hilly	22.0	0.1%
1843A	Bonnie and Petrolia soils, undrained, 0 to 2 percent slopes, frequently flooded	19.9	0.1%
3162L	Gorham silty clay loam, 0 to 3 percent slopes, frequently flooded, long duration	62.6	0.4%
3288A	Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded	2.1	0.0%
3288L	Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration	77.7	0.5%
3422A	Cape silty clay loam, 0 to 2 percent slopes, frequently flooded	34.1	0.2%
3449L	Armiesburg-Sarpy complex, 0 to 2 percent slopes, frequently flooded, long duration	33.4	0.2%
W	Water	34.4	0.2%
Subtotals for Soil Survey A	rea	426.2	2.6%
Totals for Area of Interest		16,166.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps.

The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Alexander County, Illinois

801B—Orthents, silty, undulating

Map Unit Setting

National map unit symbol: n7ph Elevation: 340 to 1,020 feet

Mean annual precipitation: 29 to 46 inches
Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Orthents, silty, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Orthents, Silty

Setting

Landform position (three-dimensional): Interfluve, head slope, nose slope, side

slope, base slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Earthy fill

Typical profile

H1 - 0 to 80 inches: silt loam

Properties and qualities

Slope: 1 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B Hydric soil rating: No

802D—Orthents, loamy, hilly

Map Unit Setting

National map unit symbol: n7pj Elevation: 340 to 1,020 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Orthents, loamy, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Orthents, Loamy

Setting

Down-slope shape: Linear Across-slope shape: Linear Parent material: Earthy fill

Typical profile

H1 - 0 to 6 inches: loam H2 - 6 to 80 inches: loam

Properties and qualities

Slope: 2 to 20 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C Hydric soil rating: No

1843A—Bonnie and Petrolia soils, undrained, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: n7pn Elevation: 340 to 500 feet

Mean annual precipitation: 38 to 48 inches
Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 180 to 200 days

Farmland classification: Not prime farmland

Map Unit Composition

Bonnie, undrained, frequently flooded, and similar soils: 46 percent Petrolia, undrained, frequently flooded, and similar soils: 44 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bonnie, Undrained, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 10 inches: silt loam H2 - 10 to 27 inches: silt loam H3 - 27 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: FrequentNone Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D

Ecological site: F120AY020KY - Wet Alluvial Flats

Hydric soil rating: Yes

Description of Petrolia, Undrained, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Silty clay loam alluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam H2 - 8 to 55 inches: silty clay loam H3 - 55 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: FrequentNone Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D

Ecological site: F120AY020KY - Wet Alluvial Flats

Hydric soil rating: Yes

1845A—Darwin and Jacob silty clays, undrained, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: n724 Elevation: 340 to 450 feet

Mean annual precipitation: 34 to 48 inches Mean annual air temperature: 48 to 57 degrees F

Frost-free period: 140 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Darwin, undrained, frequently flooded, and similar soils: 46 percent Jacob, undrained, frequently flooded, and similar soils: 44 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Darwin, Undrained, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

H1 - 0 to 14 inches: silty clay
H2 - 14 to 56 inches: silty clay
H3 - 56 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low

(0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: FrequentNone Frequency of ponding: Frequent

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: D Hydric soil rating: Yes

Description of Jacob, Undrained, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 4 inches: silty clay H2 - 4 to 50 inches: clay H3 - 50 to 80 inches: clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low

(0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: FrequentNone Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: D Hydric soil rating: Yes

1846A—Karnak and Cape silty clays, undrained, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: n7pq Elevation: 340 to 500 feet

Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 180 to 200 days

Farmland classification: Not prime farmland

Map Unit Composition

Karnak, undrained, frequently flooded, and similar soils: 55 percent

Cape, undrained, frequently flooded, and similar soils: 35 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Karnak, Undrained, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

H1 - 0 to 5 inches: silty clay H2 - 5 to 50 inches: silty clay H3 - 50 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: FrequentNone

Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D

Ecological site: F120AY020KY - Wet Alluvial Flats

Hydric soil rating: Yes

Description of Cape, Undrained, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

H1 - 0 to 10 inches: silty clay
H2 - 10 to 22 inches: silty clay loam
H3 - 22 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low

(0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: FrequentNone Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: D

Ecological site: F120AY020KY - Wet Alluvial Flats

Hydric soil rating: Yes

3070L—Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration

Map Unit Setting

National map unit symbol: n67p Elevation: 340 to 1,020 feet

Mean annual precipitation: 30 to 45 inches Mean annual air temperature: 50 to 57 degrees F

Frost-free period: 160 to 200 days

Farmland classification: Not prime farmland

Map Unit Composition

Beaucoup, frequently flooded, long duration, and similar soils: 90 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Beaucoup, Frequently Flooded, Long Duration

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 16 inches: silty clay loam H2 - 16 to 46 inches: silty clay loam

H3 - 46 to 80 inches: stratified very fine sandy loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: FrequentNone Frequency of ponding: Frequent

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: High (about 11.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B/D

Ecological site: F120AY020KY - Wet Alluvial Flats

Hydric soil rating: Yes

3071L—Darwin silty clay, 0 to 2 percent slopes, frequently flooded, long duration

Map Unit Setting

National map unit symbol: 2tbrp

Elevation: 330 to 690 feet

Mean annual precipitation: 37 to 47 inches

Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 184 to 228 days

Farmland classification: Not prime farmland

Map Unit Composition

Darwin, frequently flooded, long duration, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Darwin, Frequently Flooded, Long Duration

Setting

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear Parent material: Alluvium

Typical profile

A1 - 0 to 11 inches: silty clay
A2 - 11 to 24 inches: silty clay loam
Bg - 24 to 59 inches: silty clay

BCg - 59 to 79 inches: stratified silt loam to silty clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: About 0 to 18 inches Frequency of flooding: FrequentNone Frequency of ponding: Frequent

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: D

Ecological site: F115XB041MO - Clayey Floodplain Forest

Hydric soil rating: Yes

Minor Components

Bowdre, frequently flooded, long duration

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Convex Across-slope shape: Concave

Ecological site: F115XB041MO - Clayey Floodplain Forest

Hydric soil rating: Yes

Dupo, frequently flooded, long duration

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: F115XB031MO - Loamy Floodplain Forest

Hydric soil rating: Yes

3284L—Tice silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration

Map Unit Setting

National map unit symbol: 2tbrq Elevation: 340 to 660 feet

Mean annual precipitation: 37 to 47 inches
Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 184 to 228 days

Farmland classification: Not prime farmland

Map Unit Composition

Tice and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tice

Setting

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium

Typical profile

A - 0 to 16 inches: silty clay loam Bw - 16 to 68 inches: silt loam

Bg - 68 to 79 inches: stratified loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.57 to 1.98 in/hr)

Depth to water table: About 12 to 20 inches Frequency of flooding: NoneFrequent

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B/D

Ecological site: F109XY037MO - Wet Floodplain Woodland

Hydric soil rating: Yes

Minor Components

Darwin

Percent of map unit: 10 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: F115XB041MO - Clayey Floodplain Forest

Hydric soil rating: Yes

3449L—Armiesburg-Sarpy complex, 0 to 2 percent slopes, frequently flooded, long duration

Map Unit Setting

National map unit symbol: n6s5 Elevation: 360 to 1.000 feet

Mean annual precipitation: 24 to 45 inches
Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 150 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Armiesburg, frequently flooded, long duration, and similar soils: 45 percent

Sarpy, frequently flooded, long duration, and similar soils: 40 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Armiesburg, Frequently Flooded, Long Duration

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 15 inches: silty clay loam H2 - 15 to 67 inches: silty clay loam H3 - 67 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: NoneFrequent

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B Hydric soil rating: Yes

Description of Sarpy, Frequently Flooded, Long Duration

Setting

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Concave Across-slope shape: Convex

Typical profile

H1 - 0 to 9 inches: fine sand

H2 - 9 to 80 inches: stratified sand to loamy fine sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00

to 20.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: NoneFrequent

Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: A Hydric soil rating: Yes

3597L—Armiesburg silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration

Map Unit Setting

National map unit symbol: n6p3 Elevation: 360 to 850 feet

Mean annual precipitation: 35 to 45 inches
Mean annual air temperature: 50 to 57 degrees F

Frost-free period: 150 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Armiesburg, frequently flooded, long duration, and similar soils: 90 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Armiesburg, Frequently Flooded, Long Duration

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 15 inches: silty clay loam
H2 - 15 to 67 inches: silty clay loam
H3 - 67 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: NoneFrequent

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B Hydric soil rating: Yes

7122C2—Colp silt loam, 5 to 10 percent slopes, eroded, rarely flooded

Map Unit Setting

National map unit symbol: n6tw Elevation: 330 to 490 feet

Mean annual precipitation: 35 to 45 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 175 to 195 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Colp, eroded, rarely flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colp, Eroded, Rarely Flooded

Setting

Landform: Terraces

Landform position (two-dimensional): Backslope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Thin loess over clayey lacustrine deposits

Typical profile

H1 - 0 to 8 inches: silt loam H2 - 8 to 70 inches: silty clay H3 - 70 to 80 inches: silty clay

Properties and qualities

Slope: 5 to 10 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 24 to 48 inches

Frequency of flooding: NoneRare Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C/D Hydric soil rating: No

7401A—Okaw silty clay loam, 0 to 2 percent slopes, rarely flooded

Map Unit Setting

National map unit symbol: n6r6 Elevation: 340 to 500 feet

Mean annual precipitation: 36 to 44 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 180 to 200 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Okaw, rarely flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Okaw, Rarely Flooded

Setting

Landform: Terraces

Landform position (two-dimensional): Summit

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Lacustrine deposits

Typical profile

H1 - 0 to 10 inches: silty clay loam
H2 - 10 to 18 inches: silt loam
H3 - 18 to 57 inches: silty clay
H4 - 57 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 10 to 20 inches to abrupt textural change

Drainage class: Poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low

(0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: NoneRare Frequency of ponding: Frequent

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D Hydric soil rating: Yes

8070A—Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: n67n Elevation: 340 to 1,020 feet

Mean annual precipitation: 30 to 45 inches Mean annual air temperature: 50 to 57 degrees F

Frost-free period: 160 to 200 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Beaucoup, occasionally flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Beaucoup, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 16 inches: silty clay loam H2 - 16 to 46 inches: silty clay loam

H3 - 46 to 80 inches: stratified very fine sandy loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: NoneOccasional Frequency of ponding: Occasional

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: High (about 11.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Ecological site: F114XB203IN - Wet Floodplain Forest

Hydric soil rating: Yes

8071A—Darwin silty clay, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: n680 Elevation: 340 to 500 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Darwin, occasionally flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Darwin, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

H1 - 0 to 14 inches: silty clay
H2 - 14 to 56 inches: silty clay
H3 - 56 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low

(0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: OccasionalNone Frequency of ponding: Occasional

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D Hydric soil rating: Yes

8085A—Jacob silty clay, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: n687 Elevation: 340 to 500 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Jacob, occasionally flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jacob, Occasionally Flooded

Setting

Landform: Lake plains Down-slope shape: Linear Across-slope shape: Linear

Parent material: Clayey slackwater sediments

Typical profile

H1 - 0 to 4 inches: silty clay H2 - 4 to 50 inches: clay H3 - 50 to 80 inches: clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low

(0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: OccasionalNone Frequency of ponding: Occasional

Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: D Hydric soil rating: Yes

8162A—Gorham silty clay loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: n6fy Elevation: 340 to 500 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Gorham, occasionally flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gorham, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 14 inches: silty clay loam H2 - 14 to 36 inches: silty clay loam H3 - 36 to 54 inches: clay loam H4 - 54 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: OccasionalNone Frequency of ponding: Occasional

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D

Ecological site: R115XB042MO - Ponded Floodplain Prairie

Hydric soil rating: Yes

8180A—Dupo silt loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2tbsf Elevation: 360 to 710 feet

Mean annual precipitation: 37 to 47 inches Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 184 to 228 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Dupo and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dupo

Setting

Landform: Flood-plain steps

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Silty alluvium over clayey alluvium

Typical profile

Ap - 0 to 9 inches: silt loam C - 9 to 29 inches: silt loam 2Ab - 29 to 79 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 23 to 35 inches to strongly contrasting textural

stratification

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.57 in/hr)

Depth to water table: About 6 to 24 inches Frequency of flooding: OccasionalNone

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: F115XB031MO - Loamy Floodplain Forest

Hydric soil rating: No

Minor Components

Darwin

Percent of map unit: 10 percent Landform: Flood-plain steps

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: F115XB041MO - Clayey Floodplain Forest

Hydric soil rating: Yes

8284A—Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: n6nx Elevation: 340 to 1,020 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Tice, occasionally flooded, and similar soils: 85 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tice, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 16 inches: silty clay loam H2 - 16 to 72 inches: silty clay loam

H3 - 72 to 80 inches: stratified loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 6 to 24 inches Frequency of flooding: OccasionalNone

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: Very high (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Ecological site: F114XB203IN - Wet Floodplain Forest

Hydric soil rating: No

Minor Components

Darwin, occasionally flooded

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: F115XB041MO - Clayey Floodplain Forest

Hydric soil rating: Yes

8288A—Petrolia silty clay loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: n6p0 Elevation: 340 to 500 feet

Mean annual precipitation: 38 to 48 inches Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 180 to 200 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Petrolia, occasionally flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Petrolia, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam H2 - 8 to 55 inches: silty clay loam H3 - 55 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: OccasionalNone Frequency of ponding: Occasional

Available water supply, 0 to 60 inches: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D Hydric soil rating: Yes

8422A—Cape silty clay loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2wh4y

Elevation: 350 to 400 feet

Mean annual precipitation: 35 to 56 inches
Mean annual air temperature: 44 to 69 degrees F

Frost-free period: 150 to 226 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Cape, occasionally flooded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cape, Occasionally Flooded

Setting

Landform: Flood plains

Landform position (three-dimensional): Dip

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Acid clayey alluvium

Typical profile

Ap - 0 to 6 inches: silty clay loam
Bg - 6 to 47 inches: silty clay
Cg - 47 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: About 0 to 10 inches

Frequency of flooding: NoneOccasional

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D Hydric soil rating: Yes

Minor Components

Karnak, occasionally flooded

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Dip

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Piopolis, occasionally flooded

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Dip

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

8422A+—Cape silt loam, overwash, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: n6rl Elevation: 340 to 500 feet

Mean annual precipitation: 40 to 45 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 180 to 200 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Cape, overwash, occasionally flooded, and similar soils: 90 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cape, Overwash, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Silty alluvium over clayey alluvium

Typical profile

H1 - 0 to 16 inches: silt loam H2 - 16 to 22 inches: silty clay loam H3 - 22 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low

(0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: NoneOccasional

Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D Hydric soil rating: Yes

8426A—Karnak clay, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: n6qy Elevation: 340 to 500 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Karnak, occasionally flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Karnak, Occasionally Flooded

Settina

Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Parent material: Clayey alluvium

Typical profile

H1 - 0 to 5 inches: silty clay H2 - 5 to 50 inches: silty clay H3 - 50 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: NoneOccasional

Frequency of ponding: Occasional

Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D

Ecological site: F120AY020KY - Wet Alluvial Flats

Hydric soil rating: Yes

8452A—Riley silty clay loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: n690 Elevation: 340 to 1,020 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 165 to 210 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Riley, occasionally flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riley, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 13 inches: silty clay loam H2 - 13 to 27 inches: clay loam H3 - 27 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 16 to 40 inches to strongly contrasting textural

stratification

Drainage class: Somewhat poorly drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 12 to 24 inches Frequency of flooding: OccasionalNone

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Ecological site: R115XB038MO - Wet Terrace Prairie

Hydric soil rating: No

Minor Components

Gorham, occasionally flooded

Percent of map unit: Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: R115XB042MO - Ponded Floodplain Prairie

Hydric soil rating: Yes

8589A—Bowdre silty clay, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2y8d9

Elevation: 340 to 500 feet

Mean annual precipitation: 37 to 47 inches Mean annual air temperature: 54 to 59 degrees F

Frost-free period: 184 to 228 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Bowdre, occasionally flooded, and similar soils: 95 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bowdre, Occasionally Flooded

Setting

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Clayey alluvium over loamy alluvium over sandy and loamy

alluvium

Typical profile

Ap1 - 0 to 11 inches: silty clay

Bw - 11 to 17 inches: silty clay

2C1 - 17 to 23 inches: stratified sandy loam to silt loam 3C2 - 23 to 79 inches: stratified sandy loam to silt loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 16 to 20 inches to strongly contrasting textural

stratification

Drainage class: Somewhat poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: Occasional Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Available water supply, 0 to 60 inches: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: F115XB041MO - Clayey Floodplain Forest

Hydric soil rating: No

Minor Components

Cairo, occasionally flooded

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: R115XB042MO - Ponded Floodplain Prairie

Hydric soil rating: Yes

8590A—Cairo silty clay, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2y8ct

Elevation: 330 to 660 feet

Mean annual precipitation: 38 to 46 inches
Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 180 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Cairo and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cairo

Setting

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Clayey alluvium over sandy alluvium

Typical profile

Ap - 0 to 17 inches: silty clay Bg - 17 to 30 inches: silty clay 2Cg - 30 to 79 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 24 to 37 inches to strongly contrasting textural

stratification

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low

(0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: OccasionalNone Frequency of ponding: Occasional

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D

Ecological site: R115XB042MO - Ponded Floodplain Prairie

Hydric soil rating: Yes

Minor Components

Bowdre

Percent of map unit: 10 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Convex Across-slope shape: Convex

Ecological site: F115XB041MO - Clayey Floodplain Forest

Hydric soil rating: No

8597A—Armiesburg silty clay loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: n6p4 Elevation: 360 to 850 feet

Mean annual precipitation: 35 to 45 inches Mean annual air temperature: 50 to 57 degrees F

Frost-free period: 150 to 210 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Armiesburg, occasionally flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Armiesburg, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 15 inches: silty clay loam H2 - 15 to 67 inches: silty clay loam H3 - 67 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: NoneOccasional

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B Hydric soil rating: No

W-Water

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landform: Rivers, oxbows, lakes, drainageways, perenial streams, channels

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8w

Ballard and McCracken Counties, Kentucky

CaA—Calloway silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 1qm5h

Elevation: 320 to 510 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Calloway and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Calloway

Setting

Landform: Flats

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 22 inches: silt loam
H3 - 22 to 34 inches: silty clay loam
H4 - 34 to 69 inches: silt loam
H5 - 69 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 17 to 36 inches to fragipan

Drainage class: Somewhat poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 7 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Grenada

Percent of map unit: 5 percent

Landform: Flats

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Routon

Percent of map unit: 3 percent

Landform: Flats

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Collins

Percent of map unit: 1 percent

Landform: Flood plains, drainageways

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Falaya

Percent of map unit: 1 percent

Landform: Flood plains, drainageways

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

CaB2—Calloway silt loam, 2 to 4 percent slopes, eroded

Map Unit Setting

National map unit symbol: 1qm5j

Elevation: 310 to 500 feet

Mean annual precipitation: 40 to 56 inches

Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Calloway and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Calloway

Setting

Landform: Ridges

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

H1 - 0 to 5 inches: silt loam
H2 - 5 to 18 inches: silt loam
H3 - 18 to 25 inches: silty clay loam
H4 - 25 to 50 inches: silt loam
H5 - 50 to 80 inches: silt loam

Properties and qualities

Slope: 2 to 4 percent

Depth to restrictive feature: 24 to 38 inches to fragipan

Drainage class: Somewhat poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 12 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Grenada

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Purchase

Percent of map unit: 3 percent

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Collins

Percent of map unit: 2 percent Landform: Drainageways Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

CnA—Chavies fine sandy loam, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1qm6z

Elevation: 310 to 330 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if protected from flooding or not frequently

flooded during the growing season

Map Unit Composition

Chavies, frequently flooded, and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chavies, Frequently Flooded

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Mixed coarse-loamy alluvium

Typical profile

H1 - 0 to 12 inches: fine sandy loam H2 - 12 to 44 inches: fine sandy loam H3 - 44 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00

in/hr)

Depth to water table: More than 80 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Wheeling

Percent of map unit: 15 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Lakin

Percent of map unit: 4 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Chavies, (hydric, flooding)

Percent of map unit: 1 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Fa—Falaya-Collins complex, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 1qm4q

Elevation: 310 to 480 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Falaya, occasionally flooded, and similar soils: 55 percent Collins, occasionally flooded, and similar soils: 35 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Falaya, Occasionally Flooded

Setting

Landform: Flood plains, drainageways

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Coarse-silty alluvium

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 52 inches: silt loam
H3 - 52 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high

(0.06 to 2.00 in/hr)

Depth to water table: About 12 to 24 inches Frequency of flooding: OccasionalNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 12.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D Hydric soil rating: No

Description of Collins, Occasionally Flooded

Setting

Landform: Flood plains, drainageways

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Coarse-silty alluvium

Typical profile

H1 - 0 to 12 inches: silt loam H2 - 12 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 22 to 40 inches Frequency of flooding: OccasionalNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 12.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Waverly, occasionally flooded

Percent of map unit: 3 percent

Landform: Flood plains, drainageways

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Vicksburg

Percent of map unit: 3 percent

Landform: Flood plains, drainageways

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

luka

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Center

Percent of map unit: 1 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Kurk

Percent of map unit: 1 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Fc—Falaya-Collins complex, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1qm4z

Elevation: 300 to 390 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if drained and either protected from flooding

or not frequently flooded during the growing season

Map Unit Composition

Falaya, frequently flooded, and similar soils: 55 percent Collins, frequently flooded, and similar soils: 35 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Falaya, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Coarse-silty alluvium

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 52 inches: silt loam
H3 - 52 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high

(0.06 to 2.00 in/hr)

Depth to water table: About 12 to 24 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 12.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D Hydric soil rating: No

Description of Collins, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Coarse-silty alluvium

Typical profile

H1 - 0 to 12 inches: silt loam H2 - 12 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 22 to 40 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 12.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Cascilla

Percent of map unit: 5 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Rosebloom, frequently flooded

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Waverly, frequently flooded

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

luka

Percent of map unit: 1 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

FeB—Feliciana silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2y70q

Elevation: 330 to 550 feet

Mean annual precipitation: 49 to 53 inches Mean annual air temperature: 48 to 69 degrees F

Frost-free period: 182 to 210 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Feliciana and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Feliciana

Setting

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Fine-silty noncalcareous loess

Typical profile

Ap - 0 to 8 inches: silt loam

Bt1 - 8 to 21 inches: silty clay loam

Bt2 - 21 to 80 inches: silt loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: F134XY003AL - Northern Loess Interfluve - PROVISIONAL

Hydric soil rating: No

Minor Components

Loring

Percent of map unit: 6 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL

Hydric soil rating: No

Calloway

Percent of map unit: 4 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Concave Across-slope shape: Linear

Ecological site: F134XY004AL - Northern Moderately Wet Loess Interfluve -

PROVISIONAL

Hydric soil rating: No

FeD3—Feliciana silt loam, 12 to 20 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 2y717

Elevation: 300 to 540 feet

Mean annual precipitation: 49 to 53 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 175 to 244 days

Farmland classification: Not prime farmland

Map Unit Composition

Feliciana and similar soils: 95 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Feliciana

Setting

Landform: Divides, divides

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Fine-silty noncalcareous loess

Typical profile

Ap - 0 to 4 inches: silt loam

Bt1 - 4 to 27 inches: silty clay loam Bt2 - 27 to 60 inches: silt loam Bt3 - 60 to 78 inches: silt loam

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: B

Ecological site: F134XY006AL - Northern Loess Sideslope - PROVISIONAL

Hydric soil rating: No

Minor Components

Loring

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL

Hydric soil rating: No

FeE3—Feliciana silt loam, 20 to 30 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 2y712

Elevation: 300 to 540 feet

Mean annual precipitation: 49 to 53 inches
Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 175 to 244 days

Farmland classification: Not prime farmland

Map Unit Composition

Feliciana and similar soils: 95 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Feliciana

Setting

Landform: Divides, divides

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Fine-silty noncalcareous loess

Typical profile

Ap - 0 to 4 inches: silt loam

Bt1 - 4 to 27 inches: silty clay loam Bt2 - 27 to 60 inches: silt loam Bt3 - 60 to 78 inches: silt loam

Properties and qualities

Slope: 20 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: F134XY006AL - Northern Loess Sideslope - PROVISIONAL

Hydric soil rating: No

Minor Components

Loring

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL

Hydric soil rating: No

FnE2—Feliciana-Brandon complex, 25 to 45 percent slopes, eroded

Map Unit Setting

National map unit symbol: 1qm5w

Elevation: 300 to 500 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Not prime farmland

Map Unit Composition

Feliciana and similar soils: 60 percent Brandon and similar soils: 35 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Feliciana

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

H1 - 0 to 4 inches: silt loam
H2 - 4 to 12 inches: silty clay loam
H3 - 12 to 80 inches: silt loam

Properties and qualities

Slope: 25 to 35 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 13.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: F134XY006AL - Northern Loess Sideslope - PROVISIONAL

Hydric soil rating: No

Description of Brandon

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thin fine-silty noncalcareous loess over fluviomarine deposits

Typical profile

H1 - 0 to 10 inches: silt loam H2 - 10 to 29 inches: silty clay loam

H3 - 29 to 80 inches: extremely gravelly sandy loam

Properties and qualities

Slope: 25 to 45 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: F134XY006AL - Northern Loess Sideslope - PROVISIONAL

Hydric soil rating: No

Minor Components

Saffell

Percent of map unit: 3 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Loring

Percent of map unit: 2 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL

Hydric soil rating: No

GrA—Grenada silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 1qm59

Elevation: 320 to 510 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Grenada and similar soils: 85 percent *Minor components:* 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Grenada

Setting

Landform: Flats

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

H1 - 0 to 7 inches: silt loam H2 - 7 to 21 inches: silt loam

H3 - 21 to 28 inches: silt loam H4 - 28 to 38 inches: silt loam H5 - 38 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 24 to 38 inches to fragipan

Drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Calloway

Percent of map unit: 10 percent

Landform: Flats

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Collins

Percent of map unit: 3 percent Landform: Drainageways Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Center

Percent of map unit: 2 percent Landform: Drainageways

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

GrB2—Grenada silt loam, 2 to 6 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2wn5t

Elevation: 310 to 640 feet

Mean annual precipitation: 52 to 62 inches Mean annual air temperature: 48 to 69 degrees F

Frost-free period: 175 to 244 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Grenada, eroded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Grenada, Eroded

Setting

Landform: Ridges

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Nose slope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Fine-silty noncalcareous loess

Typical profile

Ap - 0 to 5 inches: silt loam
Bw - 5 to 21 inches: silt loam
E - 21 to 28 inches: silt loam
Btx/E - 28 to 38 inches: silt loam
Btx - 38 to 80 inches: silt loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 17 to 36 inches to fragipan

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 32 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Ecological site: F134XY012AL - Northern Loess Fragipan Upland -

PROVISIONAL

Hydric soil rating: No

Minor Components

Calloway

Percent of map unit: 6 percent

Landform: Flats

Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Collins

Percent of map unit: 4 percent Landform: Flood-plain steps

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

GrB3—Grenada silt loam, 4 to 6 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 1qgc0

Elevation: 310 to 500 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Grenada, severely eroded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Grenada, Severely Eroded

Setting

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

H1 - 0 to 4 inches: silt loam H2 - 4 to 18 inches: silt loam H3 - 18 to 22 inches: silt loam H4 - 22 to 32 inches: silt loam H5 - 32 to 80 inches: silt loam

Properties and qualities

Slope: 4 to 6 percent

Depth to restrictive feature: 18 to 23 inches to fragipan

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Purchase, severely eroded

Percent of map unit: 7 percent

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Calloway

Percent of map unit: 4 percent

Landform: Ridges

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Collins

Percent of map unit: 2 percent Landform: Drainageways Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Falaya

Percent of map unit: 2 percent Landform: Drainageways Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

GrC3—Grenada silt loam, 6 to 12 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 1qls1 Elevation: 310 to 500 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Not prime farmland

Map Unit Composition

Grenada, severely eroded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Grenada, Severely Eroded

Setting

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

H1 - 0 to 4 inches: silt loam H2 - 4 to 18 inches: silt loam H3 - 18 to 22 inches: silt loam H4 - 22 to 32 inches: silt loam H5 - 32 to 80 inches: silt loam

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: 18 to 23 inches to fragipan

Drainage class: Moderately well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Purchase, severely eroded

Percent of map unit: 7 percent

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Calloway

Percent of map unit: 4 percent

Landform: Ridges

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Falaya

Percent of map unit: 2 percent Landform: Drainageways Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Collins

Percent of map unit: 2 percent Landform: Drainageways Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

HhA—Henshaw silt loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1qkxc

Elevation: 300 to 340 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if drained and either protected from flooding

or not frequently flooded during the growing season

Map Unit Composition

Henshaw, frequently flooded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Henshaw, Frequently Flooded

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Mixed fine-silty alluvium

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 15 inches: silt loam
H3 - 15 to 32 inches: silty clay loam
H4 - 32 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 18 to 30 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Henshaw, (hydric, flooding)

Percent of map unit: 10 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Uniontown

Percent of map unit: 3 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Newark, (hydric, flooding)

Percent of map unit: 1 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Wheeling

Percent of map unit: 1 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Hm—Huntington-Combs complex, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1qgd4

Elevation: 300 to 380 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if protected from flooding or not frequently

flooded during the growing season

Map Unit Composition

Huntington, frequently flooded, and similar soils: 60 percent Combs, frequently flooded, and similar soils: 25 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Huntington, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Mixed fine-silty alluvium

Typical profile

H1 - 0 to 18 inches: silt loam

H2 - 18 to 65 inches: stratified silt loam

H3 - 65 to 80 inches: stratified fine sand to loam to silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B Hydric soil rating: No

Description of Combs, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Mixed coarse-loamy alluvium

Typical profile

H1 - 0 to 14 inches: silt loam H2 - 14 to 31 inches: loam H3 - 31 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.57 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Nolin

Percent of map unit: 8 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Yeager

Percent of map unit: 3 percent Landform: Natural levees Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Combs, (hydric, flooding)

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Linear

Across-slope shape: Linear Hydric soil rating: Yes

Huntington, (hydric, flooding)

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Hn—Huntington and Nolin silty clay loams, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1qgd5

Elevation: 300 to 340 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if protected from flooding or not frequently

flooded during the growing season

Map Unit Composition

Huntington, frequently flooded, and similar soils: 45 percent Nolin, frequently flooded, and similar soils: 40 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Huntington, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Mixed fine-silty alluvium

Typical profile

H1 - 0 to 18 inches: silty clay loam
H2 - 18 to 65 inches: stratified silt loam

H3 - 65 to 80 inches: stratified fine sand to loam to silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B Hydric soil rating: No

Description of Nolin, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Mixed fine-silty alluvium

Typical profile

H1 - 0 to 9 inches: silty clay loam H2 - 9 to 40 inches: silty clay loam H3 - 40 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 48 to 72 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Nolin, (hydric, flooding)

Percent of map unit: 5 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Huntington, (hydric, flooding)

Percent of map unit: 5 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Lindside, (hydric, flooding)

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Combs

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Yeager

Percent of map unit: 1 percent Landform: Natural levees Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Ka—Karnak silty clay, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1qm69

Elevation: 300 to 330 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if drained and either protected from flooding

or not frequently flooded during the growing season

Map Unit Composition

Karnak, frequently flooded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Karnak, Frequently Flooded

Settina

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Linear

Parent material: Mixed clayey alluvium

Typical profile

H1 - 0 to 12 inches: silty clay H2 - 12 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr) Depth to water table: About 0 to 18 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: C/D Hydric soil rating: Yes

Minor Components

Melvin, frequently flooded

Percent of map unit: 8 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Newark, (hydric, flooding)

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Kn—Karnak silty clay, ponded

Map Unit Setting

National map unit symbol: 1qmkx

Elevation: 300 to 330 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Not prime farmland

Map Unit Composition

Karnak, ponded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Karnak, Ponded

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Linear

Parent material: Mixed clayey alluvium

Typical profile

H1 - 0 to 12 inches: silty clay H2 - 12 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 0 to 36 inches

Frequency of flooding: NoneFrequent

Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D Hydric soil rating: Yes

Minor Components

Melvin, ponded

Percent of map unit: 8 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Newark, (hydric, flooding)

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

KrA—Kurk silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 1qm53

Elevation: 310 to 430 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Kurk and similar soils: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kurk

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Typical profile

H1 - 0 to 15 inches: silt loam
H2 - 15 to 42 inches: silty clay loam
H3 - 42 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 14 to 20 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Center

Percent of map unit: 10 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Routon

Percent of map unit: 10 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Hydric soil rating: Yes

LoB2—Loring silt loam, 2 to 6 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2wn6k

Elevation: 340 to 640 feet

Mean annual precipitation: 52 to 62 inches Mean annual air temperature: 48 to 69 degrees F

Frost-free period: 182 to 210 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Loring, eroded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loring, Eroded

Setting

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

Ap - 0 to 5 inches: silt loam
Bt - 5 to 28 inches: silt loam
Btx - 28 to 49 inches: silt loam
C - 49 to 80 inches: silt loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 22 to 28 inches to fragipan

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 20 to 28 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Grenada, eroded

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Feliciana, eroded

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Ecological site: F134XY006AL - Northern Loess Sideslope - PROVISIONAL

Hydric soil rating: No

LoC2—Loring silt loam, 6 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2wn6h

Elevation: 340 to 640 feet

Mean annual precipitation: 52 to 62 inches Mean annual air temperature: 48 to 69 degrees F

Frost-free period: 182 to 210 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Loring, eroded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loring, Eroded

Setting

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

Ap - 0 to 5 inches: silt loam

Bt - 5 to 25 inches: silt loam

Btx - 25 to 49 inches: silt loam

C - 49 to 80 inches: silt loam

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: 22 to 28 inches to fragipan

Drainage class: Moderately well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 20 to 28 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Feliciana, eroded

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Ecological site: F134XY006AL - Northern Loess Sideslope - PROVISIONAL

Hydric soil rating: No

Grenada, eroded

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

LoC3—Loring silt loam, 6 to 12 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 2wn6l Elevation: 340 to 590 feet

Mean annual precipitation: 52 to 62 inches

Mean annual air temperature: 45 to 69 degrees F

Frost-free period: 182 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Loring, severely eroded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loring, Severely Eroded

Setting

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

Ap - 0 to 4 inches: silt loam

Bt - 4 to 21 inches: silt loam

Btx - 21 to 46 inches: silt loam

C - 46 to 80 inches: silt loam

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: 18 to 41 inches to fragipan

Drainage class: Moderately well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 15 to 38 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Purchase, severely eroded

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Adler

Percent of map unit: 3 percent Landform: Drainageways

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Linear Hydric soil rating: No

Convent

Percent of map unit: 2 percent Landform: Drainageways

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

LpD3—Loring-Purchase complex, 12 to 20 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 1qm5p

Elevation: 310 to 500 feet

Mean annual precipitation: 40 to 56 inches

Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Not prime farmland

Map Unit Composition

Loring, severely eroded, and similar soils: 45 percent Purchase, severely eroded, and similar soils: 40 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loring, Severely Eroded

Settina

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

H1 - 0 to 5 inches: silt loam
H2 - 5 to 20 inches: silt loam
H3 - 20 to 46 inches: silt loam
H4 - 46 to 80 inches: silt loam

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: 18 to 24 inches to fragipan

Drainage class: Moderately well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 30 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D Hydric soil rating: No

Description of Purchase, Severely Eroded

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Thick fine-silty noncalcareous loess

Typical profile

H1 - 0 to 5 inches: silt loam H2 - 5 to 10 inches: silt loam H3 - 10 to 51 inches: silt loam H4 - 51 to 80 inches: silt loam

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: 5 to 18 inches to fragipan

Drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Feliciana, severely eroded

Percent of map unit: 10 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Brandon, severely eroded

Percent of map unit: 3 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Collins

Percent of map unit: 2 percent Landform: Drainageways Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Me—Melvin silty clay loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1qm67

Elevation: 300 to 340 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if drained and either protected from flooding

or not frequently flooded during the growing season

Map Unit Composition

Melvin, frequently flooded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Melvin, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Linear

Parent material: Mixed fine-silty alluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam
H2 - 8 to 42 inches: silty clay loam
H3 - 42 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 12.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: B/D Hydric soil rating: Yes

Minor Components

Newark, (hydric, flooded)

Percent of map unit: 7 percent Landform: Flood plains

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Karnak, frequently flooded

Percent of map unit: 3 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Mn-Melvin silty clay loam, ponded

Map Unit Setting

National map unit symbol: 1qm66

Elevation: 300 to 340 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Not prime farmland

Map Unit Composition

Melvin, ponded, and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Melvin, Ponded

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Linear

Parent material: Mixed fine-silty alluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam
H2 - 8 to 42 inches: silty clay loam
H3 - 42 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 0 to 36 inches Frequency of flooding: NoneFrequent Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: Very high (about 12.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B/D Hydric soil rating: Yes

Minor Components

Karnak, ponded

Percent of map unit: 7 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Newark, (hydric, flooded)

Percent of map unit: 3 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Ne—Newark-Lindside complex, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1ggd6

Elevation: 300 to 380 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if drained and either protected from flooding

or not frequently flooded during the growing season

Map Unit Composition

Newark, (hydric, flooding), and similar soils: 50 percent Lindside, (hydric, flooding), and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Newark, (hydric, Flooding)

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Linear

Parent material: Mixed fine-silty alluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam H2 - 8 to 55 inches: silty clay loam

H3 - 55 to 80 inches: stratified fine sandy loam to loam to silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 12 to 18 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 12.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: B/D Hydric soil rating: Yes

Description of Lindside, (hydric, Flooding)

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Mixed fine-silty alluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam H2 - 8 to 53 inches: silty clay loam

H3 - 53 to 80 inches: stratified fine sandy loam to loam to silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: About 18 to 36 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 11.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C Hydric soil rating: Yes

Minor Components

Melvin, (hydric, flooding)

Percent of map unit: 5 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

Newark

Percent of map unit: 3 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Lindside

Percent of map unit: 3 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Nolin

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Karnak, (hydric, flooding)

Percent of map unit: 2 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

RtA—Routon silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 1qgbt

Elevation: 310 to 490 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Routon and similar soils: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Routon

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Parent material: Fine-silty alluvium

Typical profile

H1 - 0 to 17 inches: silt loam H2 - 17 to 52 inches: silt loam H3 - 52 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 12.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D Hydric soil rating: Yes

Minor Components

Kurk

Percent of map unit: 12 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Natalbany

Percent of map unit: 7 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Center

Percent of map unit: 1 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

UoA—Uniontown silt loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1qkxt Elevation: 300 to 340 feet

Mean annual precipitation: 40 to 56 inches
Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if protected from flooding or not frequently

flooded during the growing season

Map Unit Composition

Uniontown, frequently flooded, and similar soils: 87 percent

Minor components: 13 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Uniontown, Frequently Flooded

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Mixed fine-silty alluvium

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 38 inches: silty clay loam
H3 - 38 to 60 inches: silty clay loam

H4 - 60 to 80 inches: stratified fine sandy loam to loam to silt loam to silty clay

loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: About 30 to 60 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 12.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Uniontown, (hydric, flooded)

Percent of map unit: 5 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Henshaw

Percent of map unit: 4 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Henshaw, (hydric, flooded)

Percent of map unit: 2 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: Yes

Wheeling

Percent of map unit: 2 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Hydric soil rating: No

uYefA—Yeager fine sand, 0 to 4 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2zs4w

Elevation: 300 to 470 feet

Mean annual precipitation: 35 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 174 to 222 days

Farmland classification: Not prime farmland

Map Unit Composition

Yeager, frequently flooded, and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yeager, Frequently Flooded

Setting

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Convex Parent material: Sandy alluvium

Typical profile

Ap - 0 to 7 inches: fine sand C - 7 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 4 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95

to 19.98 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: A

Ecological site: F120AY018KY - Riverbank Loamy Alluvium

Hydric soil rating: No

Minor Components

Yeager, (loamy substratum), frequently flooded

Percent of map unit: 10 percent

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Convex

Ecological site: F120AY018KY - Riverbank Loamy Alluvium

Hydric soil rating: No

Yeager, frequently flooded, long duration

Percent of map unit: 4 percent

Landform: Flood plains

Landform position (three-dimensional): Dip

Down-slope shape: Linear Across-slope shape: Convex

Ecological site: F120AY018KY - Riverbank Loamy Alluvium

Hydric soil rating: Yes

Huntington, frequently flooded

Percent of map unit: 4 percent

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Convex

Ecological site: F120AY018KY - Riverbank Loamy Alluvium

Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)

Hydric soil rating: No

Grigsby, frequently flooded

Percent of map unit: 2 percent

Landform: Flood plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Convex

Ecological site: F120AY018KY - Riverbank Loamy Alluvium

Hydric soil rating: No

Vb—Vicksburg silt loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 1qm4n

Elevation: 300 to 480 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Vicksburg, occasionally flooded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vicksburg, Occasionally Flooded

Setting

Landform: Flood plains, drainageways

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Coarse-silty alluvium

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 40 to 54 inches Frequency of flooding: OccasionalNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 13.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Collins

Percent of map unit: 10 percent

Landform: Flood plains, drainageways

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

luka

Percent of map unit: 3 percent

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Falaya

Percent of map unit: 2 percent

Landform: Flood plains, drainageways

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

W-Water

Map Unit Setting

National map unit symbol: 1qm7q
Mean annual precipitation: 40 to 56 inches

Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Wa—Waverly silt loam, 0 to 2 percent slopes, occasionally flooded, brief

Map Unit Setting

National map unit symbol: 2t242

Elevation: 250 to 490 feet

Mean annual precipitation: 41 to 76 inches Mean annual air temperature: 46 to 72 degrees F

Frost-free period: 175 to 230 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Waverly, occasionally flooded, and similar soils: 92 percent

Minor components: 8 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Waverly, Occasionally Flooded

Setting

Landform: Flood plains

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Concave

Parent material: Coarse silty alluvium

Typical profile

Ap - 0 to 7 inches: silt loam
Bg - 7 to 40 inches: silt loam
Cg - 40 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.57 to 1.98 in/hr)

Depth to water table: About 4 to 10 inches Frequency of flooding: OccasionalNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very high (about 13.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D

Ecological site: F134XY020AL - Northern Wet Alluvial Flat - PROVISIONAL

Hydric soil rating: Yes

Minor Components

Falaya, occasionally flooded

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Convex

Ecological site: F134XY020AL - Northern Wet Alluvial Flat - PROVISIONAL

Hydric soil rating: No

Rosebloom, occasionally flooded

Percent of map unit: 3 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear

Ecological site: F134XY020AL - Northern Wet Alluvial Flat - PROVISIONAL

Hydric soil rating: Yes

We-Waverly silt loam, 0 to 2 percent slopes, frequently flooded, brief

Map Unit Setting

National map unit symbol: 2t241

Elevation: 250 to 670 feet

Mean annual precipitation: 48 to 75 inches Mean annual air temperature: 46 to 66 degrees F

Frost-free period: 175 to 225 days

Farmland classification: Prime farmland if drained and either protected from flooding

or not frequently flooded during the growing season

Map Unit Composition

Waverly, frequently flooded, and similar soils: 92 percent

Minor components: 8 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Waverly, Frequently Flooded

Setting

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Concave Parent material: Coarse-silty alluvium

Typical profile

Ap - 0 to 8 inches: silt loam Bg - 8 to 54 inches: silt loam Cg - 54 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.57 to 1.98 in/hr)

Depth to water table: About 6 to 24 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Very high (about 14.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D

Ecological site: F134XY020AL - Northern Wet Alluvial Flat - PROVISIONAL

Hydric soil rating: Yes

Minor Components

Falaya, frequently flooded

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: F134XY019AL - Northern Moderately Wet Alluvial Flat -

PROVISIONAL Hydric soil rating: No

Rosebloom, frequently flooded

Percent of map unit: 3 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear

Ecological site: F134XY020AL - Northern Wet Alluvial Flat - PROVISIONAL

Hydric soil rating: Yes

WnA—Wheeling silt loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1qm74

Elevation: 300 to 340 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if protected from flooding or not frequently

flooded during the growing season

Map Unit Composition

Wheeling, frequently flooded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling, Frequently Flooded

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Mixed fine-loamy alluvium

Typical profile

H1 - 0 to 13 inches: silt loam
H2 - 13 to 28 inches: silty clay loam
H3 - 28 to 46 inches: clay loam
H4 - 46 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Wheeling, (hydric, flooding)

Percent of map unit: 5 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: Yes

Uniontown

Percent of map unit: 5 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Nolin

Percent of map unit: 3 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Henshaw

Percent of map unit: 1 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Chavies

Percent of map unit: 1 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

WnB—Wheeling silt loam, 2 to 6 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1qm77

Elevation: 300 to 340 feet

Mean annual precipitation: 40 to 56 inches Mean annual air temperature: 46 to 69 degrees F

Frost-free period: 177 to 222 days

Farmland classification: Prime farmland if protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Wheeling, frequently flooded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling, Frequently Flooded

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Mixed fine-loamy alluvium

Typical profile

H1 - 0 to 13 inches: silt loam
H2 - 13 to 28 inches: silty clay loam
H3 - 28 to 46 inches: clay loam
H4 - 46 to 80 inches: sandy loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: FrequentNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Uniontown

Percent of map unit: 5 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Wheeling, (hydric, flooding)

Percent of map unit: 5 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex Across-slope shape: Linear

Hydric soil rating: Yes

Nolin

Percent of map unit: 3 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Henshaw

Percent of map unit: 1 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Chavies

Percent of map unit: 1 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Pulaski County, Illinois

801B—Orthents, silty, undulating

Map Unit Setting

National map unit symbol: t49z Elevation: 340 to 1,020 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Orthents, silty, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Orthents, Silty

Setting

Landform position (three-dimensional): Interfluve, head slope, nose slope, side

slope, base slope Down-slope shape: Convex Across-slope shape: Convex Parent material: Earthy fill

Typical profile

H1 - 0 to 80 inches: silt loam

Properties and qualities

Slope: 1 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B Hydric soil rating: No

802D—Orthents, loamy, hilly

Map Unit Setting

National map unit symbol: t4b0 Elevation: 340 to 1,020 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Orthents, loamy, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Orthents, Loamy

Setting

Down-slope shape: Linear Across-slope shape: Linear Parent material: Earthy fill

Typical profile

H1 - 0 to 6 inches: loam H2 - 6 to 80 inches: loam

Properties and qualities

Slope: 2 to 20 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C Hydric soil rating: No

1843A—Bonnie and Petrolia soils, undrained, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: t4b7 Elevation: 340 to 500 feet

Mean annual precipitation: 38 to 48 inches
Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 180 to 200 days

Farmland classification: Not prime farmland

Map Unit Composition

Bonnie, undrained, frequently flooded, and similar soils: 46 percent Petrolia, undrained, frequently flooded, and similar soils: 44 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bonnie, Undrained, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 10 inches: silt loam H2 - 10 to 27 inches: silt loam H3 - 27 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: NoneFrequent Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D

Ecological site: F120AY020KY - Wet Alluvial Flats

Hydric soil rating: Yes

Description of Petrolia, Undrained, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Silty clay loam alluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam H2 - 8 to 55 inches: silty clay loam H3 - 55 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: NoneFrequent Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D

Ecological site: F120AY020KY - Wet Alluvial Flats

Hydric soil rating: Yes

3162L—Gorham silty clay loam, 0 to 3 percent slopes, frequently flooded, long duration

Map Unit Setting

National map unit symbol: t4bn Elevation: 340 to 1,020 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Gorham, frequently flooded, long duration, and similar soils: 90 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gorham, Frequently Flooded, Long Duration

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 14 inches: silty clay loam
H2 - 14 to 36 inches: silty clay loam
H3 - 36 to 54 inches: clay loam
H4 - 54 to 80 inches: sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: NoneFrequent Frequency of ponding: Frequent

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D Hydric soil rating: Yes

3288A—Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: t4bt Elevation: 340 to 1,020 feet

Mean annual precipitation: 29 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 170 to 210 days

Farmland classification: Prime farmland if drained and either protected from flooding

or not frequently flooded during the growing season

Map Unit Composition

Petrolia, frequently flooded, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Petrolia, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam H2 - 8 to 55 inches: silty clay loam H3 - 55 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: NoneFrequent Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D

Hydric soil rating: Yes

3288L—Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration

Map Unit Setting

National map unit symbol: t4bv Elevation: 340 to 500 feet

Mean annual precipitation: 38 to 48 inches Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 180 to 200 days

Farmland classification: Not prime farmland

Map Unit Composition

Petrolia, frequently flooded, long duration, and similar soils: 90 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Petrolia, Frequently Flooded, Long Duration

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: silty clay loam H2 - 8 to 55 inches: silty clay loam H3 - 55 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: NoneFrequent Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D Hydric soil rating: Yes

3422A—Cape silty clay loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: t4c4 Elevation: 340 to 490 feet

Mean annual precipitation: 35 to 46 inches Mean annual air temperature: 54 to 57 degrees F

Frost-free period: 175 to 195 days

Farmland classification: Prime farmland if drained and either protected from flooding

or not frequently flooded during the growing season

Map Unit Composition

Cape, frequently flooded, and similar soils: 90 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cape, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

H1 - 0 to 10 inches: silty clay loam H2 - 10 to 22 inches: silty clay loam H3 - 22 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low

(0.01 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches Frequency of flooding: NoneFrequent Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D Hydric soil rating: Yes

3449L—Armiesburg-Sarpy complex, 0 to 2 percent slopes, frequently flooded, long duration

Map Unit Setting

National map unit symbol: t4c9 Elevation: 360 to 1,000 feet

Mean annual precipitation: 24 to 45 inches Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 150 to 210 days

Farmland classification: Not prime farmland

Map Unit Composition

Armiesburg, frequently flooded, long duration, and similar soils: 45 percent Sarpy, frequently flooded, long duration, and similar soils: 40 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Armiesburg, Frequently Flooded, Long Duration

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 15 inches: silty clay loam H2 - 15 to 67 inches: silty clay loam H3 - 67 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: NoneFrequent

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B Hydric soil rating: Yes

Description of Sarpy, Frequently Flooded, Long Duration

Setting

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Concave Across-slope shape: Convex

Typical profile

H1 - 0 to 9 inches: fine sand

H2 - 9 to 80 inches: stratified sand to loamy fine sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00

to 20.00 in/hr)

Depth to water table: More than 80 inches Frequency of flooding: NoneFrequent

Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: A Hydric soil rating: Yes

W-Water

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landform: Rivers, oxbows, lakes, drainageways, perenial streams, channels

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8w

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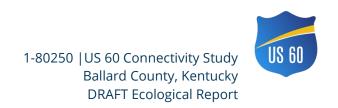
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APPENDIX F

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location





Local offices

Southern Illinois Sub-Office

(618) 998-5945

■ Marion@fws.gov

MAILING ADDRESS Southern Illinois Sub-office 8588 Route 148 Marion, IL 62959-5822

PHYSICAL ADDRESS 6987 Headquarters Road Marion, IL 62959

https://www.fws.gov/office/illinois-iowa-ecological-services

Kentucky Ecological Services Field Office

- **\((502) 695-0468**

NOT FOR CONSULTATIO

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Draw the project location and click CONTINUE.
- 2. Click DEFINE PROJECT.
- 3. Log in (if directed to do so).
- 4. Provide a name and description for your project.
- 5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the <u>Ecological Services Program</u> of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact <u>NOAA Fisheries</u> for <u>species under their jurisdiction</u>.

1. Species listed under the <u>Endangered Species Act</u> are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the <u>listing status page</u> for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

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

The following species are potentially affected by activities in this location:

Mammals

NAME STATUS

Gray Bat Myotis grisescens

Endangered

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/6329

Indiana Bat Myotis sodalis

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/5949

Northern Long-eared Bat Myotis septentrionalis

Endangered

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/9045

Tricolored Bat Perimyotis subflavus

Proposed Endangered

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/10515

Birds

NAME STATUS

Whooping Crane Grus americana

EXPN

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/758

Reptiles

NAME STATUS

Alligator Snapping Turtle Macrochelys temminckii

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/4658

Proposed Threatened

Fishes

NAME STATUS

Pallid Sturgeon Scaphirhynchus albus

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/7162

Endangered

Clams

NAME STATUS

Clubshell Pleurobema clava

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/3789

Endangered

Fanshell Cyprogenia stegaria

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/4822

Endangered

Fat Pocketbook Potamilus capax

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/2780

Endangered

Longsolid Fusconaia subrotunda

Wherever found

There is **final** critical habitat for this species.

https://ecos.fws.gov/ecp/species/9880

Threatened

Northern Riffleshell Epioblasma rangiana

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/527

Endangered

Orangefoot Pimpleback (pearlymussel) Plethobasus

cooperianus

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/1132

Endangered

Endangered

Pink Mucket (pearlymussel) Lampsilis abrupta

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/7829

Rabbitsfoot Quadrula cylindrica cylindrica

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

https://ecos.fws.gov/ecp/species/5165

Threatened

Ring Pink (mussel) Obovaria retusa

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/4128

Endangered

Rough Pigtoe Pleurobema plenum

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/6894

Endangered

Insects

NAME STATUS

Monarch Butterfly Danaus plexippus

Candidate

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/9743

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the <u>Bald and Golden Eagle Protection Act</u> and the <u>Migratory Bird Treaty Act</u>.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described <u>below</u>.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds
 <u>https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME BREEDING SEASON

Bald Eagle Haliaeetus leucocephalus

Breeds Sep 1 to Jul 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and

understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (1)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

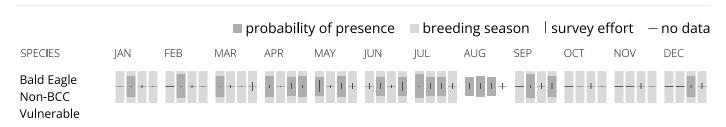
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply). To see a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator (RAIL) Tool</u>.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey, banding, and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator (RAIL) Tool</u>.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the <u>Eagle Act</u> should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described <u>below</u>.

- 1. The Migratory Birds Treaty Act of 1918.
- 2. The <u>Bald and Golden Eagle Protection Act</u> of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds
 <u>https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide conservation measures for birds
 <u>https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf</u>

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME BREEDING SEASON

American Golden-plover Pluvialis dominica

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

American Kestrel Falco sparverius paulus

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587

Breeds Apr 1 to Aug 31

Bald Eagle Haliaeetus leucocephalus

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Breeds Sep 1 to Jul 31

Chimney Swift Chaetura pelagica

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Mar 15 to Aug 25

Kentucky Warbler Oporornis formosus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Apr 20 to Aug 20

Lesser Yellowlegs Tringa flavipes

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679

Breeds elsewhere

Prothonotary Warbler Protonotaria citrea

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Apr 1 to Jul 31

Red-headed Woodpecker Melanerpes erythrocephalus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Sep 10

Rusty Blackbird Euphagus carolinus

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds elsewhere

Wood Thrush Hylocichla mustelina

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (I)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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SPECIES	JAN	FEB	■ p ı MAR	robabilit _{APR}	y of pre	JUN	■ breed	AUG	SON I	survey 6	NOV	— no dat
American Golden-plover BCC Rangewide (CON)			+		+	++-+					\(2
American Kestrel BCC - BCR				+ +	I+++	+ 1+	 1 1	+ + + +	7	M	1	11
Bald Eagle Non-BCC Vulnerable			+	1 1 1	+ +	+1-1		iji,	-14		+	1
Chimney Swift BCC Rangewide (CON)					IM		111.	+ 1 ++	-+1	I+-	+	+-
Kentucky Warbler BCC Rangewide (CON)		c(5	2-1	1	++-+				+	+	
Lesser Yellowlegs BCC Rangewide (CON)	1	\			I	+++	-++			++-	+	
Prothonotary Warbler BCC Rangewide (CON)			-+-+		1+++	1 1 + 1	-+11	+ 1 ++	-++	++-	+	
Red-headed Woodpecker BCC Rangewide (CON)	+-			+- +	1:11	1 1 + 1	. 1 + 1	1 1 ++	- 1+	+ - + +	+	
Rusty Blackbird BCC - BCR					+	++-+				+	+	
Wood Thrush BCC Rangewide CON)			+		I	+ +	-1			+	+	+

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information Locator (RAIL) Tool</u>.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the <u>RAIL Tool</u> and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the <u>Northeast Ocean Data Portal</u>. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the <u>NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.</u>

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or

minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

This location overlaps the following National Wildlife Refuge lands:

LAND	ACRES
CYPRESS CREEK NATIONAL WILDLIFE REFUGE	13,064.48 acres

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of Engineers District</u>.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the <u>NWI map</u> to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

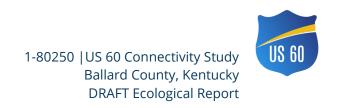
Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.



APPENDIX G



KENTUCKY DEPARTMENT of FISH & WILDLIFE RESOURCES



BUY LICENSES

TELECHECK

SEASONS

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Licenses -

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Wildlife 🔻

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KY Afield 🔻

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Species Information

Species observations for selected counties

Linked life history provided courtesy of

NatureServe Explorer.

Records may include both recent and historical observations.

US Status Definitions Kentucky Status Definitions

List Species observations in 1 selected county.

Selected county is: Ballard.

Scientific Name and Life History	Common Name and Pictures	Class	County	US Status	KY Status	WAP	Reference
Acipenser fulvescens	Lake Sturgeon	Actinopterygii	Ballard	N	Е	Yes	Reference
Alosa chrysochloris	Skipjack Herring	Actinopterygii	Ballard	N	N		Reference
Ameiurus melas	Black Bullhead	Actinopterygii	Ballard	N	N		Reference
Ameiurus natalis	Yellow Bullhead	Actinopterygii	Ballard	N	N		Reference
Ameiurus nebulosus	Brown Bullhead	Actinopterygii	Ballard	N	N		Reference
Amia calva	Bowfin	Actinopterygii	Ballard	N	N		Reference
Anguilla rostrata	American Eel	Actinopterygii	Ballard	N	N	Yes	Reference

Aphredoderus sayanus	Pirate Perch	Actinopterygii	Ballard	N	N		Reference
Aplodinotus grunniens	Freshwater Drum	Actinopterygii	Ballard	N	N		Reference
Atractosteus spatula	Alligator Gar	Actinopterygii	Ballard	N	Е	Yes	Reference
Campostoma anomalum	Central Stoneroller	Actinopterygii	Ballard	N	N		Reference
Campostoma pullum	Finescale Stoneroller	Actinopterygii	Ballard	N	S		Reference
Carassius auratus	Goldfish	Actinopterygii	Ballard	N	N		Reference
Carpiodes carpio	River Carpsucker	Actinopterygii	Ballard	N	N		Reference
Carpiodes cyprinus	Quillback	Actinopterygii	Ballard	N	N		Reference
Carpiodes velifer	Highfin Carpsucker	Actinopterygii	Ballard	N	N	Yes	Reference
Catostomus commersonii	White Sucker	Actinopterygii	Ballard	N	N		Reference
Centrarchus macropterus	Flier	Actinopterygii	Ballard	N	N		Reference
Ctenopharyngodon idella	Grass Carp	Actinopterygii	Ballard	N	N		Reference
Cycleptus elongatus	Blue Sucker	Actinopterygii	Ballard	N	N	Yes	Reference
Cyprinella lutrensis	Red Shiner	Actinopterygii	Ballard	N	N		Reference
Cyprinella spiloptera	Spotfin Shiner	Actinopterygii	Ballard	N	N		Reference
Cyprinella venusta	Blacktail Shiner	Actinopterygii	Ballard	N	S	Yes	Reference
Cyprinella whipplei	Steelcolor Shiner	Actinopterygii	Ballard	N	N		Reference
Cyprinus carpio	Common Carp	Actinopterygii	Ballard	N	N		Reference
Dorosoma cepedianum	Gizzard Shad	Actinopterygii	Ballard	N	N		Reference
Dorosoma petenense	Threadfin Shad	Actinopterygii	Ballard	N	N		Reference
Elassoma zonatum	Banded Pygmy Sunfish	Actinopterygii	Ballard	N	N		Reference

Friedrich als ife mais	Mantaus Contale Obushassalas	A -4!: 4 ::	Dellerel	N.I.	N.		Deference
Erimyzon claviformis	Western Creek Chubsucker	Actinopterygii	Ballard	N	N		Reference
Erimyzon sucetta	Lake Chubsucker	Actinopterygii	Ballard	N	Т	Yes	Reference
Esox americanus	Grass Pickerel	Actinopterygii	Ballard	N	N		Reference
Esox niger	Chain Pickerel	Actinopterygii	Ballard	N	S	Yes	Reference
Etheostoma asprigene	Mud Darter	Actinopterygii	Ballard	N	N		Reference
Etheostoma caeruleum	Rainbow Darter	Actinopterygii	Ballard	N	N		Reference
Etheostoma chlorosoma	Bluntnose Darter	Actinopterygii	Ballard	N	N		Reference
Etheostoma gracile	Slough Darter	Actinopterygii	Ballard	N	N		Reference
Etheostoma histrio	Harlequin Darter	Actinopterygii	Ballard	N	N		Reference
Etheostoma nigrum	Johnny Darter	Actinopterygii	Ballard	N	N		Reference
Etheostoma proeliare	Cypress Darter	Actinopterygii	Ballard	N	Т	Yes	Reference
Etheostoma spectabile	Orangethroat Darter	Actinopterygii	Ballard	N	N		Reference
Fundulus notatus	Blackstripe Topminnow	Actinopterygii	Ballard	N	N		Reference
Fundulus olivaceus	Blackspotted Topminnow	Actinopterygii	Ballard	N	N		Reference
Gambusia affinis	Western Mosquitofish	Actinopterygii	Ballard	N	N		Reference
Hiodon alosoides	Goldeye	Actinopterygii	Ballard	N	N		Reference
Hiodon tergisus	Mooneye	Actinopterygii	Ballard	N	N		Reference
Hybognathus hayi	Cypress Minnow	Actinopterygii	Ballard	N	E	Yes	Reference
Hybognathus nuchalis	Mississippi Silvery Minnow	Actinopterygii	Ballard	N	N		Reference
Hybognathus placitus	Plains Minnow	Actinopterygii	Ballard	N	S	Yes	Reference
Hypentelium nigricans	Northern Hog Sucker	Actinopterygii	Ballard	N	N		Reference

Hypophthalmichthys molitrix	Silver Carp	Actinopterygii	Ballard	N	N		Reference
Hypophthalmichthys nobilis	Bighead Carp	Actinopterygii	Ballard	N	N		Reference
Ictalurus furcatus	Blue Catfish	Actinopterygii	Ballard	N	N		Reference
Ictalurus punctatus	Channel Catfish	Actinopterygii	Ballard	N	N		Reference
Ictiobus bubalus	Smallmouth Buffalo	Actinopterygii	Ballard	N	N		Reference
Ictiobus cyprinellus	Bigmouth Buffalo	Actinopterygii	Ballard	N	N		Reference
lctiobus niger	Black Buffalo	Actinopterygii	Ballard	N	S	Yes	Reference
Labidesthes sicculus	Brook Silverside	Actinopterygii	Ballard	N	N		Reference
Lepisosteus oculatus	Spotted Gar	Actinopterygii	Ballard	N	N		Reference
Lepisosteus osseus	Longnose Gar	Actinopterygii	Ballard	N	N		Reference
Lepisosteus platostomus	Shortnose Gar	Actinopterygii	Ballard	N	N		Reference
Lepomis cyanellus	Green Sunfish	Actinopterygii	Ballard	N	N		Reference
Lepomis gulosus	Warmouth	Actinopterygii	Ballard	N	N		Reference
Lepomis humilis	Orangespotted Sunfish	Actinopterygii	Ballard	N	N		Reference
Lepomis macrochirus	Bluegill	Actinopterygii	Ballard	N	N		Reference
Lepomis megalotis	Longear Sunfish	Actinopterygii	Ballard	N	N		Reference
Lepomis microlophus	Redear Sunfish	Actinopterygii	Ballard	N	N		Reference
Lepomis miniatus	Redspotted Sunfish	Actinopterygii	Ballard	N	Т	Yes	Reference
Lepomis symmetricus	Bantam Sunfish	Actinopterygii	Ballard	N	N		Reference
Luxilus chrysocephalus	Striped Shiner	Actinopterygii	Ballard	N	N		Reference
Lythrurus fumeus	Ribbon Shiner	Actinopterygii	Ballard	N	N		Reference

Lythrurus umbratilis	Redfin Shiner	Actinopterygii	Ballard	N	N		Reference
Macrhybopsis gelida	Sturgeon Chub	Actinopterygii	Ballard	N	Е	Yes	Reference
Macrhybopsis hyostoma	Shoal Chub	Actinopterygii	Ballard	N	N	Yes	Reference
Macrhybopsis meeki	Sicklefin Chub	Actinopterygii	Ballard	N	E	Yes	Reference
Macrhybopsis storeriana	Silver Chub	Actinopterygii	Ballard	N	N		Reference
Menidia audens	Mississippi Silverside	Actinopterygii	Ballard	N	Т		Reference
Micropterus dolomieu	Smallmouth Bass	Actinopterygii	Ballard	N	N		Reference
Micropterus salmoides	Largemouth Bass	Actinopterygii	Ballard	N	N		Reference
Micropterus punctulatus	Spotted Bass	Actinopterygii	Ballard	N	N		Reference
Minytrema melanops	Spotted Sucker	Actinopterygii	Ballard	N	N		Reference
Morone americana	White Perch	Actinopterygii	Ballard	N	N		Reference
Morone chrysops	White Bass	Actinopterygii	Ballard	N	N		Reference
Morone mississippiensis	Yellow Bass	Actinopterygii	Ballard	N	N		Reference
Morone saxatilis	Striped Bass	Actinopterygii	Ballard	N	N		Reference
Moxostoma anisurum	Silver Redhorse	Actinopterygii	Ballard	N	N		Reference
Moxostoma breviceps	Smallmouth Redhorse	Actinopterygii	Ballard	N	N		Reference
Moxostoma carinatum	River Redhorse	Actinopterygii	Ballard	N	N		Reference
Moxostoma erythrurum	Golden Redhorse	Actinopterygii	Ballard	N	N		Reference
Notemigonus crysoleucas	Golden Shiner	Actinopterygii	Ballard	N	N		Reference
Notropis atherinoides	Emerald Shiner	Actinopterygii	Ballard	N	N		Reference
Notropis blennius	River Shiner	Actinopterygii	Ballard	N	N		Reference

Notropis dorsalis	Bigmouth Shiner	Actinopterygii	Ballard	N	S	Yes	Reference
Notropis hudsonius	Spottail Shiner	Actinopterygii	Ballard	N	S	Yes	Reference
Notropis maculatus	Taillight Shiner	Actinopterygii	Ballard	N	Т	Yes	Reference
Notropis shumardi	Silverband Shiner	Actinopterygii	Ballard	N	N	Yes	Reference
Notropis stramineus	Sand Shiner	Actinopterygii	Ballard	N	N		Reference
Notropis volucellus	Mimic Shiner	Actinopterygii	Ballard	N	N		Reference
Notropis wickliffi	Channel Shiner	Actinopterygii	Ballard	N	N		Reference
Noturus elegans	Elegant Madtom	Actinopterygii	Ballard	N	N		Reference
Noturus eleutherus	Mountain Madtom	Actinopterygii	Ballard	N	N		Reference
Noturus gyrinus	Tadpole Madtom	Actinopterygii	Ballard	N	N		Reference
Noturus nocturnus	Freckled Madtom	Actinopterygii	Ballard	N	N		Reference
Noturus stigmosus	Northern Madtom	Actinopterygii	Ballard	N	S	Yes	Reference
Opsopoeodus emiliae	Pugnose Minnow	Actinopterygii	Ballard	N	N	Yes	Reference
Percina caprodes	Logperch	Actinopterygii	Ballard	N	N		Reference
Percina maculata	Blackside Darter	Actinopterygii	Ballard	N	N		Reference
Percina sciera	Dusky Darter	Actinopterygii	Ballard	N	N		Reference
Percina shumardi	River Darter	Actinopterygii	Ballard	N	N		Reference
Percina vigil	Saddleback Darter	Actinopterygii	Ballard	N	N		Reference
Phenacobius mirabilis	Suckermouth Minnow	Actinopterygii	Ballard	N	N		Reference
Pimephales notatus	Bluntnose Minnow	Actinopterygii	Ballard	N	N		Reference
Pimephales promelas	Fathead Minnow	Actinopterygii	Ballard	N	N		Reference

Pimephales vigilax	Bullhead Minnow	Actinopterygii	Ballard	N	N		Reference
Platygobio gracilis	Flathead Chub	Actinopterygii	Ballard	N	S	Yes	Reference
Polyodon spathula	Paddlefish	Actinopterygii	Ballard	N	N	Yes	Reference
Pomoxis annularis	White Crappie	Actinopterygii	Ballard	N	N		Reference
Pomoxis nigromaculatus	Black Crappie	Actinopterygii	Ballard	N	N		Reference
Pylodictis olivaris	Flathead Catfish	Actinopterygii	Ballard	N	N		Referenc
Scaphirhynchus albus	Pallid Sturgeon	Actinopterygii	Ballard	E	Е	Yes	Referenc
Scaphirhynchus platorynchus	Shovelnose Sturgeon	Actinopterygii	Ballard	T(S/A)	N		Referenc
Semotilus atromaculatus	Creek Chub	Actinopterygii	Ballard	N	N		Referenc
Sander canadensis	Sauger	Actinopterygii	Ballard	N	N		Referenc
Sander vitreus	Walleye	Actinopterygii	Ballard	N	N		Referenc
Strongylura marina	Atlantic Needlefish	Actinopterygii	Ballard	N	N		Referenc
Acris crepitans	Eastern Cricket Frog	Amphibia	Ballard	N	N		Reference
Ambystoma maculatum	Spotted Salamander	Amphibia	Ballard	N	N		Referenc
Ambystoma texanum	Small-mouthed Salamander	Amphibia	Ballard	N	N		Referenc
Ambystoma tigrinum	Eastern Tiger Salamander	Amphibia	Ballard	N	N		Referenc
Amphiuma tridactylum	Three-toed Amphiuma	Amphibia	Ballard	N	Е	Yes	Reference
Anaxyrus americanus	American Toad	Amphibia	Ballard	N	N		Reference
Anaxyrus fowleri	Fowler's Toad	Amphibia	Ballard	N	N		Reference
Desmognathus conanti	Spotted Dusky Salamander	Amphibia	Ballard	N	N	Yes	Reference
Eurycea longicauda	Long-tailed Salamander	Amphibia	Ballard	N	N		Reference

Gastrophryne carolinensis	Eastern Narrow-mouthed Toad	Amphibia	Ballard	N	N		Reference
Hyla avivoca	Bird-voiced Treefrog	Amphibia	Ballard	N	N	Yes	Reference
Hyla chrysoscelis	Cope's Gray Treefrog	Amphibia	Ballard	N	N		Reference
Hyla cinerea	Green Treefrog	Amphibia	Ballard	N	N		Reference
Lithobates areolatus circulosus	Northern Crawfish Frog	Amphibia	Ballard	N	S	Yes	Reference
Lithobates catesbeianus	American Bullfrog	Amphibia	Ballard	N	N		Reference
Lithobates clamitans	Green Frog	Amphibia	Ballard	N	N		Reference
Lithobates sphenocephalus	Southern Leopard Frog	Amphibia	Ballard	N	N		Reference
Notophthalmus viridescens	Eastern Newt	Amphibia	Ballard	N	N		Reference
Plethodon mississippi	Mississippi Slimy Salamander	Amphibia	Ballard	N	N	Yes	Reference
Pseudacris crucifer	Spring Peeper	Amphibia	Ballard	N	N		Reference
Pseudacris feriarum	Upland Chorus Frog	Amphibia	Ballard	N	N		Reference
Siren intermedia	Lesser Siren	Amphibia	Ballard	N	N	Yes	Reference
Accipiter cooperii	Cooper's Hawk	Aves	Ballard	N	N		Reference
Accipiter striatus	Sharp-shinned Hawk	Aves	Ballard	N	S	Yes	Reference
Actitis macularius	Spotted Sandpiper	Aves	Ballard	N	E	Yes	Reference
Agelaius phoeniceus	Red-winged Blackbird	Aves	Ballard	N	N		Reference
Aix sponsa	Wood Duck	Aves	Ballard	N	N		Reference
Ammodramus savannarum	Grasshopper Sparrow	Aves	Ballard	N	N	Yes	Reference
Ammospiza leconteii	LeConte's Sparrow	Aves	Ballard	N	N		Reference

Anas acuta	Northern Pintail	Aves	Ballard	N	N		Reference
Anas crecca	Green-winged Teal	Aves	Ballard	N	N		Reference
Anas platyrhynchos	Mallard	Aves	Ballard	N	N		Reference
Anas rubripes	American Black Duck	Aves	Ballard	N	N	Yes	Reference
Anser albifrons	Greater White-fronted Goose	Aves	Ballard	N	N		Reference
Anser caerulescens	Snow Goose	Aves	Ballard	N	N		Reference
Anser rossii	Ross's Goose	Aves	Ballard	N	N		Reference
Anthus rubescens	American Pipit	Aves	Ballard	N	N		Reference
Aquila chrysaetos	Golden Eagle	Aves	Ballard	N	N		Reference
Archilochus colubris	Ruby-throated Hummingbird	Aves	Ballard	N	N		Reference
Ardea alba	Great Egret	Aves	Ballard	N	Т	Yes	Reference
Ardea herodias	Great Blue Heron	Aves	Ballard	N	N		Reference
Aythya affinis	Lesser Scaup	Aves	Ballard	N	N	Yes	Reference
Aythya americana	Redhead	Aves	Ballard	N	N		Reference
Aythya collaris	Ring-necked Duck	Aves	Ballard	N	N		Reference
Aythya marila	Greater Scaup	Aves	Ballard	N	N	Yes	Reference
Aythya valisineria	Canvasback	Aves	Ballard	N	N		Reference
Baeolophus bicolor	Tufted Titmouse	Aves	Ballard	N	N		Reference
Bartramia longicauda	Upland Sandpiper	Aves	Ballard	N	Н	Yes	Reference
Bombycilla cedrorum	Cedar Waxwing	Aves	Ballard	N	N		Reference
Botaurus lentiginosus	American Bittern	Aves	Ballard	N	Н	Yes	Reference

Branta canadensis	Canada Goose	Aves	Ballard	N	N		Reference
Branta hutchinsii	Cackling Goose	Aves	Ballard	N	N		Reference
Bubo virginianus	Great Horned Owl	Aves	Ballard	N	N		Reference
Bubulcus ibis	Cattle Egret	Aves	Ballard	N	S		Reference
Bucephala albeola	Bufflehead	Aves	Ballard	N	N		Reference
Bucephala clangula	Common Goldeneye	Aves	Ballard	N	N		Reference
Buteo jamaicensis	Red-tailed Hawk	Aves	Ballard	N	N		Reference
Buteo lagopus	Rough-legged Hawk	Aves	Ballard	N	N		Reference
Buteo lineatus	Red-shouldered Hawk	Aves	Ballard	N	N		Reference
Buteo platypterus	Broad-winged Hawk	Aves	Ballard	N	N		Reference
Butorides virescens	Green Heron	Aves	Ballard	N	N	Yes	Reference
Calcarius Iapponicus	Lapland Longspur	Aves	Ballard	N	N		Reference
Calidris alba	Sanderling	Aves	Ballard	N	N	Yes	Reference
Calidris alpina	Dunlin	Aves	Ballard	N	N	Yes	Reference
Calidris bairdii	Baird's Sandpiper	Aves	Ballard	N	N		Reference
Calidris fuscicollis	White-rumped Sandpiper	Aves	Ballard	N	N		Reference
Calidris himantopus	Stilt Sandpiper	Aves	Ballard	N	N	Yes	Reference
Calidris mauri	Western Sandpiper	Aves	Ballard	N	N		Reference
Calidris melanotos	Pectoral Sandpiper	Aves	Ballard	N	N		Reference
Calidris minutilla	Least Sandpiper	Aves	Ballard	N	N		Reference
Calidris pusilla	Semipalmated Sandpiper	Aves	Ballard	N	N	Yes	Reference

Calidris subruficollis	Buff-breasted Sandpiper	Aves	Ballard	N	N	Yes	Reference
Cardinalis cardinalis	Northern Cardinal	Aves	Ballard	N	N		Reference
Cathartes aura	Turkey Vulture	Aves	Ballard	N	N		Reference
Catharus guttatus	Hermit Thrush	Aves	Ballard	N	N		Reference
Catharus ustulatus	Swainson's Thrush	Aves	Ballard	N	N		Reference
Certhia americana	Brown Creeper	Aves	Ballard	N	Т		Reference
Chaetura pelagica	Chimney Swift	Aves	Ballard	N	N		Reference
Charadrius semipalmatus	Semipalmated Plover	Aves	Ballard	N	N		Reference
Charadrius vociferus	Killdeer	Aves	Ballard	N	N		Reference
Chlidonias niger	Black Tern	Aves	Ballard	N	N	Yes	Reference
Chondestes grammacus	Lark Sparrow	Aves	Ballard	N	S		Reference
Chordeiles minor	Common Nighthawk	Aves	Ballard	N	N		Reference
Chroicocephalus philadelphia	Bonaparte's Gull	Aves	Ballard	N	N		Reference
Circus hudsonius	Northern Harrier	Aves	Ballard	N	Т	Yes	Reference
Cistothorus palustris	Marsh Wren	Aves	Ballard	N	N		Reference
Cistothorus stellaris	Sedge Wren	Aves	Ballard	N	S	Yes	Reference
Coccothraustes vespertinus	Evening Grosbeak	Aves	Ballard	N	N		Reference
Coccyzus americanus	Yellow-billed Cuckoo	Aves	Ballard	N	N	Yes	Reference
Coccyzus erythropthalmus	Black-billed Cuckoo	Aves	Ballard	N	N		Reference
Colaptes auratus	Northern Flicker	Aves	Ballard	N	N		Reference
Colinus virginianus	Northern Bobwhite	Aves	Ballard	N	N	Yes	Reference

Columba livia	Rock Pigeon	Aves	Ballard	N	N		Reference
Contopus cooperi	Olive-sided Flycatcher	Aves	Ballard	N	N		Reference
Contopus virens	Eastern Wood-Pewee	Aves	Ballard	N	N		Reference
Coragyps atratus	Black Vulture	Aves	Ballard	N	N		Reference
Corvus brachyrhynchos	American Crow	Aves	Ballard	N	N		Reference
Corvus ossifragus	Fish Crow	Aves	Ballard	N	S		Reference
Cyanocitta cristata	Blue Jay	Aves	Ballard	N	N		Reference
Cygnus olor	Mute Swan	Aves	Ballard	N	N		Reference
Dolichonyx oryzivorus	Bobolink	Aves	Ballard	N	S	Yes	Reference
Dryobates pubescens	Downy Woodpecker	Aves	Ballard	N	N		Reference
Dryobates villosus	Hairy Woodpecker	Aves	Ballard	N	N		Reference
Dryocopus pileatus	Pileated Woodpecker	Aves	Ballard	N	N		Reference
Dumetella carolinensis	Gray Catbird	Aves	Ballard	N	N		Reference
Egretta caerulea	Little Blue Heron	Aves	Ballard	N	E		Reference
Egretta thula	Snowy Egret	Aves	Ballard	N	E		Reference
Egretta tricolor	Tricolored Heron	Aves	Ballard	N	N		Reference
Empidonax alnorum	Alder Flycatcher	Aves	Ballard	N	N		Reference
Empidonax flaviventris	Yellow-bellied Flycatcher	Aves	Ballard	N	N		Reference
Empidonax minimus	Least Flycatcher	Aves	Ballard	N	E	Yes	Reference
Empidonax traillii	Willow Flycatcher	Aves	Ballard	N	N	Yes	Reference
Empidonax virescens	Acadian Flycatcher	Aves	Ballard	N	N		Reference

Eremophila alpestris	Horned Lark	Aves	Ballard	N	N		Reference
Eudocimus albus	White Ibis	Aves	Ballard	N	N		Reference
Euphagus carolinus	Rusty Blackbird	Aves	Ballard	N	N	Yes	Reference
Euphagus cyanocephalus	Brewer's Blackbird	Aves	Ballard	N	N		Reference
Falco columbarius	Merlin	Aves	Ballard	N	N		Reference
Falco peregrinus	Peregrine Falcon	Aves	Ballard	N	E	Yes	Reference
Falco sparverius	American Kestrel	Aves	Ballard	N	N	Yes	Reference
Fulica americana	American Coot	Aves	Ballard	N	E		Reference
Gallinago delicata	Wilson's Snipe	Aves	Ballard	N	N	Yes	Reference
Gallinula galeata	Common Gallinule	Aves	Ballard	N	Т	Yes	Reference
Geothlypis formosa	Kentucky Warbler	Aves	Ballard	N	N	Yes	Reference
Geothlypis trichas	Common Yellowthroat	Aves	Ballard	N	N		Reference
Haemorhous mexicanus	House Finch	Aves	Ballard	N	N		Reference
Haemorhous purpureus	Purple Finch	Aves	Ballard	N	N		Reference
Haliaeetus leucocephalus	Bald Eagle	Aves	Ballard	N	S	Yes	Reference
Himantopus mexicanus	Black-necked Stilt	Aves	Ballard	N	N		Reference
Hirundo rustica	Barn Swallow	Aves	Ballard	N	N		Reference
Hydroprogne caspia	Caspian Tern	Aves	Ballard	N	N		Reference
Hylocichla mustelina	Wood Thrush	Aves	Ballard	N	N	Yes	Reference
Icteria virens	Yellow-breasted Chat	Aves	Ballard	N	N		Reference
Icterus galbula	Baltimore Oriole	Aves	Ballard	N	N		Reference

Icterus spurius	Orchard Oriole	Aves	Ballard	N	N		Reference
Ictinia mississippiensis	Mississippi Kite	Aves	Ballard	N	S		Reference
lxobrychus exilis	Least Bittern	Aves	Ballard	N	Т	Yes	Reference
Junco hyemalis	Dark-eyed Junco	Aves	Ballard	N	S		Reference
Lanius ludovicianus	Loggerhead Shrike	Aves	Ballard	N	S	Yes	Reference
Larus delawarensis	Ring-billed Gull	Aves	Ballard	N	N		Reference
Larus fuscus	Lesser Black-backed Gull	Aves	Ballard	N	N		Reference
Leiothlypis ruficapilla	Nashville Warbler	Aves	Ballard	N	N		Reference
Leucophaeus atricilla	Laughing Gull	Aves	Ballard	N	N		Reference
Limnodromus griseus	Short-billed Dowitcher	Aves	Ballard	N	N	Yes	Reference
Limnodromus scolopaceus	Long-billed Dowitcher	Aves	Ballard	N	N		Reference
Limnothlypis swainsonii	Swainson's Warbler	Aves	Ballard	N	N	Yes	Reference
Limosa fedoa	Marbled Godwit	Aves	Ballard	N	N		Reference
Limosa haemastica	Hudsonian Godwit	Aves	Ballard	N	N		Reference
Lophodytes cucullatus	Hooded Merganser	Aves	Ballard	N	Т	Yes	Reference
Mareca americana	American Wigeon	Aves	Ballard	N	N		Reference
Mareca strepera	Gadwall	Aves	Ballard	N	N		Reference
Megaceryle alcyon	Belted Kingfisher	Aves	Ballard	N	N		Reference
Megascops asio	Eastern Screech-Owl	Aves	Ballard	N	N		Reference
Melanerpes carolinus	Red-bellied Woodpecker	Aves	Ballard	N	N		Reference
Melanerpes erythrocephalus	Red-headed Woodpecker	Aves	Ballard	N	N	Yes	Reference

Melanitta americana	Black Scoter	Aves	Ballard	N	N		Reference
Meleagris gallopavo	Wild Turkey	Aves	Ballard	N	N		Reference
Melospiza georgiana	Swamp Sparrow	Aves	Ballard	N	N		Reference
Melospiza melodia	Song Sparrow	Aves	Ballard	N	N		Reference
Mimus polyglottos	Northern Mockingbird	Aves	Ballard	N	N		Reference
Molothrus ater	Brown-headed Cowbird	Aves	Ballard	N	N		Reference
Myiarchus crinitus	Great Crested Flycatcher	Aves	Ballard	N	N		Reference
Numenius phaeopus	Whimbrel	Aves	Ballard	N	N		Reference
Nyctanassa violacea	Yellow-crowned Night-heron	Aves	Ballard	N	Т	Yes	Reference
Nycticorax nycticorax	Black-crowned Night-heron	Aves	Ballard	N	Т	Yes	Reference
Oxyura jamaicensis	Ruddy Duck	Aves	Ballard	N	N		Reference
Pandion haliaetus	Osprey	Aves	Ballard	N	S	Yes	Reference
Parkesia motacilla	Louisiana Waterthrush	Aves	Ballard	N	N	Yes	Reference
Parkesia noveboracensis	Northern Waterthrush	Aves	Ballard	N	N		Reference
Passer domesticus	House Sparrow	Aves	Ballard	N	N		Reference
Passerculus sandwichensis	Savannah Sparrow	Aves	Ballard	N	S	Yes	Reference
Passerella iliaca	Fox Sparrow	Aves	Ballard	N	N		Reference
Passerina caerulea	Blue Grosbeak	Aves	Ballard	N	N		Reference
Passerina cyanea	Indigo Bunting	Aves	Ballard	N	N		Reference
Pelecanus erythrorhynchos	American White Pelican	Aves	Ballard	N	N		Reference
Petrochelidon pyrrhonota	Cliff Swallow	Aves	Ballard	N	N		Reference

Phalacrocorax auritus	Double-crested Cormorant	Aves	Ballard	N	S		Reference
Phalaropus tricolor	Wilson's Phalarope	Aves	Ballard	N	N	Yes	Reference
Pheucticus ludovicianus	Rose-breasted Grosbeak	Aves	Ballard	N	S		Reference
Pipilo erythrophthalmus	Eastern Towhee	Aves	Ballard	N	N		Reference
Piranga olivacea	Scarlet Tanager	Aves	Ballard	N	N		Reference
Piranga rubra	Summer Tanager	Aves	Ballard	N	N		Reference
Plectrophenax nivalis	Snow Bunting	Aves	Ballard	N	N		Reference
Pluvialis dominica	American Golden-plover	Aves	Ballard	N	N	Yes	Reference
Pluvialis squatarola	Black-bellied Plover	Aves	Ballard	N	N	Yes	Reference
Podilymbus podiceps	Pied-billed Grebe	Aves	Ballard	N	Е	Yes	Reference
Poecile carolinensis	Carolina Chickadee	Aves	Ballard	N	N		Reference
Polioptila caerulea	Blue-gray Gnatcatcher	Aves	Ballard	N	N		Reference
Porzana carolina	Sora	Aves	Ballard	N	N	Yes	Reference
Progne subis	Purple Martin	Aves	Ballard	N	N		Reference
Protonotaria citrea	Prothonotary Warbler	Aves	Ballard	N	N	Yes	Reference
Quiscalus quiscula	Common Grackle	Aves	Ballard	N	N		Reference
Regulus calendula	Ruby-crowned Kinglet	Aves	Ballard	N	N		Reference
Regulus satrapa	Golden-crowned Kinglet	Aves	Ballard	N	N		Reference
Riparia riparia	Bank Swallow	Aves	Ballard	N	S	Yes	Reference
Sayornis phoebe	Eastern Phoebe	Aves	Ballard	N	N		Reference
Scolopax minor	American Woodcock	Aves	Ballard	N	N	Yes	Reference

Seiurus aurocapilla	Ovenbird	Aves	Ballard	N	N		Reference
Setophaga americana	Northern Parula	Aves	Ballard	N	N		Reference
Setophaga cerulea	Cerulean Warbler	Aves	Ballard	N	N	Yes	Reference
Setophaga citrina	Hooded Warbler	Aves	Ballard	N	N		Reference
Setophaga coronata	Yellow-rumped Warbler	Aves	Ballard	N	N		Reference
Setophaga discolor	Prairie Warbler	Aves	Ballard	N	N	Yes	Reference
Setophaga dominica	Yellow-throated Warbler	Aves	Ballard	N	N		Reference
Setophaga palmarum	Palm Warbler	Aves	Ballard	N	N		Reference
Setophaga petechia	Yellow Warbler	Aves	Ballard	N	N		Reference
Setophaga ruticilla	American Redstart	Aves	Ballard	N	N		Reference
Sialia sialis	Eastern Bluebird	Aves	Ballard	N	N		Reference
Sitta carolinensis	White-breasted Nuthatch	Aves	Ballard	N	N		Reference
Spatula clypeata	Northern Shoveler	Aves	Ballard	N	E		Reference
Spatula discors	Blue-winged Teal	Aves	Ballard	N	Т		Reference
Sphyrapicus varius	Yellow-bellied Sapsucker	Aves	Ballard	N	N		Reference
Spinus pinus	Pine Siskin	Aves	Ballard	N	N		Reference
Spinus tristis	American Goldfinch	Aves	Ballard	N	N		Reference
Spiza americana	Dickcissel	Aves	Ballard	N	N	Yes	Reference
Spizella passerina	Chipping Sparrow	Aves	Ballard	N	N		Reference
Spizella pusilla	Field Sparrow	Aves	Ballard	N	N	Yes	Reference
Spizelloides arborea	American Tree Sparrow	Aves	Ballard	N	N		Reference

Stelgidopteryx serripennis	Northern Rough-winged Swallow	Aves	Ballard	N	N		Reference
Sterna forsteri	Forster's Tern	Aves	Ballard	N	N		Reference
Sternula antillarum athalassos	Interior Least Tern	Aves	Ballard	N	E	Yes	Reference
Streptopelia decaocto	Eurasian Collared-dove	Aves	Ballard	N	N		Reference
Strix varia	Barred Owl	Aves	Ballard	N	N		Reference
Sturnella magna	Eastern Meadowlark	Aves	Ballard	N	N	Yes	Reference
Sturnella neglecta	Western Meadowlark	Aves	Ballard	N	N		Reference
Sturnus vulgaris	European Starling	Aves	Ballard	N	N		Reference
Tachycineta bicolor	Tree Swallow	Aves	Ballard	N	N		Reference
Thryothorus ludovicianus	Carolina Wren	Aves	Ballard	N	N		Reference
Toxostoma rufum	Brown Thrasher	Aves	Ballard	N	N		Reference
Tringa flavipes	Lesser Yellowlegs	Aves	Ballard	N	N	Yes	Reference
Tringa melanoleuca	Greater Yellowlegs	Aves	Ballard	N	N		Reference
Tringa semipalmata	Willet	Aves	Ballard	N	N		Reference
Tringa solitaria	Solitary Sandpiper	Aves	Ballard	N	N	Yes	Reference
Troglodytes aedon	House Wren	Aves	Ballard	N	N		Reference
Troglodytes hiemalis	Winter Wren	Aves	Ballard	N	N		Reference
Turdus migratorius	American Robin	Aves	Ballard	N	N		Reference
Tyrannus forficatus	Scissor-tailed Flycatcher	Aves	Ballard	N	N		Reference
Tyrannus tyrannus	Eastern Kingbird	Aves	Ballard	N	N		Reference

Tyto alba	Barn Owl	Aves	Ballard	N	S	Yes	Reference
Vermivora cyanoptera	Blue-winged Warbler	Aves	Ballard	N	N	Yes	Reference
Vireo flavifrons	Yellow-throated Vireo	Aves	Ballard	N	N		Reference
Vireo gilvus	Warbling Vireo	Aves	Ballard	N	N		Reference
Vireo griseus	White-eyed Vireo	Aves	Ballard	N	N		Reference
Vireo olivaceus	Red-eyed Vireo	Aves	Ballard	N	N		Reference
Zenaida macroura	Mourning Dove	Aves	Ballard	N	N		Reference
Zonotrichia albicollis	White-throated Sparrow	Aves	Ballard	N	N		Reference
Zonotrichia leucophrys	White-crowned Sparrow	Aves	Ballard	N	N		Reference
Zonotrichia querula	Harris's Sparrow	Aves	Ballard	N	N		Reference
Actinonaias ligamentina	Mucket	Bivalvia	Ballard	N	N		Reference
Amblema plicata	Threeridge	Bivalvia	Ballard	N	N		Reference
Arcidens confragosus	Rock Pocketbook	Bivalvia	Ballard	N	N		Reference
Corbicula fluminea	Asiatic Clam	Bivalvia	Ballard	N	N		Reference
Cyclonaias nodulata	Wartyback	Bivalvia	Ballard	N	N		Reference
Cyclonaias pustulosa	Pimpleback	Bivalvia	Ballard	N	N		Reference
Cyclonaias tuberculata	Purple Wartyback	Bivalvia	Ballard	N	N		Reference
Dreissena polymorpha	Zebra Mussel	Bivalvia	Ballard	N	N		Reference
Ellipsaria lineolata	Butterfly	Bivalvia	Ballard	N	N	Yes	Reference
Elliptio crassidens	Elephantear	Bivalvia	Ballard	N	S	Yes	Reference
Eurynia dilatata	Spike	Bivalvia	Ballard	N	N		Reference

Fusconaia flava	Wabash Pigtoe	Bivalvia	Ballard	N	N		Reference
Fusconaia subrotunda	Longsolid	Bivalvia	Ballard	Т	Т	Yes	Reference
Lampsilis cardium	Plain Pocketbook	Bivalvia	Ballard	N	N		Reference
Lampsilis ovata	Pocketbook	Bivalvia	Ballard	N	Е	Yes	Reference
Lampsilis teres	Yellow Sandshell	Bivalvia	Ballard	N	N		Reference
Lasmigona complanata	White Heelsplitter	Bivalvia	Ballard	N	N		Reference
Leptodea fragilis	Fragile Papershell	Bivalvia	Ballard	N	N		Reference
Ligumia recta	Black Sandshell	Bivalvia	Ballard	N	S	Yes	Reference
Megalonaias nervosa	Washboard	Bivalvia	Ballard	N	N		Reference
Obliquaria reflexa	Threehorn Wartyback	Bivalvia	Ballard	N	N		Reference
Obovaria olivaria	Hickorynut	Bivalvia	Ballard	N	N	Yes	Reference
Obovaria retusa	Ring Pink	Bivalvia	Ballard	E	E	Yes	Reference
Plectomerus dombeyanus	Bankclimber	Bivalvia	Ballard	N	N		Reference
Plethobasus cooperianus	Orangefoot Pimpleback	Bivalvia	Ballard	E	E	Yes	Reference
Plethobasus cyphyus	Sheepnose	Bivalvia	Ballard	E	Е	Yes	Reference
Pleurobema cordatum	Ohio Pigtoe	Bivalvia	Ballard	N	N	Yes	Reference
Pleurobema rubrum	Pyramid Pigtoe	Bivalvia	Ballard	PT	Е	Yes	Reference
Pleurobema sintoxia	Round Pigtoe	Bivalvia	Ballard	N	N		Reference
Potamilus alatus	Pink Heelsplitter	Bivalvia	Ballard	N	N		Reference
Potamilus capax	Fat Pocketbook	Bivalvia	Ballard	E	Т	Yes	Reference
Potamilus ohiensis	Pink Papershell	Bivalvia	Ballard	N	N		Reference

Potamilus purpuratus	Bleufer	Bivalvia	Ballard	N	E	Yes	Reference
Pyganodon grandis	Giant Floater	Bivalvia	Ballard	N	N		Reference
Quadrula quadrula	Mapleleaf	Bivalvia	Ballard	N	N		Reference
Reginaia ebenus	Ebonyshell	Bivalvia	Ballard	N	N		Reference
Strophitus undulatus	Creeper	Bivalvia	Ballard	N	N		Reference
Theliderma cylindrica	Rabbitsfoot	Bivalvia	Ballard	Т	Е	Yes	Reference
Theliderma metanevra	Monkeyface	Bivalvia	Ballard	N	N		Reference
Toxolasma parvum	Lilliput	Bivalvia	Ballard	N	N		Reference
Tritogonia verrucosa	Pistolgrip	Bivalvia	Ballard	N	N		Reference
Truncilla donaciformis	Fawnsfoot	Bivalvia	Ballard	N	N		Reference
Truncilla truncata	Deertoe	Bivalvia	Ballard	N	N		Reference
Apalone mutica mutica	Midland Smooth Softshell	Chelonia	Ballard	N	N	Yes	Reference
Apalone spinifera spinifera	Eastern Spiny Softshell	Chelonia	Ballard	N	N		Reference
Chelydra serpentina	Snapping Turtle	Chelonia	Ballard	N	N		Reference
Chrysemys dorsalis x picta	Southern Painted and Painted Turtle Hybrid	Chelonia	Ballard	N	N		Reference
Chrysemys picta	Painted Turtle	Chelonia	Ballard	N	N		Reference
Graptemys ouachitensis	Ouachita Map Turtle	Chelonia	Ballard	N	N		Reference
Graptemys pseudogeographica kohnii	Mississippi Map Turtle	Chelonia	Ballard	N	N	Yes	Reference
Graptemys pseudogeographica pseudogeographica	Northern False Map Turtle	Chelonia	Ballard	N	N	Yes	Reference

Kinosternon subrubrum	Eastern Mud Turtle	Chelonia	Ballard	N	N	Yes	Reference
Macrochelys temminckii	Alligator Snapping Turtle	Chelonia	Ballard	PT	E	Yes	Reference
Pseudemys concinna	River Cooter	Chelonia	Ballard	N	N		Reference
Sternotherus odoratus	Eastern Musk Turtle	Chelonia	Ballard	N	N		Reference
Terrapene carolina	Eastern Box Turtle	Chelonia	Ballard	N	N		Reference
Trachemys scripta elegans	Red-eared Slider	Chelonia	Ballard	N	N		Reference
Campeloma decisum	Pointed Campeloma	Gastropoda	Ballard	N	N		Reference
Deroceras laeve	Meadow Slug	Gastropoda	Ballard	N	N		Reference
Lithasia armigera	Armored Rocksnail	Gastropoda	Ballard	N	S	Yes	Reference
Lithasia verrucosa	Varicose Rocksnail	Gastropoda	Ballard	N	S	Yes	Reference
Planorbella trivolvis	Marsh Rams-horn	Gastropoda	Ballard	N	N		Reference
Webbhelix multilineata	Striped Whitelip	Gastropoda	Ballard	N	Т		Reference
Amphiagrion saucium	Eastern Red Damsel	Insecta	Ballard	N	E	Yes	Reference
Celithemis verna	Double-ringed Pennant	Insecta	Ballard	N	E	Yes	Reference
Papaipema sp. 5	Rare Cane Borer Moth	Insecta	Ballard	N	Т	Yes	Reference
Cambarellus shufeldtii	Cajun Dwarf Crayfish	Malacostraca	Ballard	N	S	Yes	Reference
Creaserinus fodiens	Digger Crayfish	Malacostraca	Ballard	N	N	Yes	Reference
Faxonius immunis	Calico Crayfish	Malacostraca	Ballard	N	N		Reference
Faxonius lancifer	Shrimp Crayfish	Malacostraca	Ballard	N	E	Yes	Reference
Faxonius palmeri palmeri	Gray-speckled Crayfish	Malacostraca	Ballard	N	E	Yes	Reference

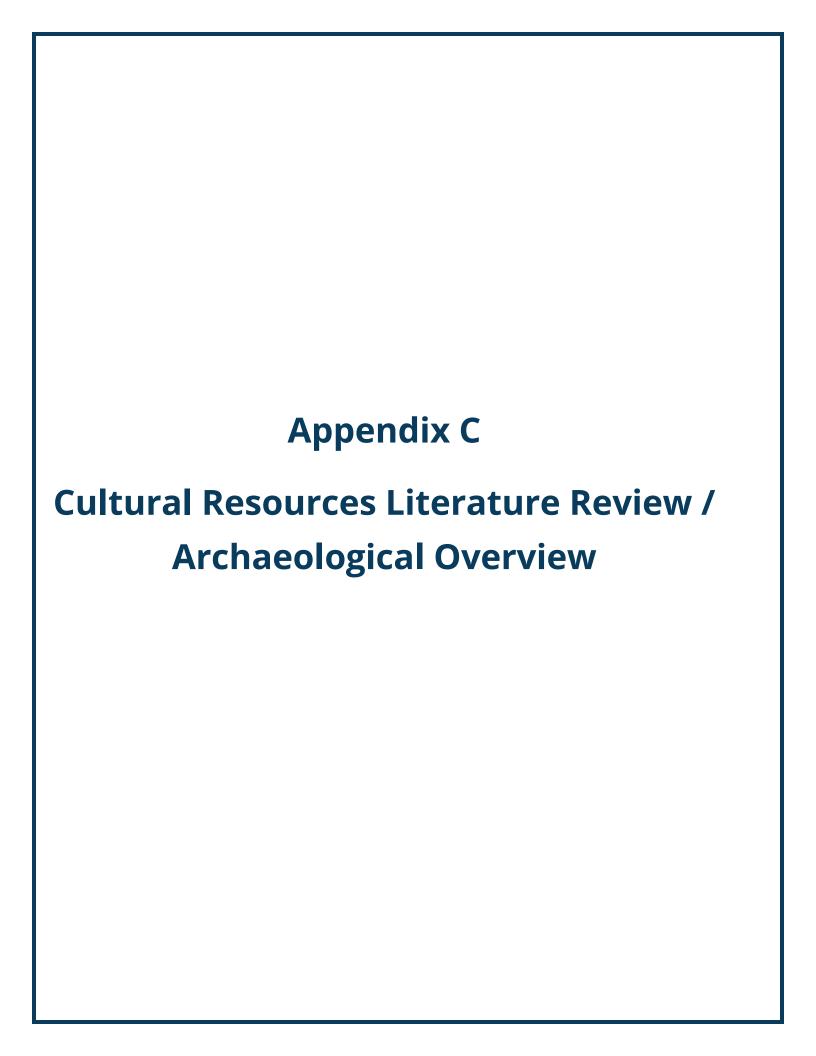
Hyalella azteca	No Common Name (Hyalella azteca)	Malacostraca	Ballard	N	N		Reference
Lacunicambarus chimera	Crawzilla Crawdad	Malacostraca	Ballard	N	S	Yes	Reference
Palaemonetes kadiakensis	Mississippi Grass Shrimp	Malacostraca	Ballard	N	N		Reference
Procambarus acutus	White River Crawfish	Malacostraca	Ballard	N	N		Reference
Procambarus clarkii	Red Swamp Crawfish	Malacostraca	Ballard	N	N		Reference
Procambarus viaeviridis	Vernal Crayfish	Malacostraca	Ballard	N	Т	Yes	Reference
Blarina carolinensis	Southern Short-tailed Shrew	Mammalia	Ballard	N	N		Reference
Canis latrans	Coyote	Mammalia	Ballard	N	N		Reference
Castor canadensis	American Beaver	Mammalia	Ballard	N	N		Reference
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	Mammalia	Ballard	N	S	Yes	Reference
Cryptotis parva	Least Shrew	Mammalia	Ballard	N	N		Reference
Didelphis virginiana	Virginia Opossum	Mammalia	Ballard	N	N		Reference
Eptesicus fuscus	Big Brown Bat	Mammalia	Ballard	N	N		Reference
Glaucomys volans	Southern Flying Squirrel	Mammalia	Ballard	N	N		Reference
Lasiurus borealis	Eastern Red Bat	Mammalia	Ballard	N	N		Reference
Lasiurus cinereus	Hoary Bat	Mammalia	Ballard	N	N		Reference
Lontra canadensis	Northern River Otter	Mammalia	Ballard	N	N		Reference
Lynx rufus	Bobcat	Mammalia	Ballard	N	N		Reference
Mephitis mephitis	Striped Skunk	Mammalia	Ballard	N	N		Reference
Microtus ochrogaster	Prairie Vole	Mammalia	Ballard	N	N		Reference

Microtus pennsylvanicus	Meadow Vole	Mammalia	Ballard	N	N		Reference
Myotis austroriparius	Southeastern Myotis	Mammalia	Ballard	N	S	Yes	Reference
Myotis lucifugus	Little Brown Bat	Mammalia	Ballard	N	Т	Yes	Referenc
Myotis septentrionalis	Northern Long-Eared Bat	Mammalia	Ballard	Е	E	Yes	Reference
Myotis sodalis	Indiana Bat	Mammalia	Ballard	Е	E	Yes	Reference
Neovison vison	American Mink	Mammalia	Ballard	N	N		Reference
Nycticeius humeralis	Evening Bat	Mammalia	Ballard	N	N		Reference
Odocoileus virginianus	White-tailed Deer	Mammalia	Ballard	N	N		Reference
Ondatra zibethicus	Muskrat	Mammalia	Ballard	N	N	Yes	Reference
Oryzomys palustris	Marsh Rice Rat	Mammalia	Ballard	N	N	Yes	Referen
Perimyotis subflavus	Tricolored Bat	Mammalia	Ballard	PE	Т	Yes	Referen
Peromyscus gossypinus	Cotton Mouse	Mammalia	Ballard	N	Т	Yes	Referen
Peromyscus leucopus	White-footed Mouse	Mammalia	Ballard	N	N		Referen
Procyon lotor	Northern Raccoon	Mammalia	Ballard	N	N		Referen
Scalopus aquaticus	Eastern Mole	Mammalia	Ballard	N	N		Referen
Sorex longirostris	Southeastern Shrew	Mammalia	Ballard	N	N	Yes	Referen
Sylvilagus aquaticus	Swamp Rabbit	Mammalia	Ballard	N	N		Referen
Tamias striatus	Eastern Chipmunk	Mammalia	Ballard	N	N		Referen
Taxidea taxus	American Badger	Mammalia	Ballard	N	N	Yes	Referen
Urocyon cinereoargenteus	Gray Fox	Mammalia	Ballard	N	N	Yes	Referen
Vulpes vulpes	Red Fox	Mammalia	Ballard	N	N		Referen

Zapus hudsonius	Meadow Jumping Mouse	Mammalia	Ballard	N	N		Reference
Ichthyomyzon castaneus	Chestnut Lamprey	Petromyzontida	Ballard	N	S	Yes	Reference
Agkistrodon contortrix	Eastern Copperhead	Reptilia	Ballard	N	N		Reference
Agkistrodon piscivorus	Northern Cottonmouth	Reptilia	Ballard	N	N	Yes	Reference
Aspidoscelis sexlineata	Six-lined Racerunner	Reptilia	Ballard	N	S	Yes	Reference
Carphophis amoenus	Common Wormsnake	Reptilia	Ballard	N	N		Reference
Coluber constrictor	North American Racer	Reptilia	Ballard	N	N		Reference
Diadophis punctatus stictogenys	Mississippi Ringneck Snake	Reptilia	Ballard	N	N		Reference
Farancia abacura reinwardtii	Western Mudsnake	Reptilia	Ballard	N	S	Yes	Reference
Heterodon platirhinos	Eastern Hog-nosed Snake	Reptilia	Ballard	N	N		Reference
Lampropeltis calligaster	Prairie Kingsnake	Reptilia	Ballard	N	N		Reference
Lampropeltis nigra	Eastern Black Kingsnake	Reptilia	Ballard	N	N		Reference
Nerodia erythrogaster	Plain-bellied Watersnake	Reptilia	Ballard	N	N		Reference
Nerodia rhombifer	Diamond-backed Watersnake	Reptilia	Ballard	N	N		Reference
Nerodia sipedon	Common Watersnake	Reptilia	Ballard	N	N		Reference
Opheodrys aestivus	Rough Greensnake	Reptilia	Ballard	N	N		Reference
Pantherophis spiloides	Gray Ratsnake	Reptilia	Ballard	N	N		Reference
Plestiodon fasciatus	Common Five-lined Skink	Reptilia	Ballard	N	N		Reference
Plestiodon laticeps	Broad-headed Skink	Reptilia	Ballard	N	N		Reference
Sceloporus undulatus	Eastern Fence Lizard	Reptilia	Ballard	N	N		Reference

Scincella lateralis	Little Brown Skink	Reptilia	Ballard	N	N		Reference
Storeria dekayi	Dekay's Brownsnake	Reptilia	Ballard	N	N		Reference
Thamnophis proximus proximus	Western Ribbonsnake	Reptilia	Ballard	N	E	Yes	Reference
Thamnophis sirtalis	Common Gartersnake	Reptilia	Ballard	N	N		Reference
Virginia valeriae elegans	Western Earth Snake	Reptilia	Ballard	N	N		Reference

509 species are listed





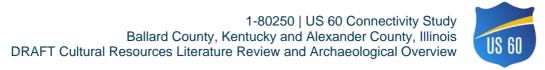
Cultural Resources Literature Review and Archaeological Overview

US 60 Connectivity Study

Item 1-80250

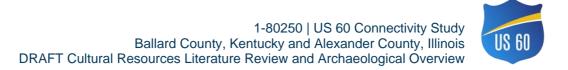






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Introduction

Project Overview

In response to a request from the Kentucky Transportation Cabinet (KYTC), Stantec, Inc. (Stantec) conducted a cultural resources literature review and developed an archaeological overview for the potential US 60 reconstruction planning project in Ballard County, Kentucky and Alexander County, Illinois. KYTC is evaluating the feasibility of constructing a new extension of US 60 from Barlow, Kentucky to north of Cairo, Illinois (Figure 1).

Area of Potential Effect

The area of potential effect (APE) for archaeological resources will be confined to the limits of the planning study. The project includes three primary alternative conceptual alignments: Corridor A, Corridor B, and Corridor C. For the purposes of this overview and for planning consideration, these corridors were buffered by 1,000-feet, providing a 2,000-foot potential project footprint per line. The combination of all three alternative routes are referred to in this report as the project area. The corridors extend from just south of Barlow, Kentucky to just north of Cairo, Illinois, and with a maximum length of approximately 16 kilometers (km) (9.94 miles [mi]). The project area alignments travel through residential neighborhoods, commercial development, agricultural land, and wooded areas. Between Barlow and the Ohio River, the alignments traverse the Boatwright Wildlife Management Area. This area consists of floodplains, sloughs, lakes, ponds, and streams.

Research Methods and Study Area

The purpose of this planning study is to identify previously recorded archaeological sites that could be impacted by one of the three alternatives; provide a review of previous archaeological survey completed within the area; and to use this information to provide an assessment of the potential for the project area to contain yet unrecorded prehistoric and historic archaeological sites. Stantec reviewed records held on file at both the Office of State Archaeology (OSA) and the Illinois Inventory of Archaeological Sites (IAS) to determine the extent of previous survey completed in and around the project area within Ballard County, Kentucky and Alexander County, Illinois.

Background research was conducted in February 2023 at the OSA and IAS. The OSA research focused on a 2.0 km (1.24 mi) study area around the project area. The IAS research focused on a 1.6 km (1 mi) study area of the project area. Stantec gathered information about previously conducted cultural resource investigations and documented archaeological resources, as well as creating an environmental and cultural context of the region to assess the potential for undocumented archaeological sites to be located within the project area. In addition to the records held at OSA and IAS, historic map data was also reviewed for the APE. This historic map review provided information on previous structures, cemeteries, roads, and railroad alignments, all of which are tools for identifying the location of potential historic period archaeological sites.

July 2023 Stantec



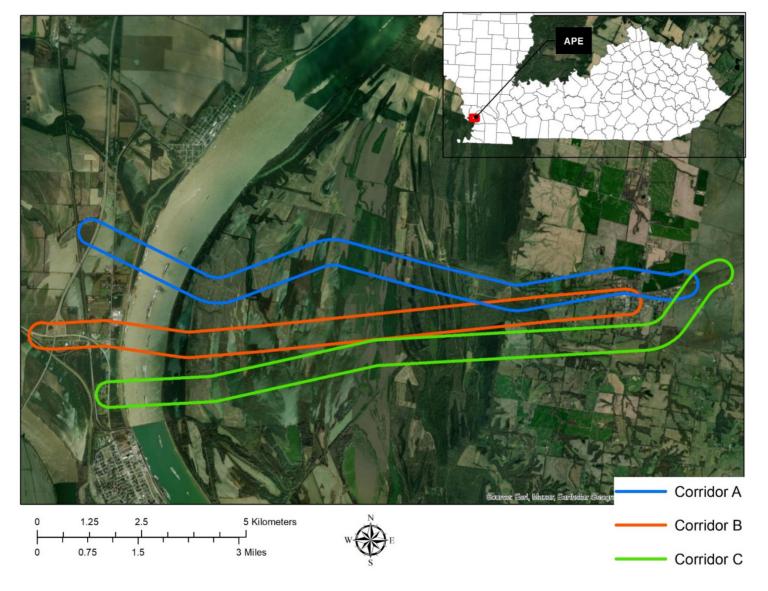


Figure 1. Location of the proposed alignments in Alexander County, Illinois and Ballard County, Kentucky.

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Ballard County, KY Physiography, and Hydrology

The portion of the proposed project area located in Ballard County is within the Four Rivers watershed. Notably, the eastern end of the project area crosses the Ohio River. Encompassing the floodplains of the Ohio River, the project area also crosses the Boatwright Wildlife Management area which consists of several sloughs, creeks, lakes, and ponds. The creeks and sloughs meander throughout the project area, draining into the Ohio River. During current reconnaissance efforts, these areas were flooded (Figure 2). The project area is characterized by level floodplains and gently rolling uplands. Within the project area, the landscape alternates between farmland that is generally used for row crop agriculture and forested lots (Figure 3).



Figure 2. Sloughs and creeks within the Wildlife Management Area at flood levels, facing west.



Figure 3. Upland agricultural surrounded by woodlots is typical within the project area, facing south.

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The project area in Kentucky is located in the Mississippi Embayment physiographic region, also known as the Jackson Purchase. The Mississippi Embayment region is bounded by the Mississippi River, Ohio River, and Tennessee River (now Kentucky Lake) and includes the lowest elevations in the state. This region is characterized by Cretaceous and Tertiary sediments that occur at the surface (KGS 2018; Woods et al. 2002). The Cretaceous, Tertiary, and Quaternary deposits are unconsolidated sediment instead of rock; therefore, readily eroded.

The subsequent surface topography is flat in this part of Kentucky, containing many lakes, ponds, sloughs, and swamps. Wetland data from the Fish and Wildlife Service (FWS) identifies a significant portion of the project area is within identified wetlands (Figure 4). Four types of wetlands are classified within the project area: freshwater forested / shrub wetlands, freshwater emergent wetlands, lakes, and ponds.

Local relief is generally less than 30.5 meters (m) (100 feet [ft]), and the lowest spot in the state at 79.3 m (260 ft) above mean sea level (amsl) is located in this region (KGS 2018). The Upper Mississippi Embayment region is underlain by faults that are part of the New Madrid Fault Zone, which is known to be one of the most active earthquake zones in the Central United States (KGS 2018). The elevations in Ballard County range from 86.9 to 152.4 m (285 to 500 ft) amsl.

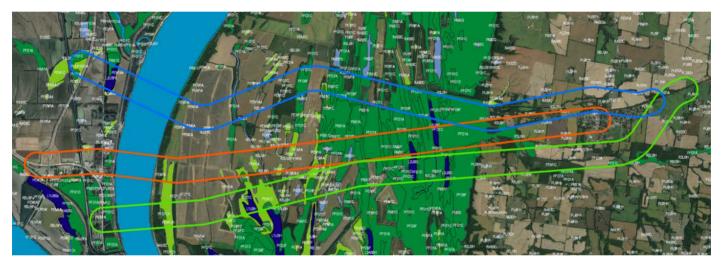


Figure 4. Data from the FWS showing the location of wetlands within the project area.

Alexander County, Illinois Physiography, and Hydrology

The portion of the proposed project area located in Alexander County, Illinois is within the Ohio River Valley watershed. The project area is located in the floodplains of the Ohio River (Figure 5). The Illinois portion of the project area possess minimal topographic relief and is dominated by a number of commercial and residential development.

The Illinois portion of the project is located in the Mississippi Alluvial Plains physiographic region. The region is characterized by the flat terrain of alluvial plains comprised of bottomland swamps and deciduous forests. The Mississippi Alluvial Plains in Illinois encompasses the southernmost tip of the state, extending from just north of Mound city to the confluence of the Mississippi and Ohio Rivers. This region is characterized by unglaciated Quaternary Alluvium with soils that are clay-rich and fertile (Woods et al. 2006). Sloughs and bottomlands were drained for agriculture, though flooding still occurs.





Figure 5. The levee protecting the lowlands from the Ohio River, facing north.

Project Area Soils

A total of 49 soil series were identified within the project area. Of these, 33 were mapped within the Kentucky side and 16 within the Illinois side. Most of these soils are located on floodplains, stream terraces, or ridges. The soils series within the project area are listed in Table 1 (USDA/NRCS 2023).

Table 1. Soils within the Project Area: Ballard County, KY and Alexander, IL

Soil ID	Soil Series	Soil Description	Landform			
Ballard County, I	Ballard County, KY					
CaA	Calloway silt loam	0-2 percent slopes	Flats			
CaB2	Calloway silt loam	2-6 percent slopes, eroded	Ridges			
CnA	Chavies fine sandy loam	0-3 percent slopes, frequently flooded	Stream terraces			
Fa	Falaya-Collins complex	0-2 percent slopes, occasionally flooded	Floodplains, drainageways			
Fc	Falaya-Collins complex	0-2 percent slopes, frequently flooded	Floodplains			
FeB	Feliciana silt loam	2-6 percent slopes	Ridges			
FeD3	Feliciana silt loam	12-20 percent slopes, severely eroded	Divides			
FeE3	Feliciana silt loam	20-30 percent slopes, severely eroded	Divides			
FnE2	Feliciana-Brandon complex	25-45 percent slopes, eroded	Hills			
GrA	Grenada silt loam	0-2 percent slopes	Flats			



Soil ID	Soil Series	Soil Description	Landform
GrB2	Grenada silt loam	2-6 percent slopes, eroded	Ridges
GrB3	Grenada silt loam	4-6 percent slopes, severely eroded	Ridges
GrC3	Grenada silt loam	6-12 percent slopes, severely eroded	Ridges
HhA	Henshaw silt loam	0-2 percent slopes, frequently flooded	Stream terraces
Hm	Huntington-Combs complex	0-2 percent slopes, frequently flooded	Floodplains
Hn	Huntington and Nolin silty clay loams	0-2 percent slopes, frequently flooded	Floodplains
Kn	Karnak silty clay	ponded	Floodplains
KrA	Kurk silt loam	0 to 2 percent slopes	Floodplains
LoB2	Loring silt loam	2-6 percent slopes, eroded	Ridges
LoC3	Loring silt loam	6-12 percent slopes, severely eroded	Ridges
LpD3	Loring-Purchase complex	12-20 percent slopes, severely eroded	Hills
Me	Melvin silty clay loam	0-2 percent slopes, frequently flooded	Floodplains
Mn	Melvin silty clay loam	ponded	Floodplains
Ne	Newark-Lindside complex	0-2 percent slopes, frequently flooded	Floodplains
RtA	Routon silt loam	0-2 percent slopes	Stream terraces
UoA	Uniontown silt loam	0-2 percent slopes, frequently flooded	Stream terraces
uYefA	Yeager fine sand	0-4 percent slopes, frequently flooded	Floodplains
Vb	Vicksburg silt loam	0 to 2 percent slopes, occasionally flooded	Flood plains, drainageways
Wa	Waverly silt loam	0-2 percent slopes, occasionally flooded, brief	Floodplains
We	Waverly silt loam	0 to 2 percent slopes, frequently flooded, brief	Floodplains
WnA	Wheeling silt loam	0-2 percent slopes, frequently flooded	Stream terraces
Alexander Count	y, IL		
801B	Orthents, silty	Undulating	Interfluve, head slope, nose slope, side slope, base slope





Soil ID	Soil Series	Soil Description	Landform
802D	Orthents, loamy	Hilly	None specified
1846A	Karnak and Cape silty clays, undrained	0-2 percent slopes, frequently flooded	Floodplains
1845A	Darwin and Jacob silty clays, undrained	0 to 2 percent slopes, frequently flooded	Floodplains
3449L	Armiesburg-Sarpy complex	0-2 percent slopes, frequently flooded, long duration	Floodplains
3597L	Armiesburg silty clay loam	0-2 percent slopes, frequently flooded, long duration	Floodplains
8071A	Darwin silty clay	0-2 percent slopes, occasionally flooded	Floodplains
8162A	Gorham silty clay loam	0-2 percent slopes, occasionally flooded	Floodplains
8284A	Tice silty clay loam	0-2 percent slopes, occasionally flooded	Floodplains
8422A	Cape silty clay loam	0-2 percent slopes, occasionally flooded	Floodplains
8422A+	Cape silt loam, overwash	0-2 percent slopes, occasionally flooded	Floodplains
8426A	Karnak clay	0-2 percent slopes, occasionally flooded	Floodplains
8452A	Riley silty clay loam	0-2 percent slopes, occasionally flooded	Floodplains
8589A	Bowdre silty clay	0-3 percent slopes, occasionally flooded	Floodplains
8590A	Cairo sitly clay	0-2 percent slopes, occasionally flooded	Floodplains
8597A	Armiesburg silty clay loam	0-2 percent slopes, occasionally flooded	Floodplains



Prehistoric and Historic Contexts Ballard County, Kentucky and Alexander County, Illinois

The Jackson Purchase comprises the portion of western Kentucky between the Tennessee and Mississippi Rivers. This territory was purchased from the Chickasaw Nation by Andrew Jackson in 1818. The Jackson Purchase is the northeastern part of the Mississippi Embayment ecoregion, which includes Alexander County, Illinois located in the Mississippi Alluvial Plains. For this discussion, we include the southern portion of Illinois in this discussion.

The prehistoric occupation of the Jackson Purchase region of Kentucky and the Mississippi Alluvial Plains of Illinois is generally divided into four broad periods: Paleoindian, Archaic, Woodland, and Late prehistoric. The Paleo-Indian period encompasses the cultural remains of the earliest recorded occupations of the region, after about 11,000 B. C., during early postglacial times. The Archaic is identified by archaeologists as the period where more localized seasonal settlement and subsistence patterns replaced the broad seasonal migration patterns of the Paleo-Indian period. Broad exchange patterns, the innovation of ceramic technology, the emergence of cultigens, and an increasing shift toward sedentism generally identify the transition to the Woodland time period. The Mississippian period is marked by continued population growth, large villages, and subsurface storage pits resulting from an increased reliance on maize agriculture. This section will outline each of these broad time periods including smaller divisions within each.

Paleoindian Period (9500-8000 BC)

Paleo-Indians were nomadic groups comprised of small kin-based bands that primarily practiced a foraging subsistence strategy. Current research suggests that these Paleo-Indian bands repetitively moved within a circumscribed geographic range to intercept large herd animals during their migratory cycles (Gramly 1988). Over time, the focus likely shifted from large-scale hunting expeditions to a more regular procurement of game accompanied by a decrease in the overall size of territory exploited by these groups.

Paleo-Indian sites are most easily recognized in the archaeological record by the presence of lanceolate spear points. These points may be fluted (a large flake removed from each side of the base) or unfluted. Early Paleo-Indian projectile points are often made of high-quality materials, usually from a widely dispersed area, which suggest a high level of mobility. Later Paleo-Indian points are more often made from local chert types, which may reflect a reduction in this mobility. To date, no pre-Clovis sites (dating from earlier than 9,500 B.C) have been identified in Kentucky (Maggard and Stackelbeck 2008: 114). Early Paleo-Indian Clovis culture sites (9,500 to 8,800 B.C.) have been documented in Kentucky, which are largely identified through lanceolate "Clovis" points (Maggard and Stackelbeck 2008:115-116). These sites are typically represented by small, ephemeral occupations. The Middle Paleo-Indian sites (9,000 to 8,500 B.C.) exhibit more diverse toolkits, stylistic diversity, and technological changes (Maggard and Stackelbeck 2008:123). The region underwent climactic changes which resulted in environmental instability and the eventual extinction of megafauna (Pollack 2008). The Late Paleo-Indian period (8,500 to 8,000 B.C.) is typically defined by unfluted lanceolate points such as the Dalton and Lanceolate Plano clusters (Maggard and Stackelbeck 2008: 126).

Twenty-eight Paleoindian sites have been documented in the Jackson Purchase region of Kentucky. The majority of these sites were situated in floodplain (n=9) or dissected upland (n=11) settings (Maggard and Stackelbeck 2008:133). Important sites include The Henderson site (15LY27) in Lyon County (Rolingson 1964), Roach Village (15TR10) in Trigg County (Rolingson 1964), and 15CW241 in Calloway County (Kerr and Tuma 1998).

Archaic Period (8000-1000 BC)

Early Archaic (8,000 - 6,000 B.C.)

The Early Archaic time period is often identified in the archaeological record by the transition from large, lanceolate bifaces of Paleo-Indian assemblages, to smaller, notched and bifurcated bifaces. Groundstone tools and other lithic tools such as gravers, scrapers, and notched knives are also observed in the Early Archaic. Local cherts continue to appear in the archaeological record as a common resource. Early Archaic subsistence strategies



continued the focus on large migrating Pleistocene herd animals, but Early Archaic groups also began to exploit more local environmental resources including smaller game animals. Early Archaic artifacts tend to display more diversity in style and function, which also may reflect diversity in resource exploitation. In Kentucky, the retreat of the last Pleistocene glacier prompted the transition from coniferous forests with mixed deciduous forests as well as the Pleistocene fauna being replaced with modern species (Pollack 2008).

Middle Archaic Period (6,000 – 3,000 B.C.)

Archaeologists observe little change between the Early and Middle Archaic periods. The Middle Archaic period is reflected by changes in projectile point and blade types, but these variations are more prominent in southern portions of the United States (Vickery and Litfin 1992). In addition, there is an increase in both formal and informal groundstone tools in the Middle Archaic, many of which were used for plant food processing (Pollack 2008).

Late Archaic Period (3,000 – 1,000 B.C.)

Archaeologists characterize the Late Archaic Period as a period with an increased focus on regional mobility patterns, as well as an increase in resource diversity. Late Archaic groups incorporated plants into a larger part of their subsistence strategy. Late Archaic sites often represent repeated occupation over a long period of time, which suggests a regular, more localized pattern of movement across the landscape. Projectile points and other lithic tools also show an increase in variation. Small side-notched and corner-notched points and side and end scrapers appear frequently in Late Archaic assemblages. Groundstone tools are also increasingly evident. Pottery begins to appear in the transition between the Late Archaic and Early Woodland periods. Grave goods made of non-local material indicate a special treatment of some people, indicating an increased social complexity (Pollack 2008).

A total of 258 Archaic sites have been recorded in the Jackson Purchase in Kentucky: Archaic n=141, early Archaic n=39, Middle Archaic n=30, Late Archaic n=108 (Jefferies 2008:218, Table 4.7). Over 90 percent of these sites are open habitation sites (Jefferies 2008:218, Table 4.7, 4.8), with the majority located in the Ohio Valley and Tennessee Valley Management Sections. Of the Archaic sites recorded in the Jackson Purchase 42 percent "(n=109) are located in floodplain settings. However, they have also been identified in upland settings as well, including terrace (n=42), hillside (n=24), dissected upland (n=72), and undissected upland (n=9) (Jefferies 208:217, Table 4.5). Important Archaic sites in the region include Morrisroe (15LV156) (Nance 1986, 1988), The Lawrence Site (15TR33) (Mocas 1977), Hedden (15McN81), (Rossen 2000), Henderson (16LY47) (Rollingson and Schwartz 1966), Roach Village (15TR10) (Rollingson and Schwartz 1966), and more recently Area C of the Canton Site (15TR1).

Woodland Period (1000 BC- AD 1000)

Populations in the Woodland Period tended to be broad spectrum hunter-gatherers, living in semi-sedentary occupations made up of small groups, likely based on kinship. These occupations were typically located around riverine environments and organized around communal burials. Innovations such as a more intensive reliance on pottery, horticulture as well as the bow and arrow also occur during the Woodland time period.

Early Woodland Period (1,000 – 200 B.C.)

The Early Woodland period marks the transition from the more nomadic Archaic subsistence strategy to a more localized, semi-sedentary subsistence strategy. The defining characteristic of the Early Woodland is the introduction of ceramics into the artifact assemblage (Pollack 2008). Railey(1996:81) notes that the conoidal vessels with narrow, flat bases characteristic of the Early Woodland period in Western Kentucky are part of a broad early ceramic tradition in the southeast. After 600 B.C. for some portions of western Kentucky, ceramics from the Crab Orchard tradition (previously referred to as Baumer) came into use. These ceramics are characterized by relatively thick-walled vessels with cordmarked, fabric impressed, plain, and cord-wrapped dowel impressed exteriors (Applegate 2008:362). Additionally stemmed and notched projectile points become more prominent at this time as well as the use of textiles and twined fabrics (Railey 1996:81).

The Middle Woodland Period (200 B.C. – 500 A.D.)

The Middle Woodland period in western Kentucky is characterized by the persistence of the Crab Orchard tradition (Railey 1996; Applegate 2008). Much of the Material Culture and mound-building associated with the late Early



Woodland and Middle Woodland Adena and Hopewell cultures is also lacking, although the "tuning fork" shaped earthwork at O,Byam's Fort in Fulton County (15FU37, 39-44) may be a similar ritual local as contemporaneous earthworks farther to the east (Railey 1996:101-102). Middle Woodland settlement in this region focused on villages and basecamps located in floodplain settings (Railey 1996:101). Subsistence practices remained focused initially on hunting and gathering, possibly a by-product of the rich food resources that were available (Muller 1986:115-117; Railey 1996:102).

The Late Woodland Period (500 -1,000 A.D.)

The Late Woodland period in the Jackson Purchase began as a continuation of the late Middle Woodland pattern. After A.D. 600, important cultural changes come to the region that Railey (1996:113) describes as the "increased Mississippianization" of the region. Settlements tend to be small, but some sites in the Mississipi Valley in particular had thick midden deposits, indicating relatively intense occupation (Stout 1991; Railey 1996:113). The presence of some large sites with mounds, such as the Rice site (15FU15) may reflect increased hierarchical organization (Railey 1996:113). Ceramic assemblages from this time include funnels, pans, and hooded bottles, and plain and red filmed pottery become more prominent (Kresia 1987; Sussenbach and Lewis 1987:109-110; Railey 1996:113). After A.D. 850-900 maize exploitation becomes a dominant subsistence activity (Railey 1996:113).

In addition to the sites mentioned above, important sites with Woodland occupations in the Jackson Purchase region include: Indian Camp Lake (15CE19) (Sussenbach and Lewis 1987), Sassafras Ridge (15FU3) (Kresia 1987; Lewis 1986), Adams (15FU4) (Lewis 1986), the Reed Site (15McN51) (Hensley-Martin 1982; Tinsley Hill (15LY18) (Nance 1974), Canton (15TR1) (Bradbury 2006; Stout et. al 1996), Roach (15TR10) (Rolingson and Schwartz 1966), Crick (15CW96) (Schenian 1987), and Lawrence (15TR33) (Mocas 1977).

Late Prehistoric Period ca. AD 900-1700

By the Late Prehistoric period, Kentucky was inhabited by at least two distinct cultural groups, Fort Ancient and Mississippian. These cultural groups developed in different locations during the Late Prehistoric period. Northcentral and eastern Kentucky was dominated by the Fort Ancient cultural tradition. The western and southern portions of the state were occupied by people of the roughly coeval Mississippian culture.

Mississippian Period (AD 900-1700)

The Mississippian culture extends from the American Bottom region throughout the southeastern United States. Hallmarks of this cultural system include a hierarchical social and political formation, a subsistence based on cultivation of maize, squash and beans that supplemented hunted and gathered wild resources, and a shared set of symbols and decorative motifs that appear on ceramics and other media (Lewis 1996:127; Pollack 2008b). An additional feature of Mississippian society was the construction of planned towns that often-featured earthen mounds and platforms that were used for residential, mortuary, and ritual purposes, central plazas, and in some cases, defensive structures such as palisades and ditches. These sites often served as political centers administering smaller villages and hamlets in their hinterlands (Pollack 2008b:605). Technologically, Mississippian ceramics featured thin walled, shell-tempered vessels in a variety of forms with plain as well as highly decorated exteriors. Lithics included small, triangular projectile points, as well as a variety of other tools, such as abraders, scrapers, and perforators.

In Western Kentucky, many of the cultural patterns associated with Mississippian culture were in place by the Late Woodland period (Lewis 1996:128). A series of towns was established in the area near the Mississippi, Ohio, Cumberland and Tennessee Rivers. Important sites include Marshall (15CE27) (Sussenbach and Lewis 1987), Turk (16CE6) (Edgings 1985), Wickliffe (15BA4) (Lewis 1986; Wesler 1985), Adams (15FU4) (Lewis 1986). Jonathan Creek (15ML14) (Clay 1963, Schroeder 2005, 2006, 2007), Dedmon (15ML68) (Allen 1976), Tinsley Hill (Clay 1961), Canton (15TR1) (Stout 1991; Stout at al. 1996), Backusburg (15CW64) (Railey 1985) and Chambers (15ML109) (Pollack and Railey 1987). In southern Illinois, the most notable Mississippian mound site is Cahokia (11MS2).



Historic Cultural Setting

Kentucky

Euroamerican exploration of Kentucky began in 1751 when Dr. Thomas Walker and Christopher Gist brought the first surveying parties to the area for the Ohio Land Company; however, the outbreak of the French and Indian War in 1754 caused delay in further exploration for over ten years (Lazzerini 2011). In 1767, Daniel Boone first visited Kentucky; in 1769, he began a two-year exploration of the region. It was not until 1774 that the first permanent settlement in Kentucky, Fort Harrod, was built. It was erected in 1774 by James Harrod at the location of present-day Harrodsburg (HOK 2014).

In 1776, the Virginia counties west of the Appalachians were known as Kentucky County, but it was not long before the residents of the county petitioned to become a separate state. In 1792, Kentucky was admitted as the fifteenth state in the Union. Frankfort was chosen as the state capitol and Isaac Shelby was Kentucky's first governor (Lazzerini 2011). In 1818, the western portion of the state was purchased from the Chickasaw Indians by Isaac Shelby and Andrew Jackson and annexed into the Commonwealth of Kentucky. This was known as the Jackson Purchase (HOK 2014).

The Civil War broke out in 1861 and although Kentucky was officially a neutral state, some of its citizens were loyal to the Union while others supported the Confederacy. Perhaps the most significant example of this conflict is the fact that Kentucky is well known as the birthplace of both President Abraham Lincoln and Confederate president Jefferson Davis (HOK 2014). Throughout the Civil War, men from Kentucky fought for both the Union and Confederacy (HOK 2014). Kentucky's location provided great strategic potential throughout the war, and many important Civil War battles were fought within state borders.

After the Civil War, the economy in Kentucky changed with the advent of burley tobacco farming, which fueled a huge increase in the agricultural economy (HOK 2014). In 1936, the U.S. Treasury Gold Vault was established at Fort Knox, Kentucky. During the Second World War, Kentucky began to shift from a rural, agricultural economy to an industrial economy, and by 1970, there were more urban residents than rural residents. Kentucky is known today for expansive horse farms, a large state park system, and a booming tourism economy (HOK 2014).

Ballard County, KY

The Chickasaw once occupied the region that would become Ballard County. The Chickasaw typically lived in scattered dwellings rather than villages and were based on a matrilineal kinship (Weber 1992: 182). The first European settler likely to encounter the Chickasaw of Kentucky was La Salle, a French explorer who stopped in the area circa 1682. However, it would take another century before white settlement took hold in western Kentucky. In 1780, General George Rogers Clark established Fort Jefferson on executive order from Thomas Jefferson (Weber 1992:345). The fort was built at the mouth of Mayfield Creek, near the confluence of the Ohio and Mississippi Rivers. The Chickasaw, who were allies of the British during the Revolutionary War, attacked the fort under the leadership of Lieutenant James Whitehead (Weber 1992:345). The attack lasted five days and resulted in the abandonment of the fort in 1781. White settlers avoided the area until the Jackson Purchase of 1818.

Ballard County was formed in 1842 from parts of Hickman and McCracken Counties. The county is named for Captain Bland Ballard, a member of the Kentucky General Assembly for Shelby County and veteran of the battles of Fallen Timbers and the River Raisin (Weber 1992:45). Despite being in a region of southern sympathizers, Ballard County was a Union stronghold. General Ulysses S. Grant used Fort Jefferson and the newly constructed Fort Holt as a supply station during the war.

The county seat for Ballard County was Blandville. However, after a fire destroyed the courthouse in 1880, the county seat was moved to Wickliffe. The county economy was largely based on agriculture. Though during the twentieth century, it also prospered from its location along the rivers and the Illinois Central Railroad. In 1954, the Ballard Wildlife Management Area was established, and has since become nationally respected for hunting waterfowl.



Illinois

Prior to white settlement of what is now southern Illinois, the area was populated by the Illini, also known as the Illiniwek Nation or Illinois. The Illini consisted of at least 12 independent tribes that spoke a common language (Hamilton-Brehm 2023). But by 1800, only two tribes remained: the Peoria and Kaskaskia. By 1673, French explorers arrived in the region, naming it Illinois after the people who welcomed them (Hamilton-Brehm 2023). However, the alliance between the French and Illini did not last long. The French began fur-trading in northern Illinois, leading to animosity with the local tribes. As aggression between the native tribes and the French escalated in the north, the French began to establish trading posts in southern Illinois. In 1754, the British and the French began the French and Indian War (or the Seven Years' War), each side supported by various tribes. The British ultimately defeated the French in 1763, resulting in their control the Great Lakes Region (Hamilton-Brehm 2023). In 1775, tensions rose again with the American Revolutionary War. Southern Illinois was host to the Illinois Campaign which featured a militia led by George Rogers Clark and resulted in American control of Illinois, what was then the American West.

Following the end of the Revolutionary War, Illinois was incorporated into the Northwest Territory. Slavery was not permitted in this region; however, laws were set in place that limited the rights of blacks such as limiting property ownership (Hamilton-Brehm 2023). Free slaves were even kidnapped and sold back to slave states. By 1800, the area of Illinois was part of the Indiana Territory but became a separate territory in 1809 and then a free state in 1818 (Hamilton-Brehm 2023). Southern Illinois became a strategic route for the Underground Railroad, helping to assist many enslaved and freed blacks escape the South (Hamilton-Brehm 2023). When the American Civil War began in 1860, many men joined the fight as volunteers for the Union. In 1862, Ulysses S. Grant built Fort Defiance in Cairo.

The economy within southern Illinois was driven largely by coal (Hamilton-Brehm 2023). Both the Wall Street Crash and the Great Depression both negatively impacted the economy with many coal miners losing their jobs and farmers unable to sell crops. As a result, many people left the area in hopes of finding work elsewhere. However, employment began to improve after World War II.

Alexander County, IL

Alexander County was formed from part of Union County in 1819 (Alexander County 2023). The county is named after William M. Alexander, a local physician who would be elected as a representative of the state House. In 1822, Alexander went on to become the Speaker of the Illinois House of Representatives. The county seat was first located in America before moving to Unity in 1833. In 1843, the county seat was moved to Thebes, and then finally to Cairo in 1860 (Britannica 2023). Alexander County was largely settled by white migrants; however, Cairo was settled by African Americans. During the early twentieth century, racial tensions between the white and Black communities were high. White communities used violence and discrimination to keep their Black neighbors from getting jobs and running for political offices (Rennie 2019).

The project area extends into the northern suburbs of Cairo: Cairo Junction and Future City. Cairo was established in 1818 and was named as that location appeared similar to the city in Egypt (Britannica 2023). Due to its location as a free state between two slave states, Cairo was an important part of the Underground Railroad (Hamilton-Brehm 2023). These towns are surrounded by levees and have been significantly impacted by major flooding events. Future City, which was settled in the early 1900s by African Americans, was demolished during the floods in 1912 and 1913.

Background Research: Kentucky

The literature review of the Kentucky portion of the project area was directed towards identifying previously recorded archaeological sites and other cultural resources within 2.0 km (1.24 mi) of the project area. Stantec also examined the region on a larger scale when appropriate. For the literature review the following resources were consulted:

- National Historic Landmark List and National Register of Historic Places;
- Kentucky Office of State Archaeology (OSA) Site files;
- Cultural Resources Management Reports;
- County Histories and Atlas Maps.

The literature review was directed toward identifying previously recorded archaeological sites, cemeteries, and other cultural resources. The Commonwealth of Kentucky's Office of State Archaeology (OSA) GIS database (request processed on 08 February 2023, preliminary review number P61491) information was provided to guide this research. Stantec focused on previously recorded resources within 2 km (1.2 mi) of the project area, but also examined the larger region where appropriate.

Records reviewed from the OSA revealed that nine cultural resource projects have been completed within 2 km (1.24 mi) of the project area (Figure 6). These projects identified 23 archaeological sites within the 2 km (1.24 mi) study area, 10 of which are directly within the project area. One cemetery and two NRHP listed properties were also identified within the project area.

National Historic Landmarks List and NRHP

Research identified two NRHP listed properties located within or adjacent to the 2.0 km (1.24 mi) study area: prehistoric site 15BA2 and the historic Barlow House. Site 15BA2 (NRHP number 90000477), also known as the Nolan Site or Twins Mound Site, is a Late Woodland / Mississippian mound / village. The site is located north of Corridor A, approximately 0.8 km (0.5 mi) to the north. The site is well outside of the project area and would not be negatively impacted.

The Barlow House (NRHP number 91001663) is located on the southwest corner of the South 5th Street and Broadway Street intersection. The house is a Queen-Anne style that dates to 1900. This structure is located within Corridor B, at the eastern end of the alignment.

Kentucky Office of State Archaeology (OSA) Site files

The OSA database indicated a total of 22 archaeological sites located within 2 km (1.24 mi) of the project area (Table 2). Of these sites, 11 are prehistoric sites, one is a historic site, and 10 include both a prehistoric and historic component. The prehistoric sites include components that date to the Archaic (n=1), Woodland (n=2), Early Woodland (n=1), Middle Woodland (n=1), and the Late Woodland / Mississippian period (n=11). An additional 10 sites include a prehistoric component of indeterminate age or cultural affiliation. The majority of the prehistoric components are documented as either open habitations without mounds (n=10) or were undetermined (n=4). The 11 historic components were all documented as historic farms / residences. Seven dated from 1851 to 1950, one from 1851 to 1900, and two from 1901 to 1950. Only one historic component was of indeterminate age. Sites located within the study area are typically identified along floodplains of the Ohio River.

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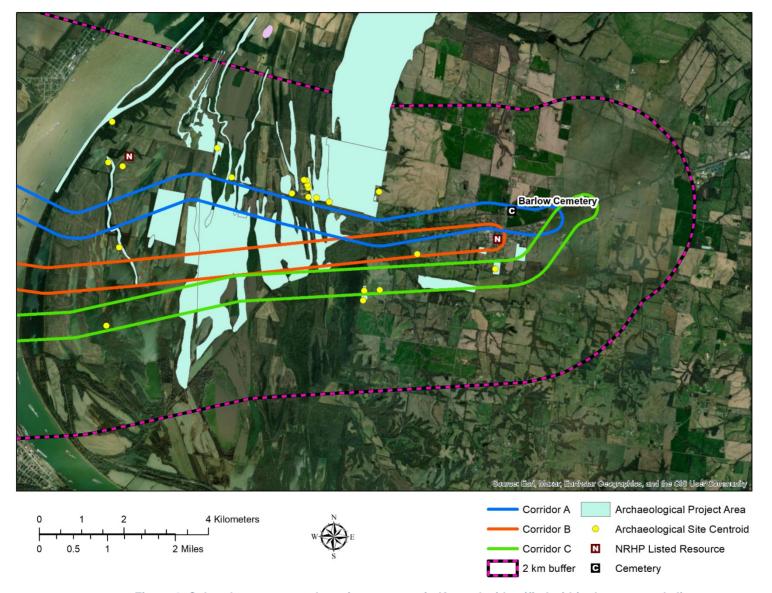


Figure 6. Cultural resources and previous surveys in Kentucky identified within the proposed alignments.

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Over half of the sites (n=12) documented within the study area have not been assessed for NRHP eligibility. Eight sites have been determined ineligible for the NRHP. One site (15BA2) is currently listed on the NRHP. Site 15BA2 (NRHP number 90000477) is a prehistoric site dating to the Late Woodland / Mississippian period. The site is located outside of the project area and would not be affected by the proposed activities. One site (15BA144) was recommended eligible for the NRHP. This multicomponent site consists of Late Woodland / Mississippian component and a historic component that dates from 1901 to 1950. This site is located within the boundaries of Corridor C and would require either avoidance or additional testing to determine NRHP eligibility.

Ten of the previously recorded archaeological sites are located in, or adjacent to, the project area. Four sites (15BA51, 15BA52, 15BA140, and 15BA144) are located within the Corridor C boundary. One site (15BA9) is within the Corridor B boundary. Of these, three sites (15BA9, 15BA51, and 15BA52) within the alternate routes have not been assessed for NRHP eligibility and may need to be revisited. No sites are located within the Corridor A boundary.

Table 2. Archaeological Sites within the Study Area

Site Number	Cultural Affiliation	Site Type	Landform	NRHP Eligibility
15BA2	Prehistoric: Mississippi (Twin Mounds, Nolan Site)	Mound site	floodplain	NRHP property (#90000477)
15BA9*	Prehistoric: Late Prehistoric	open habitation w/o mounds	hillside	Not assessed
15BA14	Prehistoric: Late Woodland / Mississippian	open habitation w/o mounds	floodplain	Not assessed
15BA51**	Prehistoric: Indeterminate; Historic: Indeterminate	open habitation w/o mounds	terrace	Not assessed
15BA52**	Prehistoric: Archaic, Woodland, Late Prehistoric	open habitation w/o mounds	terrace	Not assessed
15BA79	Prehistoric: Indeterminate; Historic: 1901 – 1950 (Barlow House)	historic farm / residence	floodplain	Not Eligible
15BA80	Prehistoric: Indeterminate; Historic: 1851-1900	historic farm / residence	floodplain	Not assessed
15BA87	Prehistoric: Late Woodland; Historic: 1851-1950	historic farm / residence	floodplain	Not assessed
15BA88	Prehistoric: Mississippi; Historic: 1851-1950	historic farm / residence	floodplain	Not assessed
15BA89	Prehistoric: Mississippi; Historic: 1851-1950	historic farm / residence	floodplain	Not assessed
15BA92	Historic: 1851-1950	historic farm / residence	floodplain	Not assessed
15BA101	Prehistoric: Mississippi; Historic: 1851-1950	historic farm / residence	floodplain	Not assessed

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Site Number	Cultural Affiliation	Site Type	Landform	NRHP Eligibility
15BA125	Prehistoric: Early Woodland, Late Prehistoric	open habitation w/o mounds	terrace	Not assessed
15BA131	Prehistoric: Woodland, Middle Woodland, Late Prehistoric	open habitation w/o mounds	floodplain	Not assessed
15BA140**	Prehistoric: Indeterminate	open habitation w/o mounds	dissected uplands	Not Eligible
15BA142	Prehistoric: Indeterminate; Historic: 1851-1950	historic farm / residence	floodplain	Not Eligible
15BA144**	Prehistoric: Late Prehistoric; Historic: 1901-1950	open habitation w/o mounds	floodplain	Eligible for National Register
15BA154	Prehistoric: Indeterminate	undetermined	floodplain	Not Eligible
15BA155	Prehistoric: Indeterminate	undetermined	floodplain	Not Eligible
15BA156	Prehistoric: Indeterminate	undetermined	floodplain	Not Eligible
15BA158	Prehistoric: Indeterminate	undetermined	floodplain	Not Eligible
15BA160	Prehistoric: Indeterminate; Historic: 1851-1950	open habitation w/o mounds	floodplain	Not Eligible

^{*}Located within Corridor B; ** Located within Corridor C

Cultural Resource Management (CRM) Reports

The Kentucky OSA GIS database indicates that 12 previous cultural resource investigations have been conducted within 2 km (1.24 mi) of the project area (Bradley et al. 2014; Carstens 2008; Foster 2015; Kelly and Vehling 2009; Matternes 1995; Mills 2002; Kreisa 1988; Schlarb 2005; Schwegman 2007; Simeck et al. 1995; Watson 1981; and Wetzel 2011) (Table 3). Reports relevant to the project area and/or containing NRHP listed or eligible sites are discussed further below.

Table 3. Previous Cultural Resources Investigations within the 2 km (1.24 mi) Study Area

Year	Author	Title	Investigated Acreage within Project Area
1981	Watson, G. Michael	Archaeological Reconnaissance of the Lower Ohio River Navigation Area, Illinois and Kentucky	Corridor A: 82 ha (202 ac) Corridor B: 160 ha (396 ac) Corridor C: 101 ha (251 ac)
1988	Kreisa, Paul P.	Second-Order Communities in Western Kentucky: Site Survey and Excavations at Late Woodland and Mississippi Period Sites	N/A



Year	Author	Title	Investigated Acreage within Project Area
1995	Matternes, Hugh B.	Archaeology by Invitation: Results of the 1994 Middle Mississippi Survey.	Corridor C: 1.2 ha (3 ac)
1995	Simek, Jan F., Hugh B. Matternes, and Jay D. Franklin	Reconnaissance Survey of the Confluence and Mayfield Bottoms Region of Western Kentucky	Corridor C: 1.6 ha (4 ac)
2002	Mills, E. Nicole	An Archaeological Assessment of the Axe Lake Swamp State Nature Preserve, Ballard County, Kentucky	N/A
2005	Schlarb, Eric J.	An Archaeological Assessment of the Virginia Payne, Burnt Pond, and Waller Ben Tracts of the Boatwright Wildlife Management Area, Ballard County, Kentucky	Corridor A: 26 ha (64 ac) Corridor B: 54.2 ha (134 ac)
2007	Schwegman, John A.	Phase I Archaeological Survey of a Proposed Wastewater Treatment Facility for the City of Barlow, Ballard County, Kentucky	Corridor C: 4.5 ha (11 ac)
2008	Carstens, Kenneth C.	A Phase I Archaeological Survey of a 20 Acre Area in Barlow, Ballard County, Kentucky	Corridor C: 2.4 ha (6 ac)
2009	Kelly, Christina E., and Marcia Vehling	Phase I Archaeological Survey of the 20-Acre Larry Drummond Wetlands Reserve Program Project Area, Ballard County, Kentucky	N/A
2011	Wetzel, Melinda King	Phase I Archaeological Survey of the Stephen Kelly Wetland Reserve Project, Ballard County, Kentucky	Corridor C: 28 ha (70 ac)
2014	Bradley, Dawn, Nathan Scholl, Richard Stallings, Stephen Mocas, and Michael W. French	Phase I Archaeological Survey, Geomorphological/Geoarchaeological Assessment and Deep Reconnaissance of the Clark Estate Levee Project, Ballard County, Kentucky	N/A
2015	Foster, A. Lee	Phase I Archaeological Survey of Approximately 2 Acre Proposed for a Senior Citizens Center in Barlow, Ballard County, Kentucky	Corridor B: 1.2 ha (3 ac)

Of the 12 previously completed surveys, all but four surveys (Bradley et al. 2014; Kelly and Vehling 2009; Kreisa 1988; Mills 2002) intersect with the current project areas. The surveys that do intersect with the project area utilized a combination of pedestrian survey and interval shovel testing. Due to the location of the project areas along the Ohio River Valley floodplains, three of the surveys completed within the study area also utilized backhoe trenching to test for deeply buried deposits. One survey report (Simek et al. 1995) was not available for review at the OSA.

Surveys completed by Florence and Hutcheson, Inc. (Cartsens 2008), 5H Technologies, Inc. (Foster 2015), Kentucky Archaeological Survey (KAS) (Schlarb 2005), and Corn Island Archaeology, LLC (Wetzel 2011) did not identify any new archaeological sites. The survey completed by 5H Technologies (Foster 2015) encompassed 0.8 ha (2 ac) and relied solely on pedestrian survey. Surveys by Florence and Hutcheson (Cartsens 2008) encompassed 8 ha (20 ac) and KAS (Schlarb 2005) 388 ha (958 ac) utilized pedestrian survey and shovel testing. In addition to not identifying any new archaeological sites, KAS could not relocate two previously identified sites. Corn Island (Wetzel 2011) surveyed 29 ha (73 ac) using pedestrian survey and backhoe trenching.

For the remaining five surveys (Kelly and Vehling 2009; Mattenes 1995; Mills 2002; Schwegman 2007; and Watson 1981), methods varied with each survey. The 1981 (Watson) survey completed by WAPORA, Inc. relied solely on pedestrian survey, resulting in the identification of 53 new archaeological sites. Surveys by Florence and Hutcheson (Schwegman 2007) and KAS (Mills 2002) utilized a combination of pedestrian survey and shovel test excavations, resulting in the identification of one new site for the former and two new sites for the latter. Gray and Pape, Inc. (Kelly and Vehling 2009) used a combination of pedestrian survey and backhoe trenches, recording one new site. Lastly, Murray State University (Matternes 1995) identified 27 new archaeological sites.

Overall, all means of archaeological methodology resulted in the identification of new archaeological sites. Documented sites included both prehistoric, ranging in occupation from the Archaic through the Late Woodland, and historic assemblages. Sites documented within the study area were primarily identified on floodplains, a landform which encompasses most of the project area.

Cemeteries

One cemetery is located within the 2.0 km (1.24 mi) study area (Figure 6). The Barlow Cemetery is located within the Corridor A project area. Cemeteries are a common resource in Kentucky and historic cemeteries may no longer contain grave markers or fenced boundaries. Often graves were historically marked with wooden markers or unmodified stone markers, which were easily lost to time. Visual inspections will be necessary to ensure that these types of small poorly demarcated cemeteries are adequately addressed during the Phase I archaeological survey efforts should a project advance from this study. Additional surveys may be required to identify unmarked burials.

Historic Maps

Four historic maps were referenced for information pertaining to the historic use of the project area (USGS 1933, 1953, 1967, and 1977). The 1933 (USGS) Cairo, IL-KY-MO 15' topographic quadrangle depicts several structure locations. Structures are located within and adjacent to all three proposed corridors. Notably, the eastern portion of Corridors B and A encompass a large portion of the town of Barlow, KY. This map indicates a cemetery, likely the Barlow Cemetery, within Corridor A on the north side of Barlow, and a possible racetrack within Corridor B to the west of the city. East of Barlow, the proposed corridors encompass the floodplains of the Ohio River which features several meandering sloughs. This rural area includes very few structures. The East Cairo – Illinois Central Railroad runs from Cairo, Illinois through Barlow, Kentucky. The railroad passes through all three alternate routes of the project area. The Twin Mounds (15BA2) appears north of Corridor A and persists on all maps produced after 1933.

Little changed between the 1933 (USGS) map and the 1953 (USGS) Cairo, IL-KY-MO 15' topographic map. It appears a second cemetery was added across the street from the one depicted on the 1933 (USGS) map. While the racetrack no longer appears, several new structures were constructed in its place. Overall, it appears the town of Barlow experienced an increase in population during the intervening years. This map also indicates the East Cairo – Illinois Central Railroad was abandoned prior to the publication of the 1953 (USGS) map.

The 1967 and 1977 (USGS) Barlow, KY-IL topographic maps indicate populations continued to grow, as evident by the growing boundaries of the town of Barlow. These maps provide some additional details that the 15' series map could not. Several of the rural structures, specifically those located closest to the Ohio River, are no longer depicted. It is likely these structures were demolished or abandoned. The abandoned railroad line is identified on these maps as "the Old Railroad Grade." The boundaries of the Boatwright Wildlife Management Area (Boatwright WMA) appear just west of Barlow, Kentucky. The Boatwright WMA crosses all three alternate routes of the project area.

US 60

Modern aerial imagery indicates most of the structures identified on the historic maps remain extant. This is especially true for structures located within the city of Barlow and the surrounding area. However, several rural structures are no longer extant, several of which date to the 1933 (USGS) map. As such, historic archaeological sites correlating to the location of these structures may be present within the project areas.

The presence of mound and village sites within Ballard County would indicate a high probability of larger prehistoric occupations being a possibility along the proposed route. The region has numerous waterways and uplands, which would have been ideal for prehistoric occupation. The topography in the project area would indicate potential for prehistoric sites and particular care should be taken during the Phase I survey, should a future project advance from this study, to ensure that visual inspections are conducted to identify mounds, particularly in agricultural fields where mounds may have been heavily impacted by plowing. In addition, in preparation for fieldwork, Lidar imagery should be consulted for subtle topographic evidence of remnant mounds within the lower relief portions of the project area.



Background Research: Illinois

The literature review was directed towards identifying previously recorded archaeological sites and other cultural resources within 1.6 km (1 mi) of the portion of the project area within Alexander County, Illinois. Stantec also examined the region on a larger scale when appropriate. For the literature review the following resources were consulted:

- National Historic Landmark List and National Register of Historic Places;
- Illinois Inventory of Archaeological Sites (IAS) to Site files;
- Cultural Resources Management Reports;
- County Histories and Atlas Maps.

Reviewed records indicated a total of three archaeological sites and one cemetery located within the 1.6 km (1 mi) study area (Figure 7). No sites, nor the cemetery, are located within the project area. Additionally, seven previous surveys were completed within the study area, five of which intersect the project area.

National Historic Landmarks List and National Register

Research indicates no National Historic Landmarks or NRHP listed properties are located in or adjacent to the 1.6 km (1 mi) study area.

Illinois Inventory of Archaeological Sites (IAS) Site files

The IAS site files indicate that three previously recorded archaeological sites (11AX6, 11AX32, and 11PU23) are located within the 1.6 km (1 mi) study area (Table 4). No sites were identified within the project areas. Sites 11AX6 and 11PU23 contains both prehistoric mounds and a camp site, and site 11AX32 is a prehistoric camp site. All three of the sites have been determined not eligible for listing in the NRHP.

Table 4. Previously Recorded Archaeological Sites within the 1.6 km (1 mi) Study Area

Site Number	Description	Cultural Affiliation	NRHP Eligibility
11AX6	Prehistoric Mounds and Camp Site	Mississippian	Not Eligible
11AX32	Prehistoric Camp Site	Mississippian	Not Eligible
11PU23	Prehistoric Mounds and Camp Site	Mississippian	Not Eligible

The presence of mound and village sites within Alexander County would indicate a high probability of larger prehistoric occupations being a possibility along the proposed route. The region has numerous waterways and uplands, which would have been ideal for prehistoric occupation. The topography in the project area would indicate potential for prehistoric sites and particular care should be taken during the Phase I survey, should a future project advance from this study, to ensure that visual inspections are conducted to identify mounds, particularly in agricultural fields where mounds may have been heavily impacted by plowing. In addition, in preparation for fieldwork, Lidar imagery should be consulted for subtle topographic evidence of remnant mounds within this portion of the project area.



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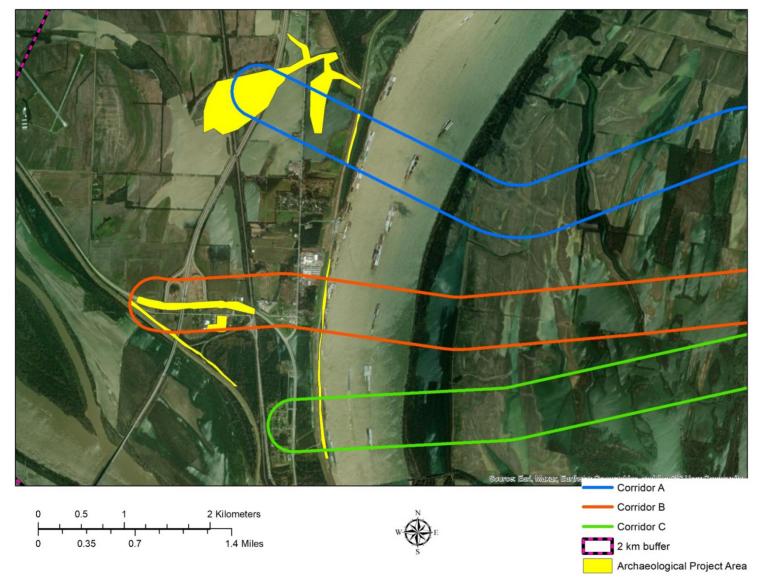


Figure 7. Cultural resources in Illinois identified within the proposed alignments.

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Cultural Resource Management (CRM) Reports

Records available through the IAS indicate that portions of the 1.6 km (1 mi) study area have been previously investigated for cultural resources through five survey efforts: Albertson 2011; Butler 1987; Lence 2011; Nixon 1980; and Watson 1981 (Table 6Table 6. Number of Resources within the Alignments in Kentucky and Illinois). All five surveys were Phase I archaeological surveys. Of the surveys that intersect with the project area, four documented newly identified archaeological sites. No additional information was available for the two surveys identified within the study area that did not intersect with the project area.

Table 5. Previously Recorded Archaeological Sites within the 1.6 km (1 mi) Study Area

Year	Author	Title
1975	Not provided	A Reconnaissance for Archaeological and Historic Resources of the Cache River Pumping Station and Channel Improvements Near Mound City, Illinois. Survey ID: PU316
1975	Not provided	A Reconnaissance for Archaeological and Historic Resources of the Cache River Pumping Station and Channel Improvements Near Mound City, Illinois. Survey ID: AX316
1980	Nixon, Joseph M.	Draft Report: An Archaeological and Historical Resources Survey of 21 Mississippi River Levee Berm Items: Component Three, Southernmost Illinois. Survey ID: PU882
1981	Watson, G. Michael	Archaeological Reconnaissance of the Lower Ohio River Navigation Area, Illinois and Kentucky. Survey ID: AX763
1987	Albertson, Eric	Intensive Survey, Without Testing, of the Above Cairo Relief Wells and Slurry Trench Project, Alexander and Pulaski Counties, Illinois. Survey ID: AX19766
2011	Butler, Brian M.	Community Health Services-Cairo-Health Services Facility. Survey ID: AX1640
2011	Lence, Cally	Phase I Cultural Resources Survey of Selected Segments of the Southern Illinois Broadband Expansion Project Corridor, Alexander, Pulaski, Union, Johnson, and Massac Counties, Illinois. Survey ID: AX19261

The previous surveys that intersect with the project area utilized pedestrian survey, shovel test excavations, or a combination of the two. One survey completed by American Resources Group (ARG) (Lence 2011) relied solely on pedestrian survey to investigate approximately 19 ha (48 ac). One site was identified during this survey. A survey completed WAPORA (Watson 1981), relied solely on shovel test excavations to survey the Lower Ohio River navigation area. A total of 15 archaeological sites were documented during this survey.

The remaining three surveys (Albertson 2011; Butler 1987; and Nixon 1980) utilized a combination of pedestrian survey and shovel test excavations. In 1980, ARG (Nixon 1980) completed Phase I surveys of levees along the Ohio River. The survey also included soil coring on prehistoric sites. As a result of these investigations, four archaeological sites were documented. In 1987, CAI-SIUC (Butler 1987) surveyed 2 ha (5 ac); no sites were identified. In 2011, PanAmerican Consultants (PanAm) (Albertson 2011) surveyed approximately 43 ha (106 ac), resulting in the identification of four new archaeological sites.

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Cemeteries

One cemetery was identified within the 1.6 km (1 mi) study area. Cemetery 8849 is a French burial site dating to the mid 1800's. However, the cemetery is more than 0.6 km (0.4 mi) from the project area and would not be impacted by the project.

Historic Maps

Three historic maps were referenced for information pertaining to the historic use of the project area (USGS 1933, 1953, and 1967). The western portion of the proposed project areas overlap with two cities. Corridor C encompasses Future City and Corridor B encompasses Cairo Junction. Both cities were once well-populated and are depicted on the 1933, 1953, and 1967 (USGS) topographic maps. Between 1933 and 1953, both cities experienced a rise in population as evident by the increase in structures depicted on the 1953 (USGS) map. Even the small portion of Corridor A saw an increase in structures. However, between 1953 and 1967, the population appears to have decreased. The 1967 (USGS) topographic map shows a decline in structures within all three alternate routes of the project area. As a result of the demolition of these structures, it is likely historic archaeological sites may be present in association with these previous structure locations.



Summary of Results and Management Recommendations

In response to a request from KYTC, Stantec conducted a cultural resources records review for the proposed US 60 planning study in Ballard County, Kentucky and Alexander County, Illinois that would look at the feasibility of rerouting a portion of US 60 from north of Cairo, Illinois to Barlow, Kentucky. For this planning study, the project includes three alignments: Corridors A, B, and C. The maximum length of the three proposed alternatives is 16 km (9.94 mi). The project area alignments travel through residential neighborhoods, commercial development, agricultural land, and wooded areas. Between Barlow and the Ohio River, the alignments traverse the Boatwright Wildlife Management Area. This area consists of floodplains, sloughs, lakes, ponds, and streams.

Background research conducted in February 2023 (preliminary review number P61491) focused on a 2.0 km (1.24 mi) study area around the proposed alignments in Kentucky and a 1.6 km (1 mi) study area in Illinois. Stantec gathered information about previously conducted cultural resource investigations and documented cultural resources as well as the environmental and cultural context of the region.

Evaluation of Alignments

Based on the results of this planning study, there is a high probability for archaeological sites to be identified within the footprints of each of the three alternative routes. Table 6 provides a summary of the known resources identified along each corridor.

Table 6. Number of Resources within the Alignments in Kentucky and Illinois

Alignment	Cemeteries	Archaeological Sites	NRHP Properties	Potential Historic Structures in or Adjacent to Alternative (1933 map)	Acreage Previously Surveyed
Corridor A	1 (Barlow Cemetery)	None	None	Approximately 9 structures in Kentucky; the historic town of Barlow, KY; and the Barlow Cemetery	108 ha (266 ac)
Corridor B	None	15BA9	Barlow House	Approximately 5 rural structures in Kentucky, and the historic towns of Barlow, KY and Cairo Junction, IL	215 ha (531 ac)
Corridor C	None	15BA140, 15BA144, 15BA51, and 15BA52	None	Approximately 13 rural structures in Kentucky and the historic town of Future City, Illinois	140 ha (346 ac)

Corridor A

Along alternate route Corridor A approximately 108 ha (266 ac) have been previously surveyed. Two previously completed archaeological surveys overlap with the boundaries of this route. However, no sites were identified within the boundaries of Corridor A.

Historic maps identified several structures within the boundaries of the Corridor A project area. These include rural structures that are no longer extant and the town of Barlow, Kentucky where many of the structures are extant. Based on this data, historic archaeological sites may be present at locations correlating with the location of these structures.

Three mound sites are located within proximity to the Corridor A alignment: 15BA2, 11AX32, and 11PU23. Based on the proximity of these sites to Corridor A, it is possible additional prehistoric villages, or other large sites, may



be located within the alignment. These types of sites would be considered highly sensitive and should be provided adequate avoidance measures within the planning process.

Corridor A also includes the Barlow Cemetery. All cemeteries should be avoided by project activities to the extent practicable. Stantec recommends that the boundaries of cemeteries should be delineated, and a 30.5 m (100 ft) exclusion buffer should be implemented around any identified cemetery. It is likely additional archaeological surveys would be needed to identify the potential for unmarked burials.

Corridor B

Alternate route Corridor B has the most previously surveyed acreage with approximately 215 ha (531 ac). Three previous surveys overlap the project area, only one of which identified any archaeological sites. Overall, it appears the previous surveys completed within the project area are adequate and would not require resurvey. One site, 15BA9, is documented within the boundaries of Corridor B. NRHP eligibility for this site has not been assessed. It is possible additional archaeological surveys may be warranted to determine eligibility.

The historic map review identified several structures within the Corridor B alignment, including structures located within the historic towns of Barlow, Kentucky and Cairo Junction, Illinois. It is unknown which of the structures identified within the towns remain extant. A few additional structures, about five, were in rural settings. Based on this data, historic archaeological sites may be present at locations correlating with the location of the structures that are no longer extant.

One NRHP listed property is located within the Corridor B alignment. The Barlow House is a historic residence that dates to 1900 and is listed under Criteria B and C. No archaeological surveys have been completed at this location. Avoidance measures would be recommended during the planning process if this alignment was recommended, and additional survey if avoidance is not feasible.

One prehistoric mound site (11AX6) is located near the western end of the Corridor B alignment. Based on the proximity of this site to Corridor B, it is possible additional prehistoric villages, or other large sites, may be located within the alignment.

Corridor C

Along Corridor C, approximately 140 ha (346 ac) have currently been surveyed. All but one of the surveys completed that intersect with this alignment identified archaeological sites, four of which are located directly within the boundaries of Corridor C: 15BA140, 15BA144, 15BA51 and 15BA52. Site 15BA144 was recommended as potentially eligible for the NRHP. Avoidance measures would need to be taken or the site would require additional testing to determine NRHP eligibility. This additional work could include test unit excavations and mechanical stripping. The remaining sites within the alternate routes were either determined ineligible (15BA140) for the NRHP or eligibility status remains unassessed (15BA51 and 15BA52). It is possible additional testing may be warranted for sites where NRHP eligibility was not assessed. Overall, it appears the previous surveys completed within the project area are adequate and would not require to be resurveyed if this alternative would be recommended.

Historic maps identified several structures within the Corridor C boundaries. Many of these are rural structures on the Kentucky side of the project area and are no longer extant. The project area also encompasses the historic town of Future City, Illinois. Aerial imagery indicates that many of the structures within this town are no longer extant. Based on this data, historic archaeological sites may be present at locations correlating with the location of these structures.

Summary and Recommendation

Based on the results of this planning study, each corridor provides a moderate to high probability for the identification of both prehistoric and historic archaeological sites. Stantec recommends that a Phase I archaeological survey would be required along any of the alignments under consideration to identify archaeological sites that may be adversely impacted by a potential future US 60 reconstruction project.

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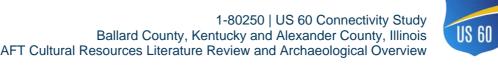
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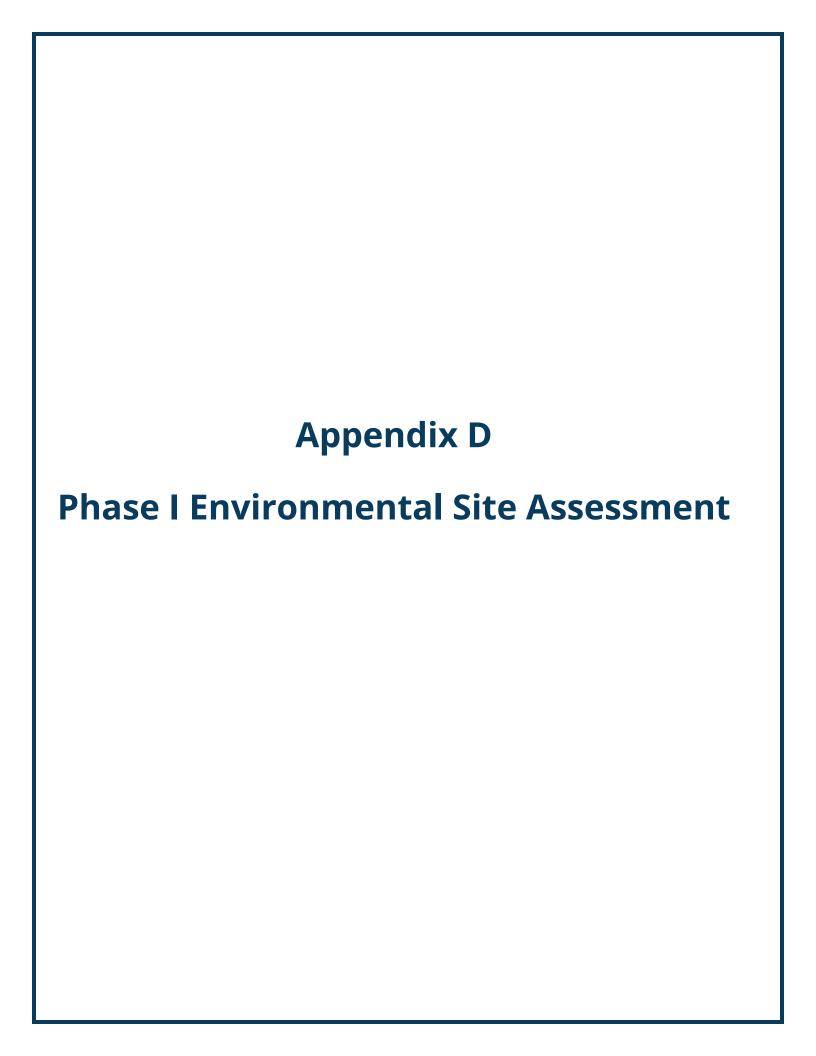
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PHASE I ENVIRONMENTAL SITE ASSESSMENT OVERVIEW

US 60 Connectivity Study

Ballard County

KYTC Item No.: 01-80250.0



Prepared for:



Kentucky Transportation Cabinet

Division of Environmental Analysis and District 1

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EXECUTIVE SUMMARY

The Kentucky Transportation Cabinet (KYTC) has requested Qk4 Inc. to complete a Phase I Environmental Site Assessment (ESA) for the proposed US 60 Connectivity Study which includes fully examining the feasibility, costs, and impacts of a potential extension of the US 60 corridor over the Ohio River to provide a more direct linkage between US 60 in Barlow, Kentucky (Ballard County) to I-57 near Future City, Illinois (Alexander County) as an alternative to the ongoing US 51 bridge replacement project at Wickliffe (south of the study area).

KYTC Item Number 01-80250 US 60 Connectivity Study is being completed as a Planning and Environmental Linkages (PEL) Study. Meaning it is taking a collaborative and integrated approach to the transportation decision-making process by considering potential environmental benefits and impacts during the planning phase.

The purpose of the Phase I ESA is to identify and document current and historical information for properties and surrounding areas within the project corridor in order to identify the presence of recognized environmental conditions (RECs). The Kentucky Transportation Cabinet (KYTC) will be the "user" of this report.

The project is located in southwestern part of Kentucky, approximately 30 miles west of Paducah Kentucky and crosses through a predominantly rural area including the Ballard Wildlife Management Area. The goals of a project within the US 60 Connectivity Study area are to:

- Enhance Regional Mobility
- Provide Economic Development Opportunities
- Remain Sensitive to Environmental Resources

EDR Lightbox (EDR), a commercial provider of environmental risk information, provided the electronic review of applicable environmental database searches consisting of approximately 23 federal, state, and local records. Registered sites were identified, some beyond the study area. Additionally, field observations identified other possible environmental concerns throughout the study area.

Table ES1 identified those sites which were determined likely to have potential concern for the presence of hazardous substances impacted by the proposed project. Based on the EDR database search and field review, there are nine (9) sites identified as having potential involvement with UST's including those as active and/or removed. In addition, there were eight (8) sites listed as possible involvement with AST's. These sites should be avoided, if possible, by a future project.

Within Conceptual Corridor 1, a total of five (5) sites were identified within the corridor footprint. These sites were identified as sites A3, A4, 16, C10 and C11. For Conceptual Corridor 2, the following sites were located within the corridor footprint, 116, S118, S119, U126, 133, Y140, Y141 and 145. These sites should be further analyzed should a project advance from this study. A detailed survey should be conducted and verified for the presence of USTs/ASTs.

Table ES 1: List of Suspected Contamination Sites and Recommendations

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
1	Ohio River, above MP 974 Cairo, Illinois	IL Spills	Not reported.	Not likely
2	Cairo Drainage District Cairo, Illinois 62914	IL SWF/LF	Not reported.	Not likely
А3	Street J D & Co. Inc. Hwy 51 North Urbandale, IL 62914	ICIS, FINDS, ECHO	Not reported. Located within the Conceptual Corridor 1 footprint.	Unlikely, needs to be verified.
A4	Anna Ready Mix Inc. 51 North Cairo, IL 62914	FINDS, ECHO	Not reported. Located within the Conceptual Corridor 1 footprint.	Unlikely, needs to be verified.
B5	Barlow, Kentucky	KY SPILLS	Env. Closed.	Unlikely
6	Kentucky Utilities Co. Storeroom 433 Oscar Road Barlow, KY 42024	KY Asbestos	Env. Closed. Mitigated.	Unlikely
B7	Kentucky Utilities Co. Storeroom KY 1105 Barlow, KY 42024	KY UST	Removed prior to 1988.12/01/1988.	Unlikely, outside corridor limits.
8	Barlow, Kentucky	KY Spills	Env. Closed. Truck accident.	Unlikely
9	J D Streett & Co. Inc. Cairo Terminal Rural Cairo, IL 62914	ICIS, FINDS, ECHO, IL AIRS	Not reported. Notice of violation. 11/01/2000.	Unlikely
C10/C11	Hagood Oil Co. Inc. 902 Broadway Street Barlow, KY 42024	KY UST, NPDES	Tank status: Removed tank verified. TRM. 04/06/2005.	Unlikely, located within Conceptual Corridor 1.
12	Barlow, Kentucky	, KY SPILLS	Illegal disposal.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
D13	Ballard County Fiscal Court 326 Lake Drive Barlow, KY 42024	KY AST	Add new tank to existing site.	Unlikely, located outside corridor.
D14	Ballard Co Road Department 326 Lake Drive Barlow, KY 42024	FINDS	No additional information.	Unlikely
E15	John Stephenson residence 532 Monroe Drive Barlow, KY 42024	FINDS	Not reported.	Unlikely
16	Barlow, Kentucky	KY SPILLS	Env. Closed.	Unlikely
F17	Allreds Service Station 808 Broadway Street Barlow, KY 42024	KY UST	Removed tank verified. Env. Closed Managed. 3/9/1988.	Unlikely
18	Barlow, Kentucky	KY SPILLS	Env. Closed. Managed.	Unlikely
E19	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
20	Barlow WTP End of 6 th Street	KY PFAS	Not reported.	Unlikely
21	Barlow, Kentucky	KY SPILLS	Env. Closed. Managed	Unlikely
F22	817 Broadway Street Barlow, KY 42024	KY NPDES	Not reported.	Unlikely
F23	Haney Enterprises, LLC 817 Broadway Street Barlow, KY 42024	FINDS, ECHO	Not reported.	Unlikely
F24	817 Broadway Street Barlow, KY 42024	KY NPDES	Not reported.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
G25	Barlow, Kentucky	KY SPILLS	Env. Closed. Restored.	Unlikely
G26 – G28	Barlow, Kentucky	KY SPILLS	Env. Closed. No action necessary.	Unlikely
G29	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
G30 -G33	Barlow, Kentucky	KY SPILLS	Env. Closed. No action necessary.	Unlikely
H34	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
135	AA Investments & Holding 799 Broadway Street Barlow, KY 42024	KY AST	Permit status: Cancelled.	Unlikely
136	CutMart #5 799 Broadway Street Barlow, KY 42024	KY UST	Removed tank verified. 04/01/2019	Unlikely
J37	Barlow, Kentucky	KY SPILLS	Response/investigate. Not reported.	Unlikely
H38	Bettys Corner Café Broadway Street & 4 th Barlow, KY 42024	KY UST	TCP. Closed in place. 05/22/1997.	Unlikely
H39	64223 – Bettys Corner Cafe Broadway Street & 4 th Barlow, KY 42024	FINDS	Leaking underground storage tank, not reported.	Unlikely
J40	J and J Service 756 Broadway Barlow, KY 42024	EDR Hist Auto	Gasoline service station.	Unlikely
J41	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
J42	J and J Auto Service 756 Broadway Barlow, KY 42024	KY Financial Assurance	Clean up.	Unlikely
43	Barlow, Kentucky	KY SPILLS	Env. Closed. No action necessary.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
K44	J & J Auto Service 556 Broadway Barlow, KY 42024	KY UST	Removed tank verified. Closed in place 06/06/1997.	Unlikely
K45	J and J Auto Service 556 Broadway Barlow, KY 42024	KY SB193	Not a generator, verified. No additional information.	Unlikely
K46	J and J Auto Service 556 Broadway Barlow, KY 42024	RCRA NonGen/NLR, FINDS, ECHO	Not a generator, verified.	Unlikely
K47	Barlow, Kentucky	KY SPILLS	Env. Closed. No action – restored.	Unlikely
48	14930 State Highway 37 Cairo, Illinois	IL SPILLS	Not reported.	Unlikely
49	Dennis Brown Property 705 Broadway Barlow, KY 42024	FINDS	Not reported.	Unlikely
50	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
L51	Bluegrass Recycling & Transfer Co. 105 7 th Street Barlow, KY 42024	FINDS	Not reported.	Unlikely
L52/L53	Bluegrass Recycling & Transfer Co. 105 7 th Street Barlow, KY 42024	KY RGA LF	No additional information.	Unlikely
L54	Commercial Waste Inc. 105 North 7 th Street Barlow, KY 42024	KY AST	Permit status: completed.	Unlikely
L55	Bluegrass Recycling & Transfer Co. 105 7 th Street Barlow, KY 42024	KY SWF/LF KY HIST LF	Transfer application approved. Status: Terminated.	Unlikely
M56	Veach Oil & Gas Hwy 60 & Wall Street Barlow, KY 42024	KY SB 193, KY UST, KY Financial Assurance	Removed tank verified. TRM. Tank removed 04/11/1997.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
N57	Barlow, Kentucky	KY SPILLS	Env. Closed – unfounded.	Unlikely
N58	Barlow, Kentucky	KY SPILLS	Env. Closed – open burning.	Unlikely
59	Barlow, Kentucky	KY SPILLS	Env. Closed – soil contamination. Contained or managed.	Unlikely
M60	Mac & Mac Equipment Co. Hwy 60 Barlow, KY 42024	KY UST	Removed tank verified. TRM. Closed in place 12/04/1996.	Unlikely
061	Barlow, Kentucky	KY SPILLS	Env. Closed – natural disaster. Mitigated.	Unlikely
62	American Commercial Lines 14614 Ohio River Level Cairo, IL 62914	IL AST	500 tank above ground.	Unlikely
O63	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
P64	Veach Oil & Gas Hwy 60 & Wall Street Barlow, KY 42024	RCRA NonGen/NLR	Not a generator, verified.	Unlikely
P65	Mac & Mac Equipment Co. Hwy 60 & Wall Street Barlow, KY 42024	KY SB 193, RCRA NonGen/NLR	Not a generator, verified.	Unlikely
P66	Mac & Mac Equipment Co. Hwy 60 & Wall Street Barlow, KY 42024	FINDS, ECHO	Not reported.	Unlikely
P67	John Sullivan Property Hwy 60 & Wall Street Barlow, KY 42024	FINDS	Not reported.	Unlikely
P68	Veach Oil & Gas Hwy 60 & Wall Street Barlow, KY 42024	FINDS, ECHO	Not reported.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
P69	John Sullivan Property Hwy 60 & Wall Street Barlow, KY 42024	KY UST	Removed tank verified. 12/16/1996.	Unlikely
70	Dollar General – Barlow US 60 Barlow, KY 42024	NPDES	Facility status: terminated.	Unlikely
Q71 – Q73	Cairo, Illinois	IL SPILLS	Not reported.	Unlikely
Q74	Ohio River Mile 976 Cairo, Illinois	IL SPILLS	Not reported.	Unlikely
Q75	Cairo, Illinois	IL SPILLS	Not reported.	Unlikely
R76	Barlow STP End of South 6 th Street Barlow, KY 42024	KY NPDES	Sewerage systems. Minor.	Unlikely
R77 – R79	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R80	Barlow, KY	KY SPILLS	Approve Environmental Close.	Unlikely
R81 – R83	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R84	Bardwell, KY	KY SPILLS	Env. Closed – No action/Managed.	Unlikely
R85	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R86	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R87	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R88	Barlow, KY	KY SPILLS	Env. Closed – No action/Managed.	Unlikely
R89/R90	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R91	Barlow WWTP End of 6 th Street Barlow, KY 42024	SHWS	Closed.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
R92-R94	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R95-R97	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R98	Barlow, KY	KY SPILLS	Env. Closed – No action/Managed.	Unlikely
R99-R100	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R101	Barlow, KY	KY SPILLS	Env. Closed – No action/managed.	Unlikely
R102-R103	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R104	Barlow, KY	KY SPILLS	Approve Env. Close	Unlikely
R105-R106	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R107	Barlow, KY	KY SPILLS	Approve Env. Close	Unlikely
R108	Barlow, KY	KY SPILLS	Overflow of sewer plant. Not reported.	Unlikely
R109	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R110	Barlow, KY	KY SPILLS	Env. Closed – No action/Managed.	Unlikely
R111	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R112	Barlow, KY	KY SPILLS	Env. Closed – Mitigated.	Unlikely
113	Cairo Dry Kiln, Inc.(2 miles north of Cairo) Hwy 51 Cairo, IL 62914	FINDS, ECHO	Air Emissions unknown.	Unlikely
114	Barlow, KY	KY SPILLS	Env. Closed – Mitigated.	Unlikely
115	Veach Oil Co. Route 3 & Route 51 Cairo, IL 62914	FINDS	Not reported.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
116	Ready Mix Solutions, LLC Route 1 Cairo, IL 62914	FINDS, ECHO	Air Minor.	Unlikely, located within Conceptual Corridor 2
117	Barlow STP End of South 6 th Street Barlow, KY 42024	FINDS, ECHO	ICIS-NPDES Non major.	Unlikely
S118	Dollar General Store 7581 14144 Turner Lane Cairo, IL 62914	RCRA-VSQG	Conditionally exempt small quantity generator.	Unlikely, located within Conceptual Corridor 2
S119	Dollar General Store 7581 14144 Turner Lane Cairo, IL 62914	FINDS, ECHO	Not reported.	Unlikely, located within Conceptual Corridor 2
T120	Travel Hut I I-57 & Route 3 Cairo, IL 62914	IL UST	Closed. Tank status: removed. 3/29/2000.	Unlikely
T121	Cairo Truck Plaza 1311 Kessler Road Cairo, IL 62914	IL UST	Tank status: removed. 12/17/2009.	Unlikely
122	Barlow, KY	KY SPILLS	Issue notice of violation.	Unlikely
T123	Transport SVC Co. I-57 MM 1 Cairo, IL 62914	FINDS	Not reported.	Unlikely
124	Roadway Investment, Inc. I-57 & Route 3 NE Corner Cairo, IL 62914	FINDS	Refuse disposal.	Unlikely
125	Big Tonys Lounge Route 51 N RR 1 Cairo, IL 62914	FINDS	Refuse disposal.	Unlikely
U126	IDOT Cairo Team Section 931C 12864 Patierville Road Cairo, IL 62914	RCRA-VSQG	Conditionally exempt small quantity generator.	Unlikely, located within Conceptual Corridor 2

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
U127	IDOT Cairo Team Section 931C 12864 Patierville Road Cairo, IL 62914	ECHO	No violation identified.	Unlikely
128	Cairo Truck Repair Route 3 & I-57 Cairo, IL 62914	FINDS, ECHO	Not reported.	Unlikely
V129	Cairo Truck Plaza & Restaurant 13133 Kessler Road Cairo, IL 62914	EDR Hist Auto	No information.	Unlikely
V130	Cairo Truck Plaza 13107 Kessler Road Cairo, IL 62914	IL SPILLS	Not reported.	Unlikely
V131	Cairo Truck Plaza 13107 Kessler Road Cairo, IL 62914	IL SPILLS	Closed. Leak or spill. Underground storage tank.	Unlikely, located outside corridor
V132	Cairo Truck Plaza 13107 Kessler Road Cairo, IL 62914	ERNS	Railroad non-release.	Unlikely
133	Illinois – Bell Cairo 12737 Patierville Road Cairo, IL 62914	IL Asbestos	Demolition. Not reported	Unlikely, located within Conceptual Corridor 2
W134	Echo Clean Inc. 17 th Street West Cairo, IL 62914	RCRA Non Gen/NLR	Not a generator, verified.	Unlikely
W135	Illinois Power Co Cairo GMS Washington Avenue & 1 st Avenue Cairo, IL 62914	RCRA Non Gen/NLR	Not a generator, verified.	Unlikely
W136	Ft. Defiance State Park US Route 51 Cairo, IL 62914	RCRA Non Gen/NLR	Not a generator, verified.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
X137	Ohio River Co. River Mile 5.5 Cairo, IL 62914	FINDS, ECHO, IL AIRS	Permanently closed. Air Minor.	Unlikely
X138	Phillips Petroleum Company Holbrook & Mo. Pac RR Cairo, IL 62914	FINDS, ECHO, IL AIRS	Permanently closed. Air Minor.	Unlikely
X139	Cairo Dry Kilns Hwy 51, 2 miles north of Cairo Cairo, IL 62914	IL AIRS	Not reported.	Unlikely
Y140	Illinois Central Railroad Corp. Jct. Route 3 & Hwy 51 Cairo, IL 62914	FINDS, ECHO	ICIS-NPDES Non major.	Unlikely, located within Conceptual Corridor 2
Y141	Veach Service Hwy 3 & 51 Cairo, IL 62995	IL UST	Facility status: Closed. Tank status: removed.9/29/1999.	Unlikely, located within Conceptual Corridor 2
142	Illinois Power Town Gas Plant Washington Avenue & 1 st Street Cairo, IL 62914	EDR MGR	No additional information.	Unlikely
143	George Moss Route 51 & 1 st Street Cairo, IL 62914	FINDS	No information.	Unlikely
144	Cairo Drainage District Cairo, IL 62914	IL SWF/LF	Closed final cover.	Unlikely
145	Ready Mix Solutions, LLC Route 1 Cairo, IL 62914	US AIRS IL AIRS	Inspection/evaluation.	Unlikely, located within Conceptual Corridor 2
146	AT&T – Tank #1-148 13101 Third Avenue Cairo, IL 62914	IL AST	Above ground bulk storage. Permit status: cancelled.	Unlikely, needs to be verified.

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
147	Mound City Municipal Mound City, IL 62963	IL SWF/LF	Closed final cover.	Unlikely
148	Johnson Bert Pargon Marine 3 rd Street River Bank Mound City, IL 62963	RCRA NonGen/NLR, FINDS, ECHO	Not a generator, verified.	Unlikely
149	Bruce Deal 613 Walnut Street Mound City, IL 62963	IL SWF/LF	Closed final cover.	Unlikely
150	Cairo Municipal 1 Cairo, IL 62914	IL SWF/LF	Closed final cover.	Unlikely
151	Elmwood School 500 37 th Street Cairo, IL	IL SSU	Abandoned school. Asbestos.	Unlikely, unless relocated by the project.
152	Cairo School 29 th & Sycamore Cairo, IL	IL SSU	Abandoned school. Asbestos.	Unlikely, unless relocated by the project.

During the corridor field review there were a few additional areas of possible concern (see Appendix B, Site Photos).

A future project should reevaluate the project area to satisfy all the requirements set forth in the provisions of the ASTM Standard Practice for Environmental Site Assessments (ASTM E1527-13) and compliant with the Standards and Practices for All Appropriate Inquires (40CFR Part 312) to see if any the identified sites/properties of concern need further investigation.

Other potential concerns throughout the project area may include:

- Any bridge or other structures that are proposed to be demolished and/or renovated will require an asbestos inspection and abatement, if asbestos bridge/building materials are identified. The inspection/abatement needs to be conducted prior to demolition and/or renovation activities.
- Refuse dumped into sinkholes and other karst features.
 - If sinkholes are encountered within the new alignment corridors and they have refuse dumped in them; it is recommended characterizing the material and properly dispose of it to an off-site landfill. In addition a sinkhole investigation should be conducted to determine the extent of the sinkhole underground if its within or near the US 60 construction limits;
- Multiple power pole mounted electrical transformers suspected to contain polychlorinated biphenyls (PCBs).

- Typically, utility companies own and are responsible for taking care of removing the electric transformers and therefore, would not be a KYTC concern.
- Farms that handle and store pesticides/herbicides on site for farming operations.
 - The use of pesticides/herbicides is not regulated and would only become a concern to KYTC if we were disposing of excavated soils to an off-site landfill that required this as part of their characterization of the soil waste.
- Improperly functioning septic tank systems.
 - If septic tanks systems and or septic waste is identified within the US 60 project limits, KYTC can contact a licensed septic waste hauler to remove and dispose of the liquid waste and the remaining residual septic waste can be removed and disposed of properly to an off-site landfill.

1.0 INTRODUCTION

The Kentucky Transportation Cabinet (KYTC) has requested Qk4 Inc. to complete a Phase I Environmental Site Assessment (ESA) for the proposed US 60 Connectivity Study. The study is being conducted to evaluate options to provide a more direct linkage between US 60 in Barlow, Kentucky to I-57 near Future City, Illinois (see Figure 1, Study Area).

1.1 Purpose

The purpose of the Phase I ESA is to identify and document current and historical information for properties and surrounding areas within the project corridor in order to identify the presence of recognized environmental conditions (RECs). The industry standard for Phase I ESA's is the American Society for Testing & Materials (ASTM) Standard E1527-13.

The Phase I ESA evaluates the potential liabilities associated with using land and disturbing soil of a site with contamination for the reconstruction of a roadway project. The Phase I ESA also asserts liability protection under the Federal All Appropriate Inquiries (AAI) standard as described in Title 40 CFR Part 312, which is the assessment or evaluation of a real property to identify potential environmental contamination and assess potential liability for contamination present on a property.

As defined in ASTM E1527-13, RECs are the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property:

- 1) due to any release to the environment,
- 2) under conditions indicative of a release to the environment, or
- 3) under conditions that pose a material threat of a future release to the environment.

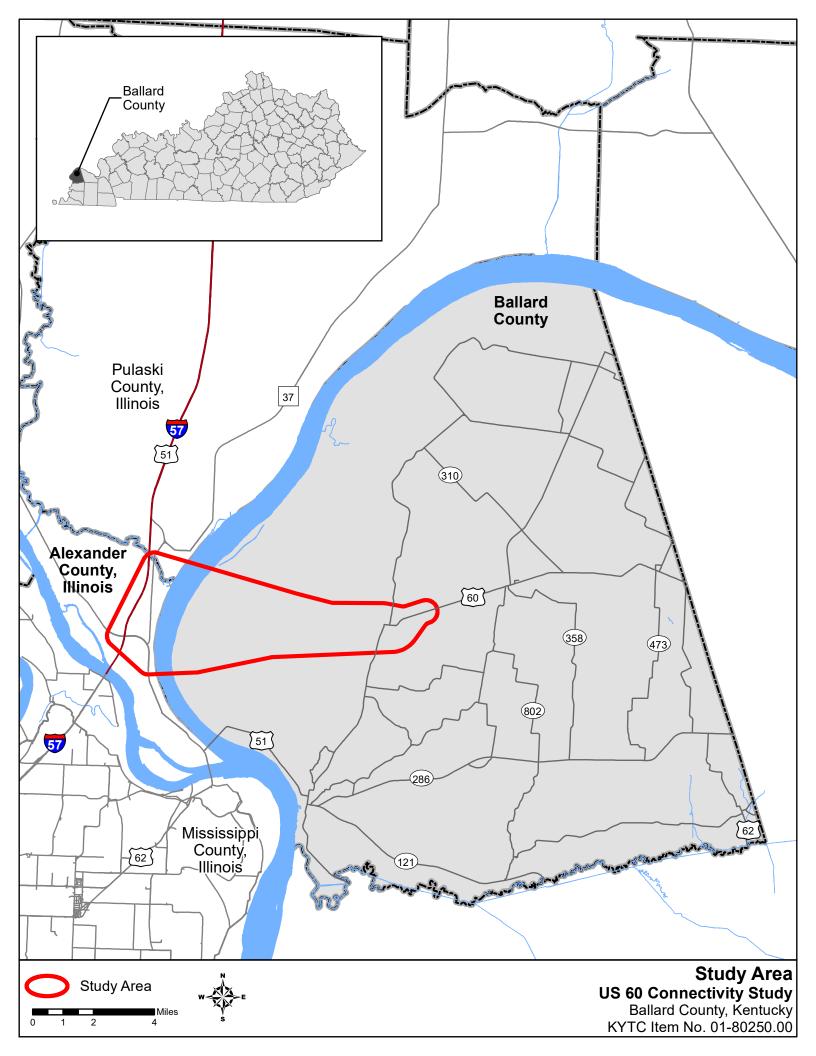
For resolved RECs, ASTM E1527-13 makes two distinctions: a historical recognized environmental condition (HREC) and a controlled recognized environmental condition (CREC).

HREC is defined as a past hazardous material release that:

- Has been addressed to the satisfaction of the applicable regulatory authority (no further action), or
- Meets unrestricted use criteria established by a regulatory authority, and
- Is not subject to the implementation of land use or other controls.

CREC is a resolved REC that:

- Has been addressed to the satisfaction of the regulatory authority, and
- Is allowed to remain in place subject to the implementation of required land use or other controls.



A **REC** does not include *de minimis* conditions; i.e., conditions that generally do not present a threat to human health or the environment and is not subject to an enforceable action if brought to the attention of appropriate federal agencies.

Environmental concerns that are not a part of the ESA, but should be considered and may need to be incorporated into investigations, as applicable include the following:

- · Asbestos and lead paint in building materials;
- Biological agents;
- Cultural/historical resources;
- Regulatory compliance;
- Ecological resources and endangered species;
- Mold;
- Industrial hygiene;
- · Health and safety; and
- Indoor air quality

2.0 PROJECT DESCRIPTION

The objective of the US 60 Connectivity Study is to determine the feasibility, costs, and impacts of potential alternative improvement concepts to the US 51 bridge replacement project at Wickliffe that provides a more direct linkage between US 60 and I-57. The study begins on US 60 at Barlow, Kentucky and ends at I-57 near Future City, Illinois.

2.1 Project Area

Ballard County is a county located in the extreme western portion of the state of Kentucky. Ballard County was formed from portions of Hickman County and McCracken County. The county seat is located in Wickliffe, south of the study area. The largest city in Ballard County is LaCenter. Ballard County is part of the Paducah, KY-IL Micropolitan Statistical Area. As of the 2020 census, the population of Ballard County was 7,728. Aside from Barlow, the study area in Kentucky is primarily undeveloped or agricultural.

Alexander County is more developed, with several small residential communities, as well as commercial and industrial developments—especially within the city of Cairo, south of the study area. Alexander County is the poorest county of Illinois and they have a high concentration of minority persons.

The study area encompasses a highly environmentally sensitive area, and much of the land is preserved for recreational or conservation purposes, including the Axe Lake Swamp State Nature Preserve, Boatwright Wildlife Management Area, Cypress Creek National Wildlife Refuge, Barlow Park, and various conservation easements.

2.2 Goals and Objectives

The goals of the US 60 Connectivity Study area are to:

- Enhance Regional Mobility
- Provide Economic Development Opportunities
- Remain Sensitive to Environmental Resources

Enhance Regional Mobility

Several major freight generators are east and south of the study area along US 60 in Kentucky. US 60 currently provides the only east-west designated truck route west of Paducah, connecting to US 51 near the Ohio River at Wickliffe. The US 51 Ohio River Bridge carries 44% trucks. The current route, south to the US 51 bridge, hinders regional mobility:

- Travel times are increased by diverting south before traveling east-west. The existing US 51 connection between Barlow and I-57 is 17.5 miles long and the travel time is 24 minutes at the posted mph. 1
- Travel speeds are reduced from 55 mph to 25 mph through Wickliffe and 30 mph through

¹ US 60 (Jim Ireland Road, Barlow, KY) to I-57 (Exit 1, Kessler Road, IL)

Cairo.

- o Approximately 1,400 semi-trucks travel through Wickliffe daily.
- o Approximately 900 semi-trucks travel through Cairo daily.

The vertical clearance (height of 14'-1") under three railroad bridges on US 51 in Cairo does not meet the currently recommended minimum 16' vertical clearance.

Provide Economic Development Opportunities

A more direct east-west connection would expand the accessible area within a 60-minute travel time, which could:

- Expand opportunities for available jobs and labor pool
- Increase accessibility for regional destinations
- Improve freight movement; and
- Improve access to developable land

Remain Sensitive to Environmental Resources

The study area encompasses a highly environmentally sensitive area; therefore, a future project should avoid, minimize, and mitigate, as warranted, project impacts to resources within the area. Coordination initiated with Resource Agencies during the planning phase should continue to inform project team decisions.

2.3 Alternatives Considered

In addition to the No-Build option, three (3) initial build concepts are being considered for the US 60 Connectivity Study.

2.3.1 No-Build

The No-Build concept would involve no action to construct a new connection between US 60 at Barlow in Kentucky and Future City, Illinois. The ongoing US 51 bridge replacement project at Wickliffe (south of the study area) would advance as currently planned.

2.3.2 Build Concepts

Three (3) initial study corridors have been identified, striving to avoid as many environmental features as possible. These corridors represent a general alignment where a roadway may be constructed, shown as a 1,000-foot-wide buffer (2,000 feet total width). The corridors are not indicative of right-of-way limits. The study would further screen these locations based on impacts and constructability, ultimately narrowing down to two (2) potential Build concepts for better estimates.

The three (3) concepts that are being screened are identified as follows:

Corridor A | Northern Concept

Corridor A represents a 1,000-foot-wide buffer (2,000-foot total width) and encompasses approximately 2,315 acres. It would provide a connection to I-57, further north in Illinois, between Urbandale and Golden Lily. The alignment concept would shift south to avoid impacting the Axe

Lake Swamp State Nature Preserve, Cypress Creek National Wildlife Refuge, Twin Mounds site, and U.S. Corps of Engineers-owned portions of the WMA.

Corridor B | Middle Concept

Corridor B represents a 1,000-foot-wide buffer (2,000-foot total width) and encompasses 2,200 acres. This concept would provide the most direct connection to I-57 in Illinois at existing Exit 1, between Future City and Urbandale.

Corridor C | Southern Concept

Corridor C, which is the southernmost concept represents a 1,000-foot-wide buffer (2,000-foot total width) and encompasses 2,395 acres. It would provide the most southern connection into Illinois near Future City.

2.3.3 Refined Study Corridor Concepts

The three (3) initial corridors were refined to analyze two potential conceptual build corridors as shown in **Figure 2**, **Potential Hazmat Sites**. These corridors were narrower than the initial corridors and represent a 500-foot-wide buffer (1,000-foot total width). Within these 1,000-foot buffers, conceptual corridors were developed to an approximately 15% mock design for better estimation purposes. The quantities presented herein reflect the 15% mock design, not the representative corridors.

Initial Corridor A was adjusted to avoid identified properties protected in perpetuity, evolving into Corridor 1 (representative buffer encompasses 1,200 acres). Similarly, due to the number of properties protected in perpetuity in the central and southern portions of the study area, Initial Corridors B and C were combined to create Corridor 2 (representative buffer encompasses 1,336 acres).

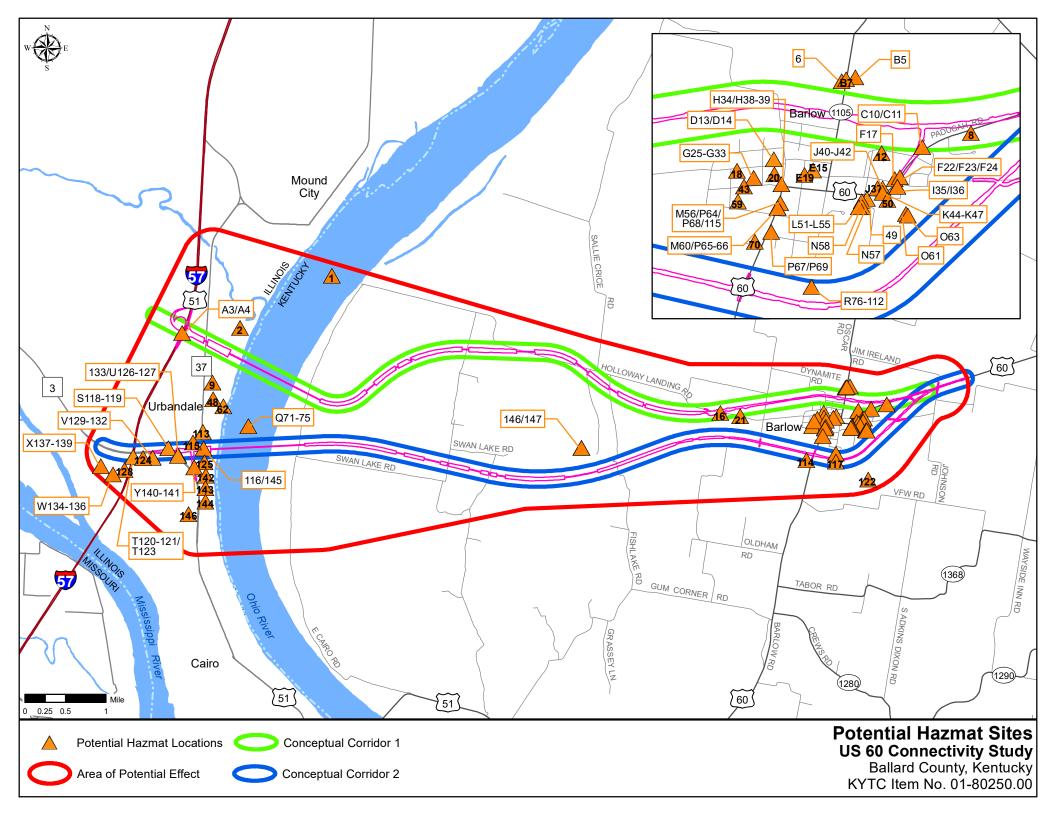
Considering the 15% design, **Conceptual Corridor 1** encompasses 233 acres and would provide the **northernmost connection** to I-57 in Illinois, between Urbandale and Golden Lily.

Conceptual Corridor 2 encompasses 180 acres and would provide the **southernmost connection** into Illinois at Exit 1, between Future City and Urbandale near Cairo Junction.

2.4 Existing Land Uses

Ballard County is one of eight (8) counties included in the Purchase Area Development District (PADD). Its board of directors supports community infrastructure planning, economic development, and special projects to meet the current and future needs of the region.

With the exception of a bicycle plan—Purchase District Health Department Active Living Bicycle and Pedestrian Plan: Cities of Barlow and LaCenter, Ballard County, Kentucky (approved June 1, 2022)—the PADD has no planning and zoning, land use, or transportation plans for Ballard County. Aerial imagery and field reconnaissance revealed that, aside from Barlow, the study area in Kentucky is primarily undeveloped or agricultural. Much of the study area is preserved for recreational or conservation purposes. Many of the properties are protected under Section 4(f) of



the U.S. Department of Transportation (DOT) Act of 1966 (codified in 49 USC 303 and 23 USC 138 and only applies to US DOT and is implemented by the FHWA through 23 CFR 774).

Alexander County, Illinois, is more developed than Kentucky's study area, with several small residential communities as well as commercial and industrial developments—especially within the city of Cairo, south of the study area. Alexander and Pulaski Counties are two of the five counties included in the Southern Five Regional Planning and District Development Commission. This Economic Development District (EDD) administers funds, prepares grants, and provides technical assistance for land development to local governments. The 2021 Comprehensive Economic Development Strategy for the EDD was prepared to aid local officials in securing assistance to maximize regional benefits. Assisting local communities in zoning, land use planning, and comprehensive community planning is included in the strategy's plan of action. However, no local land use plans were identified for Alexander County.

Axe Lake Swamp State Nature Preserve

The Axe Lake Swamp State Nature Preserve is a wetlands complex that supports at least eight (8) rare plant and animal species in Ballard County. It is situated in the northern portion of the study area. It is publicly owned by the Kentucky of Commonwealth, Kentucky Nature Preserves, and is locally known as "Barlow Bottoms." Access to it is by written permission only. It serves to protect a portion of Kentucky's best-known example of a large, intact bald cypress-tupelo swamp. It has been identified as a priority wetland in the North American Waterfowl Management Plan.

Boatwright Wildlife Management Area

Boatwright – Wildlife Management Area (WMA), is publicly owned by the Kentucky Department of Fish and Wildlife Resources (KDFWR). It is located in Ballard County and comprises 8,847 acres and intersects the center of the study area. It is open to the public and has many access points for fishing, boating, and hunting. Some areas are closed from October 15 through March 15 to serve as refuge.

Cypress Creek National Wildlife Refuge

Authorized in 1990 under the Emergency Wetland Resources Act of 1986, the Cypress Creek National Wildlife Refuge is publicly owned and managed by United Stated Fish and Wildlife Service USFWS). It is located in Alexander County and intersects the far northwestern portion of the study area.

Barlow City Park

Located in the heart of Barlow, on the corner of North 4th Street and Lake Drive, is the Barlow City Park is also known as Frances Meriedeth Park. It is publicly owned by the city and opened to the general public, primarily serving as a recreational area for children.

2.5 Geology and Topography

The project area in Kentucky is located in the Mississippi Embayment physiographic region, also known as the Jackson Purchase. The Mississippi Embayment region is bounded by the Mississippi River, Ohio River, and Tennessee River (now Kentucky Lake) and includes the lowest elevations in the state. This region is characterized by Cretaceous and Tertiary sediments that occur at the surface. The Cretaceous, Tertiary, and Quaternary deposits are unconsolidated sediment instead of rock; therefore, readily eroded.

The subsequent surface topography is flat in this part of Kentucky, containing many lakes, ponds, sloughs, and swamps. Wetland data from the Fish and Wildlife Service (FWS) identifies a significant portion of the project area is within identified wetlands. Four (4) types of wetlands are classified within the project area: freshwater forested / shrub wetlands, freshwater emergent wetlands, lakes, and ponds.

The Illinois portion of the project is located in the Mississippi Alluvial Plains physiographic region. The region is characterized by the flat terrain of alluvial plains comprised of bottomland swamps and deciduous forests. The Mississippi Alluvial Plains in Illinois encompasses the southernmost tip of the state, extending from just north of Mound City to the confluence of the Mississippi and Ohio Rivers. This region is characterized by unglaciated Quaternary Alluvium with soils that are clay-rich and fertile. Sloughs and bottomlands were drained for agriculture, though flooding still occurs.

The portion of the study area located in Alexander County, Illinois is within the Ohio River Valley watershed. A small portion of a slough crosses the far eastern portion of Corridor C. The project area is located in the floodplains of the Ohio River. The Illinois portion of the study area possess minimal topographic relief and is dominated by a number of commercial and residential development.

3.0 GOVERNMENTAL, UTILITY AND ENVIRONMENTAL AGENCY DATABASE REVIEW

The HAZMAT database search was completed by Environmental Data Resources, Inc. (EDR) and is included in **Appendix A**. Per EDR, the database report was designed to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

The database search area included all sites in the vicinity of the study area, not just those potentially affected by the initial corridor concepts. The following subsections describe database reports searched.

Lists of Federal RCRA generators

A review of the RCRA-VSQG list, as provided by EDR, dated 11/21/2022 has revealed that there are 2 RCRA-VSQG sites within the requested target property.

Site S118 – Dollar General Store, 14144 Turner Lane. Located within Conceptual Corridor 2 limits.

Site U126 – INDOT Cairo Team Sect, 12864 Patierdale Road.

Federal ERNS list

ERNS: The Emergency Response Notification System records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

A review of the ERNS list, as provided by EDR, and dated 12/12/2022 has revealed that there is 1 ERNS site within the requested target property.

Site V132 - Not Reported, 13107 Kessler Road.

Lists of state and tribal hazardous waste facilities

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data comes from the Department of Environmental Protection's Uncontrolled Site Branch List.

A review of the KY SHWS list, as provided by EDR, dated 09/14/2022 has revealed that there is 1 KY SHWS site within the requested target property.

Site R91 – Barlow WWTP, End of 6th Street. Facility status – closed.

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Department of Environmental Protection's List of All Active Contained & Residential Landfills/List of All Transfer Stations.

A review of the KY SWF/LF list, as provided by EDR, and dated 08/25/2022 has revealed that there is 1 KY SWF/LF site within the requested target property.

Site L55 – Bluegrass Recycling. 105 South 7th Street. Facility status – Terminated.

IL SWF/LF: Available Disposal for Solid Waste in Illinois - Solid Waste Landfills Subject to State Surcharge.

A review of the IL SWF/LF list, as provided by EDR, has revealed that there are 5 IL SWF/LF sites within the requested target property.

Site 2 – Cairo Drainage District, not reported.

Site 144 – Cairo Drainage District, not reported. Closed final cover.

Site 147 – Mound City Municipal. Closed final cover.

Site 149 – Bruce Deal, 613 Walnut Street. Closed final cover.

Site 150 – Cairo Municipal 1, Closed final cover.

Lists of state and tribal leaking storage tanks

A review of the KY SB193 list, as provided by EDR, dated 09/05/2006 has revealed that there are 3 KY SB193 sites within the requested target property.

Site K45 – J and J Auto Service. 556 Broadway. Facility status – Not a generator, verified.

Site M56 – Veach Oil and Gas. Hwy 60. Facility status – removed tank verified. TRM.

Site P65 – Mac and Mac Equipment. Hwy 60 & Wall Street. Facility status – Not a generator, verified.

Lists of state and tribal registered storage tanks

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Protection's Owner/Facility Report of All Tanks Regardless of Status list.

A review of the KY UST list, as provided by EDR, dated 11/08/2022 has revealed that there are 9 KY UST sites within the requested target property.

Site B7 – Kentucky Utilities Co Storeroom, KY 1105. **Tank status – TR8.** Tank removed prior to 1988.

Site C10/C11 – Hagood Oil Co Inc. 902 Broadway Street. **Tank status – TRM, TR8.** Closed in place date 11/01/2000. Located within Conceptual Corridor 1 limits.

Site F17 – Allreds Service Station, 808 Broadway Street. **Tank status – TRM.** Closed in place date 3/9/1998.

Site I36 – Cutmart #5, 799 Broadway Street. **Tank status – TRM.** Removed tank verified 04/01/2019.

Site H38 – Bettys Corner Cafe, Broadway Street & 4th. **Tank status – TCP.** Closed in place date 05/22/1997. Closed in place 5/22/1997.

Site K44 – J and J Auto Service, 556 Broadway Street. **Tank status – TRM.** Closed in place date 06/06/1997.

Site M56 – Veach Oil & Gas, Hwy 60. Tank status – TRM. Closed in place date 4/11/1997.

Site M60 - Mac & Mac Equipment, Hwy 60. Tank status - TRM, TEX. Closed in place date 12/04/1996.

Site P69 – John Sullivan Properties, Jct of US 60 & Wall. **Tank status – TRM.** Removed tank verified 12/16/1996.

• IL UST: Underground Storage Tank Facility List

A review of the IL UST list, as provided by EDR, dated 10/17/2022 has revealed that there are 3 IL UST sites within the requested target property.

Site T120 – Travel Hut, I-57 & Route 3. Tank status – Removed. Status Closed. 3/29/2000.

Site T121 – Cairo Truck Plaza, 1311 Kessler Road. **Tank status – Removed.** Status Closed. 12/17/2009.

Site Y141 – Veach Service, Hwy 3 & 51. **Tank status – Removed.** Status Closed. 9/29/1999. Located within Conceptual Corridor 2 limits.

KY AST: Above Ground Storage Tanks

A review of the KY AST list, as provided by EDR, dated 06/01/2021 has revealed that there are 3 KY AST sites within the requested target property.

Site D13 – Ballard County Fiscal Court, 326 Lake Drive. Adding new tank to existing site.

Site 135 – AA Investments & Holding, 799 Broadway Street, Permit status: Cancelled.

Site L54 – Commercial Waste Inc. 105 North 7th Street. Permit issued: 05/03/2001.

IL AST: Above Ground Storage Tanks

A review of the IL AST list, as provided by EDR, dated 10/04/2022 has revealed that there are 2 IL AST sites within the requested target property.

Site 62 – American Commercial Lines, 14614 Ohio River Levee Road.

Site 146 - AT&T Tank #1-148, 13101 Third Avenue, Permit status: Cancelled.

KY HIST LF: Historical Landfills

A review of the KY HIST LF list, as provided by EDR, dated 05/01/2003 has revealed that there is 1 KY HIST LF site within the requested target property.

Site L55 – Bluegrass Recycling & Transfer Co. 105 South 7th Street. Transfer station application approved.

KY SPILLS: State spills

A review of the KY SPILLS list, as provided by EDR, dated 10/31/2022 has revealed that there are 62 KY SPILLS sites within the requested target property.

Site B5 – Not reported. Facility status: Env. Closed.

Site 8 – Not reported. Facility status: Env. Closed. Transportation accident – truck.

Site 12 – Not reported. Facility status: Response/investigate. Illegal disposal.

Site 16 – Not reported. Facility status: Env. Closed. Located within Conceptual Corridor 1 limits.

Site 18 – Not reported. Facility status: Env. Closed. Managed.

Site E19 – Not reported. Facility status: Env. Closed. Mitigated.

Site 21 – Not reported. Facility status: Forwarded to outside agency. Managed.

Site G26 - G28 – Env. Closed. No action necessary.

Site G29 – Env. Closed. Mitigated.

Sites G30 – G33 – Env. Closed. No action necessary.

Site H34 – Env. Closed. Mitigated.

Site J37 – Not reported. Response/investigate.

Site J41 – Env. Closed. Mitigated.

Site 43 – Env. Closed. No action necessary.

Site K47 - Env. Closed. No action - restored.

Site 50 – Env. Closed. Mitigated.

Site N57 - Env. Closed. Unfounded.

Site N58 – Env. Closed. Open burning.

Site 59 – Env. Closed – soil contamination. Contained or managed.

Site 061 - Env. Closed - natural disaster. Mitigated.

Site 063 – Env. Closed. Mitigated.

Sites R77 - R79 - Env. Closed. Managed.

Site 80 – Approve environmental close.

Sites R81 - R83 - Env. Closed. Managed.

Site R84 – Env. Closed. No action/Managed.

Site R85 – Env. Closed. Mitigated.

Site R86 – Env. Closed. No action necessary.

Site R87 – Env. Closed. Managed.

Site R88 – Env. Closed. No action/Managed.

Sites R89/R90 – Env. Closed. Managed.

Sites R92 - R94 - Env. Closed. Managed.

Sites R95 – R97 – Env. Closed. No action necessary.

Site R98 – Env. Closed. No action/Managed.

Site R99/R100 – Env. Closed. No action necessary.

Site R101 – Env. Closed. No action/managed.

Site R102/R103 – Env. Closed. No action necessary.

Site R104 – Approve Env. Closed.

Site R105/R106 – Env. Closed. No action necessary.

Site R107 - Approve Env. Closed.

Site R108 – Overflow of sewer plant. Not reported.

Sites R109 – Env. Closed. No action necessary.

Sites R110 – Env. Closed. No action/Managed.

Sites R111 – Env. Closed. No action necessary.

Site R112 – Env. Closed. Mitigated.

Site 114 – Env. Closed. Mitigated.

Site 122 – Issue notice of violation.

• IL SPILLS: State spills

A review of the IL SPILLS list, as provided by EDR, has revealed that there are 9 IL SPILLS sites within the requested target property.

Site 1 – Not reported. Ohio River above MP.

Site 48 – Not reported. 14930 State Highway 37.

Sites Q71 – Q73 – Not reported.

Site Q74 – Not reported.

Site Q75 – Not reported.

Site V130 – Cargo Truck Plaza. 13107 Kessler Road.

Site V131 - Cairo Truck Plaza. 13107 Kessler Road. Closed. Leak or spill.

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

A review of the RCRA NonGen / NLR list, as provided by EDR, dated 11/21/2022 has revealed that there are 7 RCRA NonGen / NLR site within the requested target property.

Site K46 – J and J Auto Service, 556 Broadway. Not a generator, verified.

Site P64 – Veach Oil & Gas, Hwy 60 & Wall Street. Not a generator, verified.

Site P65 – Mac & Mac Equipment, Hwy 60 & Wall Street. Not a generator, verified.

Site W134 – Econo Clean Inc., 17th Street West. Not a generator, verified.

Site W135 – Illinois Power Co. Cairo GMS, Washington Avenue & 1st Street. Not a generator, verified.

Site W136 – Ft Defiance State Park, US Route 51. Not a generator, verified.

Site 148 – Johnson Bert Pargon Marine. Not a generator, verified.

• ICIS: Integrated Compliance Information System

A review of the ICIS list, as provided by EDR, dated 11/18/2016 has revealed that there are 2 ICIS sites within the requested target property.

Site A3 – Street J D & Co., Inc. Hwy 51 North. Not reported. Located within the Conceptual Corridor 1 footprint.

Site 9 – J D Streett & Co., Inc. – Cairo Terminal. Rural. Not reported. Notice of violation.

US AIRS: Aerometric Information Retrieval System Facility Subsystem

A review of the US AIRS list, as provided by EDR, has revealed that there is 1 US AIRS site within the requested target property.

Site 145 – Ready Mix Solutions, LLC. Route 1. Inspection/evaluation. Located within Conceptual Corridor 2 limits.

FINDS Facility Index System/Facility Registry System

A review of the FINDS list, as provided by EDR, dated 08/03/2022 has revealed that there are 27 FINDS sites within the requested target property.

Site A3 – Street J D & Co., Inc. Hwy 51 North. Not reported. Located within the Conceptual Corridor 1 footprint.

Site A4 – Anna Ready Mix Co., 51 North. Not reported. Located within the Conceptual Corridor 1 footprint.

Site 9 – J D Streett & Co., Inc. – Cairo Terminal. Rural. Not reported.

Site D14 – Ballard Co Road Department, 326 Lake Drive. No additional information.

Site E15 – John Stephenson residence. 532 Monroe Drive. Not reported.

Site F23 - Haney Enterprises LLC, 817 Broadway Street. Not reported.

Site H39 - 64223 - Bettys Corner. Broadway Street & 4th. Leaking UST, not reported.

Site K46 – J & J Auto Service, 556 Broadway.

Site 49 – Dennis Brown Properties, 705 Broadway. Not reported.

Site L51 – Bluegrass Recycling, 105 South 7th Street. Not reported.

Site P66 – Mac & Mac Equipment, Hwy 60 & Wall Street. Not reported.

Site P67 – John Sullivan Properties, Hwy 60 & Wall Street. Not reported.

Site P68 – Veach Oil & Gas, Hwy 60 & Wall Street. Not reported.

Site 113 - Cairo Dry Kilns Inc. Hwy 51, 2 miles north of Cairo. Status: Env. Closed.

Site 115 – Veach Oil Co. Route 3 & Hwy 51. Not reported.

Site 116 – Ready Mix Solutions, Route 1. Located within Conceptual Corridor 2 limits.

Site 117 – Barlow STP, end of South 6th Street.

Site S119 – Dollar General Store, 14144 Turner Lane. Not reported.

Site T123 – Transport SVC Co., I-57 MM 1. Not reported.

Site 124 - Roadway Investment Inc., I-57 & Route 3 NE Corner. Refuse disposal.

Site 125 – Big Tony's Lounge, Route 51 N RR 1. Refuse disposal.

Site 128 – Cairo Truck Repair, Route 3 & I-57. Not reported.

Site X137 – Ohio River Co., River Mile 5.5. Permanently closed.

Site X138 – Phillips Petroleum Co., Holbrook & Mo. Pac R/R. Permanently closed.

Site Y140 – Illinois Central Railroad Corp., Jct. Route 3 & Hwy 51. ICIS-NPDES non-major.

Site 143 – George Moss, Route 51 & 1st Street. No information.

Site 148 – Johnson Bert Pargon Marine. Not a generator, verified.

• ECHO: Enforcement & Compliance History Information

A review of the ECHO list, as provided by EDR, dated 09/25/2022 has revealed that there are 17 ECHO sites within the requested target property.

Site A3 – Street J D & Co., Inc. Hwy 51 North. Located within the Conceptual Corridor 1 footprint.

Site A4 – Anna Ready Mix Co., 51 North. Located within the Conceptual Corridor 1 footprint.

Site 9 – J D Streett & Co., Inc. – Cairo Terminal. Rural.

Site F23 - Haney Enterprises, LLC. 817 Broadway Street.

Site K46 – J & J Auto Service, 556 Broadway.

Site P66 – Mac & Mac Equipment, Hwy 60 & Wall Street.

Site P68 – Veach Oil & Gas, Hwy 60 & Wall Street.

Site 113 - Cairo Dry Kilns Inc. Hwy 51, 2 miles north of Cairo. Status: Env. Closed.

Site 116 – Ready Mix Solutions, Route 1. Located within Conceptual Corridor 2 limits.

Site 117 – Barlow WTP, end of South 6th Street.

Site S119 – Dollar General Store, 14144 Turner Lane. Located within Conceptual Corridor 2 limits.

Site U127 – IDOT Cairo Team Section, 12864 Patierdale Road. No violation identified.

Site 128 – Cairo Truck Repair, Route 3 & I-57.

Site X137 – Ohio River Co., River Mile 5.5.

Site X138 - Phillips Petroleum Co., Holbrook & Mo. Pac R/R.

Site Y140 – Illinois Central Railroad Corp., Jct. Route 3 & Hwy 51.

Site 148 – Johnson Bert Pargon Marine.

• **KY PFAS**: PFAS Detections Site Listing

A review of the KY PFAS list, as provided by EDR, dated 12/01/2022 has revealed that there is 1 KY PFAS site within the requested target property.

Site 20 – Barlow WTP, end of South 6th Street. Not reported.

KY ASBESTOS: Asbestos Notification Listing

A review of the KY ASBESTOS list, as provided by EDR, dated 09/14/2022 has revealed that there is 1 KY ASBESTOS site within the requested target property.

Site 6 - Kentucky Utilities Co. Storeroom, 433 Oscar Road. Env. Closed - mitigated.

• IL ASBESTOS: ASBESTOS

A review of the IL ASBESTOS list, as provided by EDR, has revealed that there is 1 IL ASBESTOS site within the requested target property.

Site 133 – Illinois Bell – Cairo, 12737 Patierdale Road. **Demolition – no asbestos.** Located within Conceptual Corridor 2 limits.

IL AIRS: Air Inventory Listing

A review of the IL AIRS list, as provided by EDR, dated 01/04/2023 has revealed that there are 5 IL AIRS sites within the requested target property.

Site 9 – J D Streett & Co., Inc. – Cairo Terminal. Rural. Notice of violation.

Site X137 – Ohio River Co., River Mile 5.5. Air minor.

Site X138 – Phillips Petroleum Co., Holbrook & Mo. Pac R/R. Air minor.

Site X139 - Cairo Dry Kilns Inc. Hwy 51, 2 miles north of Cairo. Not reported.

Site 145 - Ready Mix Solutions, Route 1. Located within Conceptual Corridor 2 limits.

• **KY Financial Assurance**: Financial Assurance Information Listing

A review of the KY Financial Assurance list, as provided by EDR, has revealed that there are 2 KY Financial Assurance sites within the requested target property.

Site J42 – J & J Auto Service, 556 Broadway. Clean up.

Site M56 – Veach Oil & Gas, Hwy 60 & Wall Street.

KY NPDES: Permitted Facility Listing

A review of the KY NPDES list, as provided by EDR, dated 02/21/2023 has revealed that there are 5 KY NPDES sites within the requested target property.

Site C10/C11 - Hagood Oil Co Inc. 902 Broadway Street. **Removed tank verified.** Located within Conceptual Corridor 1 limits.

Site F22 – Not reported. 817 Broadway Street.

Site F24 – Not reported. 817 Broadway Street.

Site 70 – Dollar General Store - Barlow, US 60. Facility status: terminated.

Site R76 – Barlow STP, end of south 6th Street. Facility status: active.

• **EDR MGP**: EDR Proprietary Manufactured Gas Plants

A review of the EDR MGP list, as provided by EDR, has revealed that there is 1 EDR MGP site within the requested target property.

Site 142 – Illinois Power Town Gas Plant, Washington Avenue & 1st Street.

• EDR Hist Auto: EDR Exclusive Historical Auto Stations

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 2 EDR Hist Auto sites within the requested target property.

Site J40 – J & J Auto Service, 556 Broadway. Gasoline service station.

Site V129 – Cargo Truck Plaza. 13113 Kessler Road. No information.

KY RGA LF: Recovered Government Archive Solid Waste Facilities List

A review of the KY RGA LF list, as provided by EDR, has revealed that there are 2 KY RGA LF sites within the requested target property.

Site L52/L53 – Bluegrass Recycling, 105 South 7th Street. No additional information.

Lists of state and tribal hazardous waste facilities

IL SSU: State Sites Unit Listing

A review of the IL SSU list, as provided by EDR, dated 03/23/2022 has revealed that there are 2 IL SSU sites within approximately 1 mile of the requested target property.

Site 151 – Elmwood School, 500 37th Street. Abandoned school. Asbestos.

Site 152 – Cairo School. 29th and Sycamore. Abandoned school. Asbestos.

• Lists of state and tribal landfills and solid waste disposal facilities

IL SWF/LF: Available Disposal for Solid Waste in Illinois - Solid Waste Landfills Subject to State Surcharge

A review of the IL SWF/LF list, as provided by EDR, has revealed that there are 4 IL SWF/LF sites within approximately 0.5 miles of the requested target property.

Site 144 – Cairo Drainage District, Cairo, Illinois. Operational status: Closed final cover.

Site 147 – Mound City Municipal, No address. Operational status: Closed final cover.

Site 149 – Bruce Deal. 613 Walnut Street. Operational status: Closed final cover.

Site 150 – Cairo Municipal. No address. Operational status: Closed final cover.

• RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

A review of the RCRA NonGen / NLR list, as provided by EDR, dated 11/21/2022 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the requested target property.

Site 148 – Johnson Bert Paragon, 3rd Street River Bank. Not a generator – verified.

4.0 SITE RECONNAISSANCE OBSERVATIONS

A site field review and reconnaissance was conducted in January 2023. Due to the immense size and nature of the study area not all areas were accessible. It is recommended that once a future project is identified, additional site reviews be conducted. Observations were made relative to environmental issues including, but not limited to polychlorinated biphenyls (PCBs), underground storage tanks (USTs), aboveground storage tanks (ASTs), special and hazardous waste, and visible or suspected site contamination (see Appendix B, Site Photos). The potential environmental concerns include the following:

4.1 Polychlorinated Biphenyls (PCBs)

Power pole-mounted electrical transformers may contain polychlorinated biphenyls (PCBs) and can be found in the study area along existing US 60. Due to the quantity of PCBs typically found in these types of transformers, any releases or associated contamination would be minimal. Should these transformers require relocation, any PCB-containing transformers must be handled consistent with applicable regulations. Relocation of these transformers is normally undertaken by the local electric utility.

Fluorescent light fixtures with ballast that may contain PCBs could be located in subject structures, which were inspected only on the exterior during site investigations. All fluorescent light fixtures should be handled and disposed of in accordance with applicable regulations.

4.2 Underground Storage Tanks (USTs)

Information in the EDR report indicates there were nine (9) listed underground storage tanks (UST) in Kentucky and three (3) USTs in Illinois adjacent to the project footprint. Three (3) of the sites were listed as closed in place. No vent/fill pipes or any other evidence of unregistered USTs were observed during the site inspection. Due to the age of some structures, however, heating fuel oil USTs could exist on local residential property or farming operations.

4.3 Aboveground Storage Tanks (ASTs)

Three (3) ASTs in Kentucky and one (1) AST in Illinois were listed and identified. ASTs may be associated with certain residences located in the project area. Residential ASTs are usually tanks containing propane. Propane tanks are normally provided and serviced by specific vendors and if these propane tanks require relocation, the vendors of each tank that may be affected will be notified prior to construction or demolition activities.

The investigations for this report did not include an inspection of the interior of subject structures and it is possible that ASTs may be located in residential dwellings to store heating fuel oil for boiler systems.

4.4 Solid Waste Disposal and Uncontrolled Dumping

Due to site conditions, some of the undeveloped and forested areas were not fully inspected during field investigations. These areas, which were viewed only from a distance, could include waste dumps hidden by vegetation. Residential/farm waste dumps could be present within areas on private properties. Where such dumps are encountered, the materials should be recycled or otherwise disposed of properly.

4.5 Pesticides / Herbicides

Area farms and/or residential properties are likely to use pesticides and herbicides. Pesticides or herbicides pose a hazard if they are improperly disposed of or misapplied. No obvious evidence of chemical misapplication or improper storage of chemicals was observed during investigations. The inspection of structures was limited to the exterior and there may be materials stored on area farms or businesses that that would meet the criteria of hazardous waste.

4.6 Asbestos-Containing Materials (ACM)

It is anticipated that a future project will occur on new alignment and will require additional right-of-way. Therefore, it is likely that the project would also include potential relocations with the possibility of buildings containing ACM. Any structures anticipated to be displaced or relocated will be investigated prior to demolition for ACM.

4.7 Site Contamination

During the site reconnaissance, the inspector looked for evidence of current or past site contamination or sources of potential site contamination. No strained or stressed vegetation was observed, although not every parcel was surveyed in detail. No additional evidence of contamination along the corridor was observed during field visits.

5.0 CONCLUSIONS

The objective of this baseline assessment is to identify hazardous materials and environmental conditions or concerns in accordance with ASTM Standard E1527-13. A database search was conducted, the results of which are summarized in **Table 1**. Based on the results of the EDR database search, twelve sites were identified with potential USTs. These sites should be avoided, if possible by a future project.

Other possible environmental concerns throughout the project area include:

- Refuse dumped into sinkholes.
- Multiple power pole mounted electrical transformers suspected to contain polychlorinated biphenyls (PCBs).
- Farms that handle and store pesticides/herbicides on site for farming operations.
- Improperly functioning septic tank systems.

A future project should coordinate with the KYTC Division of Environmental Analysis (DEA) to reevaluate the identified suspect/contaminated sites and see if Phase II assessments (i.e., soil and groundwater testing for known contaminants) are warranted. The testing would be completed to identify contaminants within the soils and determine if they would propose a risk to contractors. It is recommended the testing occur prior to construction, so that the contactor can determine the amount of soil to be removed (if any), prior to bidding on the project.

The following measures should be considered during future project development phases:

- If possible, avoid refuse dumped in sinkholes and AST drum areas/sites. If they these
 sites/properties are impacted by the selected alternative, the current property owners
 should clean them up prior to purchasing the site/property;
- Once preliminary lines and grades have been established for a future selected alternative and prior to purchasing right-of-way, reevaluate the project corridor to see if any sites/properties need further investigation;
- If any structures/bridges are proposed to be demolished or renovated, an asbestos inspection will be required. If any structures are identified to be displaced or relocated an inspection/abatement needs to be conducted prior to demolition and/or renovation activities, typically following purchase of the property/structure(s).

Table 1: List of Suspected Contamination Sites and Recommendations

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
1	Ohio River, above MP 974 Cairo, Illinois	IL Spills	Not reported.	Not likely
2	Cairo Drainage District Cairo, Illinois 62914	IL SWF/LF	Not reported.	Not likely
А3	Street J D & Co. Inc. Hwy 51 North Urbandale, IL 62914		Not reported. Located within the Conceptual Corridor 1 footprint.	Unlikely, needs to be verified.
A4	Anna Ready Mix Inc. 51 North Cairo, IL 62914		Not reported. Located within the Conceptual Corridor 1footprint.	Unlikely, needs to be verified.
B5	Barlow, Kentucky	KY SPILLS	Env. Closed.	Unlikely
6	Kentucky Utilities Co. Storeroom 433 Oscar Road Barlow, KY 42024	KY Asbestos	Env. Closed. Mitigated.	Unlikely
В7	Kentucky Utilities Co. Storeroom KY 1105 Barlow, KY 42024	KY UST	Removed prior to 1988.12/01/1988.	Unlikely, outside corridor limits.
8	Barlow, Kentucky	KY Spills	Env. Closed. Truck accident.	Unlikely
9	J D Streett & Co. Inc. Cairo Terminal Rural Cairo, IL 62914	ICIS, FINDS, ECHO, IL AIRS	Not reported. Notice of violation. 11/01/2000.	Unlikely
C10/C11	Hagood Oil Co. Inc. 902 Broadway Street Barlow, KY 42024	KY UST, NPDES	Tank status: Removed tank verified. TRM. 04/06/2005.	Unlikely, located within corridor Conceptual Corridor 1.
12	Barlow, Kentucky	, KY SPILLS	Illegal disposal.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
D13	Ballard County Fiscal Court 326 Lake Drive Barlow, KY 42024	KY AST	Add new tank to existing site.	Unlikely, located outside corridor.
D14	Ballard Co Road Department 326 Lake Drive Barlow, KY 42024	FINDS	No additional information.	Unlikely
E15	John Stephenson residence 532 Monroe Drive Barlow, KY 42024	FINDS	Not reported.	Unlikely
16	Barlow, Kentucky	KY SPILLS	Env. Closed.	Unlikely
F17	Allreds Service Station 808 Broadway Street Barlow, KY 42024	KY UST	Removed tank verified. Env. Closed Managed. 3/9/1988.	Unlikely
18	Barlow, Kentucky	KY SPILLS	Env. Closed. Managed.	Unlikely
E19	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
20	Barlow WTP End of 6 th Street	KY PFAS	Not reported.	Unlikely
21	Barlow, Kentucky	KY SPILLS	Env. Closed. Managed	Unlikely
F22	817 Broadway Street Barlow, KY 42024	KY NPDES	Not reported.	Unlikely
F23	Haney Enterprises, LLC 817 Broadway Street Barlow, KY 42024	FINDS, ECHO	Not reported.	Unlikely
F24	817 Broadway Street Barlow, KY 42024	KY NPDES	Not reported.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
G25	Barlow, Kentucky	KY SPILLS	Env. Closed. Restored.	Unlikely
G26 – G28	Barlow, Kentucky	KY SPILLS	Env. Closed. No action necessary.	Unlikely
G29	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
G30 -G33	Barlow, Kentucky	KY SPILLS	Env. Closed. No action necessary.	Unlikely
H34	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
135	AA Investments & Holding 799 Broadway Street Barlow, KY 42024	KY AST	Permit status: Cancelled.	Unlikely
136	CutMart #5 799 Broadway Street Barlow, KY 42024	KY UST	Removed tank verified. 04/01/2019	Unlikely
J37	Barlow, Kentucky	KY SPILLS	Response/investigate. Not reported.	Unlikely
H38	Bettys Corner Café Broadway Street & 4 th Barlow, KY 42024	KY UST	TCP. Closed in place. 05/22/1997.	Unlikely
H39	64223 – Bettys Corner Cafe Broadway Street & 4 th Barlow, KY 42024	FINDS	Leaking underground storage tank, not reported.	Unlikely
J40	J and J Service 756 Broadway Barlow, KY 42024	EDR Hist Auto	Gasoline service station.	Unlikely
J41	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
J42	J and J Auto Service 756 Broadway Barlow, KY 42024	KY Financial Assurance	Clean up.	Unlikely
43	Barlow, Kentucky	KY SPILLS	Env. Closed. No action necessary.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
K44	J & J Auto Service 556 Broadway Barlow, KY 42024	KY UST	Removed tank verified. Closed in place 06/06/1997.	Unlikely
K45	J and J Auto Service 556 Broadway Barlow, KY 42024	KY SB193	Not a generator, verified. No additional information.	Unlikely
K46	J and J Auto Service 556 Broadway Barlow, KY 42024	RCRA NonGen/NLR, FINDS, ECHO	Not a generator, verified.	Unlikely
K47	Barlow, Kentucky	KY SPILLS	Env. Closed. No action – restored.	Unlikely
48	14930 State Highway 37 Cairo, Illinois	IL SPILLS	Not reported.	Unlikely
49	Dennis Brown Property 705 Broadway Barlow, KY 42024	FINDS	Not reported.	Unlikely
50	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
L51	Bluegrass Recycling & Transfer Co. 105 7 th Street Barlow, KY 42024	FINDS	Not reported.	Unlikely
L52/L53	Bluegrass Recycling & Transfer Co. 105 7 th Street Barlow, KY 42024	KY RGA LF	No additional information.	Unlikely
L54	Commercial Waste Inc. 105 North 7 th Street Barlow, KY 42024	KY AST	Permit status: completed.	Unlikely
L55	Bluegrass Recycling & Transfer Co. 105 7 th Street Barlow, KY 42024	KY SWF/LF KY HIST LF	Transfer application approved. Status: Terminated.	Unlikely
M56	Veach Oil & Gas Hwy 60 & Wall Street Barlow, KY 42024	KY SB 193, KY UST, KY Financial Assurance	Removed tank verified. TRM. Tank removed 04/11/1997.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
N57	Barlow, Kentucky	KY SPILLS	Env. Closed – unfounded.	Unlikely
N58	Barlow, Kentucky	KY SPILLS	Env. Closed – open burning.	Unlikely
59	Barlow, Kentucky	KY SPILLS	Env. Closed – soil contamination. Contained or managed.	Unlikely
M60	Mac & Mac Equipment Co. Hwy 60 Barlow, KY 42024	KY UST	Removed tank verified. TRM. Closed in place 12/04/1996.	Unlikely
061	Barlow, Kentucky	KY SPILLS	Env. Closed – natural disaster. Mitigated.	Unlikely
62	American Commercial Lines 14614 Ohio River Level Cairo, IL 62914	IL AST	500 tank above ground.	Unlikely
O63	Barlow, Kentucky	KY SPILLS	Env. Closed. Mitigated.	Unlikely
P64	Veach Oil & Gas Hwy 60 & Wall Street Barlow, KY 42024	RCRA NonGen/NLR	Not a generator, verified.	Unlikely
P65	Mac & Mac Equipment Co. Hwy 60 & Wall Street Barlow, KY 42024	KY SB 193, RCRA NonGen/NLR	Not a generator, verified.	Unlikely
P66	Mac & Mac Equipment Co. Hwy 60 & Wall Street Barlow, KY 42024	FINDS, ECHO	Not reported.	Unlikely
P67	John Sullivan Property Hwy 60 & Wall Street Barlow, KY 42024	FINDS	Not reported.	Unlikely
P68	Veach Oil & Gas Hwy 60 & Wall Street Barlow, KY 42024	FINDS, ECHO	Not reported.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
P69	John Sullivan Property Hwy 60 & Wall Street Barlow, KY 42024	KY UST	Removed tank verified. 12/16/1996.	Unlikely
70	Dollar General – Barlow US 60 Barlow, KY 42024	NPDES	Facility status: terminated.	Unlikely
Q71 – Q73	Cairo, Illinois	IL SPILLS	Not reported.	Unlikely
Q74	Ohio River Mile 976 Cairo, Illinois	IL SPILLS	Not reported.	Unlikely
Q75	Cairo, Illinois	IL SPILLS	Not reported.	Unlikely
R76	Barlow STP End of South 6 th Street Barlow, KY 42024	KY NPDES	Sewerage systems. Minor.	Unlikely
R77 – R79	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R80	Barlow, KY	KY SPILLS	Approve Environmental Close.	Unlikely
R81 – R83	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R84	Bardwell, KY	KY SPILLS	Env. Closed – No action/Managed.	Unlikely
R85	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R86	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R87	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R88	Barlow, KY	KY SPILLS	Env. Closed – No action/Managed.	Unlikely
R89/R90	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R91	Barlow WWTP End of 6 th Street Barlow, KY 42024	SHWS	Closed.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
R92-R94	Barlow, KY	KY SPILLS	Env. Closed – Managed.	Unlikely
R95-R97	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R98	Barlow, KY	KY SPILLS	Env. Closed – No action/Managed.	Unlikely
R99-R100	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R101	Barlow, KY	KY SPILLS	Env. Closed – No action/managed.	Unlikely
R102-R103	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R104	Barlow, KY	KY SPILLS	Approve Env. Close	Unlikely
R105-R106	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R107	Barlow, KY	KY SPILLS	Approve Env. Close	Unlikely
R108	Barlow, KY	KY SPILLS	Overflow of sewer plant. Not reported.	Unlikely
R109	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R110	Barlow, KY	KY SPILLS	Env. Closed – No action/Managed.	Unlikely
R111	Barlow, KY	KY SPILLS	Env. Closed – No action necessary.	Unlikely
R112	Barlow, KY	KY SPILLS	Env. Closed – Mitigated.	Unlikely
113	Cairo Dry Kiln, Inc.(2 miles north of Cairo) Hwy 51 Cairo, IL 62914	FINDS, ECHO	Air Emissions unknown.	Unlikely
114	Barlow, KY	KY SPILLS	Env. Closed – Mitigated.	Unlikely
115	Veach Oil Co. Route 3 & Route 51 Cairo, IL 62914	FINDS	Not reported.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
116	Ready Mix Solutions, LLC Route 1 Cairo, IL 62914	FINDS, ECHO	Air Minor.	Unlikely, located within Conceptual Corridor 2
117	Barlow STP End of South 6 th Street Barlow, KY 42024	FINDS, ECHO	ICIS-NPDES Non major.	Unlikely
S118	Dollar General Store 7581 14144 Turner Lane Cairo, IL 62914	RCRA-VSQG	Conditionally exempt small quantity generator.	Unlikely, located within Conceptual Corridor 2
S119	Dollar General Store 7581 14144 Turner Lane Cairo, IL 62914	FINDS, ECHO	Not reported.	Unlikely, located within Conceptual Corridor 2
T120	Travel Hut I I-57 & Route 3 Cairo, IL 62914	IL UST	Closed. Tank status: removed. 3/29/2000.	Unlikely
T121	Cairo Truck Plaza 1311 Kessler Road Cairo, IL 62914	IL UST	Tank status: removed. 12/17/2009.	Unlikely
122	Barlow, KY	KY SPILLS	Issue notice of violation.	Unlikely
T123	Transport SVC Co. I-57 MM 1 Cairo, IL 62914	FINDS	Not reported.	Unlikely
124	Roadway Investment, Inc. I-57 & Route 3 NE Corner Cairo, IL 62914	FINDS	Refuse disposal.	Unlikely
125	Big Tonys Lounge Route 51 N RR 1 Cairo, IL 62914	FINDS	Refuse disposal.	Unlikely
U126	IDOT Cairo Team Section 931C 12864 Patierville Road Cairo, IL 62914	RCRA-VSQG	Conditionally exempt small quantity generator.	Unlikely, located within Conceptual Corridor 2

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
U127	IDOT Cairo Team Section 931C 12864 Patierville Road Cairo, IL 62914	ECHO	No violation identified.	Unlikely
128	Cairo Truck Repair Route 3 & I-57 Cairo, IL 62914	FINDS, ECHO	Not reported.	Unlikely
V129	Cairo Truck Plaza & Restaurant 13133 Kessler Road Cairo, IL 62914	EDR Hist Auto	No information.	Unlikely
V130	Cairo Truck Plaza 13107 Kessler Road Cairo, IL 62914	IL SPILLS	Not reported.	Unlikely
V131	Cairo Truck Plaza 13107 Kessler Road Cairo, IL 62914	IL SPILLS	Closed. Leak or spill. Underground storage tank.	Unlikely, located outside corridor
V132	Cairo Truck Plaza 13107 Kessler Road Cairo, IL 62914	ERNS	Railroad non-release.	Unlikely
133	Illinois – Bell Cairo 12737 Patierville Road Cairo, IL 62914	IL Asbestos	Demolition. Not reported	Unlikely, located within Conceptual Corridor 2
W134	Echo Clean Inc. 17 th Street West Cairo, IL 62914	RCRA Non Gen/NLR	Not a generator, verified.	Unlikely
W135	Illinois Power Co Cairo GMS Washington Avenue & 1 st Avenue Cairo, IL 62914	RCRA Non Gen/NLR	Not a generator, verified.	Unlikely
W136	Ft. Defiance State Park US Route 51 Cairo, IL 62914	RCRA Non Gen/NLR	Not a generator, verified.	Unlikely

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
X137	Ohio River Co. River Mile 5.5 Cairo, IL 62914	FINDS, ECHO, IL AIRS	Permanently closed. Air Minor.	Unlikely
X138	Phillips Petroleum Company Holbrook & Mo. Pac RR Cairo, IL 62914	FINDS, ECHO, IL AIRS	Permanently closed. Air Minor.	Unlikely
X139	Cairo Dry Kilns Hwy 51, 2 miles north of Cairo Cairo, IL 62914	IL AIRS	Not reported.	Unlikely
Y140	Illinois Central Railroad Corp. Jct. Route 3 & Hwy 51 Cairo, IL 62914	FINDS, ECHO	ICIS-NPDES Non major.	Unlikely, located within Conceptual Corridor 2
Y141	Veach Service Hwy 3 & 51 Cairo, IL 62995	IL UST	Facility status: Closed. Tank status: removed.9/29/1999.	Unlikely, located within Conceptual Corridor 2
142	Illinois Power Town Gas Plant Washington Avenue & 1 st Street Cairo, IL 62914	EDR MGR	No additional information.	Unlikely
143	George Moss Route 51 & 1 st Street Cairo, IL 62914	FINDS	No information.	Unlikely
144	Cairo Drainage District Cairo, IL 62914	IL SWF/LF	Closed final cover.	Unlikely
145	Ready Mix Solutions, LLC Route 1 Cairo, IL 62914	US AIRS IL AIRS	Inspection/evaluation.	Unlikely, located within Conceptual Corridor 2
146	AT&T – Tank #1-148 13101 Third Avenue Cairo, IL 62914	IL AST	Above ground bulk storage. Permit status: cancelled.	Unlikely, needs to be verified.

Map Site #	Site	Database/ Source	Suspected Contaminant or Recognized Environmental Concern (REC)	Involvement of Contamination with Project
147	Mound City Municipal Mound City, IL 62963	IL SWF/LF	Closed final cover.	Unlikely
148	Johnson Bert Pargon Marine 3 rd Street River Bank Mound City, IL 62963	RCRA NonGen/NLR, FINDS, ECHO	Not a generator, verified.	Unlikely
149	Bruce Deal 613 Walnut Street Mound City, IL 62963	IL SWF/LF	Closed final cover.	Unlikely
150	Cairo Municipal 1 Cairo, IL 62914	IL SWF/LF	Closed final cover.	Unlikely
151	Elmwood School 500 37 th Street Cairo, IL	IL SSU	Abandoned school. Asbestos.	Unlikely, unless relocated by the project.
152	Cairo School 29 th & Sycamore Cairo, IL	IL SSU	Abandoned school. Asbestos.	Unlikely, unless relocated by the project.

Appendix A: Lightbox (EDR) Database Search Report

US 60 Ballard County

US 60 Ballard County Barlow, KY 42024

Inquiry Number: 7268867.5s

March 02, 2023

EDR Area / Corridor Report



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Thank you for your business.Please contact EDR at 1-800-352-0050 with any questions or comments.

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A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527-21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

US 60 BALLARD COUNTY BARLOW, KY 42024

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in **bold italics** are in multiple databases.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal RCRA generators

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

A review of the RCRA-VSQG list, as provided by EDR, and dated 11/21/2022 has revealed that there are 2 RCRA-VSQG sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
DOLLAR GENERAL STORE EPA ID:: ILR000186254	14144 TURNER LN	S118/8	155
IDOT CAIRO TEAM SECT EPA ID:: ILR000208645	12864 PATIERDALE RD	U126 / 8	164

Federal ERNS list

ERNS: Emergency Response Notification System

A review of the ERNS list, as provided by EDR, and dated 12/12/2022 has revealed that there is 1 ERNS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
Not reported	13107 KESSLER ROAD	V132 / 7	170

NRC Report #: 1294046

Incident Date Time: 12/10/2020 11:00

Lists of state- and tribal hazardous waste facilities

KY SHWS: State Leads List

A review of the KY SHWS list, as provided by EDR, and dated 09/14/2022 has revealed that there is 1 KY SHWS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
BARLOW WWTP Facility Id: 44	END OF 6TH STREET	R91 / 11	136
Facility Status: Closed			

Lists of state and tribal landfills and solid waste disposal facilities

KY SWF/LF: Solid Waste Facilities List

A review of the KY SWF/LF list, as provided by EDR, and dated 08/25/2022 has revealed that there is 1 KY SWF/LF site within the requested target property.

Site	Address	Map ID / Focus Map(s)	<u>Page</u>
BLUEGRASS RECYCLING Status: Terminated	105 S 7TH ST	L55 / 11	98
Facility Id: 37043			

IL SWF/LF: Available Disposal for Solid Waste in Illinois - Solid Waste Landfills Subject to State Surcharge

A review of the IL SWF/LF list, as provided by EDR, has revealed that there are 2 IL SWF/LF sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
CAIRO DRAINAGE DISTR Database: LF WMRC, Date of Go IEPA ID Number: 38520001	overnment Version: 12/31/2001	2/8	47
CAIRO DRAINAGE DIST Database: LF WMRC, Date of Go Operational Status: CLOSED FIN IEPA ID Number: 38520002		144 / 14	211

Lists of state and tribal leaking storage tanks

KY SB193: SB193 Branch Site Inventory List

A review of the KY SB193 list, as provided by EDR, and dated 09/05/2006 has revealed that there are 3 KY SB193 sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
J AND J AUTO SERVICE Facility Id: 1007004	556 BROADWAY	K45 / 11	92
VEACH OIL & GAS Facility Id: 1005004	HWY 60	M56 / 11	99
MAC & MAC EQUIPMENT Facility Id: 1006004	HWY 60 & WALL ST	P65 / 11	114

Lists of state and tribal registered storage tanks

KY UST: Underground Storage Tank Database

A review of the KY UST list, as provided by EDR, and dated 11/08/2022 has revealed that there are 9 KY UST sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
KENTUCKY UTILITIES C Tank Status: TR8 Facility Id: 64401	KY 1105	B7 / 11	52
HAGOOD OIL CO INC Tank Status: TRM Tank Status: TR8 Facility Id: 57252 Closed In Place Date: 11/01/2000	902 BROADWAY ST	C10 / 11	55
ALLREDS SERVICE STAT Tank Status: TRM Facility Id: 57245 Closed In Place Date: 03/09/1998	808 BROADWAY	F17 / 11	64
CUTMART #5 Tank Status: TRM Facility Id: 57251 Closed In Place Date: 12/21/2017	799 BROADWAY ST	136 / 11	80
BETTYS CORNER CAFE Tank Status: TCP Facility Id: 64223 Closed In Place Date: 05/22/1997 Closed In Place Date: 11/25/1996		H38 / 11	83
J & J AUTO SERVICE Tank Status: TRM Tank Status: DUP Facility Id: 57255 Closed In Place Date: 06/06/1997	556 BROADWAY	K44 / 11	87
VEACH OIL & GAS	HWY 60	M56 / 11	99

Tank Status: TRM Facility Id: 57225

Closed In Place Date: 12/04/1996

MAC & MAC EQUIP CO HWY 60 M60 / 11

Tank Status: TRM Tank Status: TEX Facility Id: 57215

Closed In Place Date: 12/04/1996

JOHN SULLIVAN PROPER JCT OF US 60 & WALL P69 / 11 118

Tank Status: TRM Facility Id: 57223

IL UST: Underground Storage Tank Facility List

A review of the IL UST list, as provided by EDR, and dated 10/17/2022 has revealed that there are 3 IL UST sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	<u>Page</u>
TRAVEL HUT I Tank Status: Removed Status: CLOSED Facility Id: 7008179	I-57 & RT 3	T120 / 7	158
CAIRO TRUCK PLAZA Tank Status: Removed Status: CLOSED Facility Id: 7006807	1311 KESSLER RD.	T121 / 7	160
VEACH SERVICE Tank Status: Removed Status: CLOSED Facility Id: 7023262	HWY 3 & 51	Y141 / 8	205

KY AST: Above Ground Storage Tanks

A review of the KY AST list, as provided by EDR, and dated 06/01/2021 has revealed that there are 3 KY AST sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
BALLARD CO FISCAL CT	326 LAKE DRIVE	D13 / 11	62
AA INVESTMENTS & HOL	799 BROADWAY ST	I35 / 11	79
COMMERCIAL WASTE INC	105 N 7TH ST	L54 / 11	98

IL AST: Above Ground Storage Tanks

A review of the IL AST list, as provided by EDR, and dated 10/04/2022 has revealed that there are 2 IL AST sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
AMERICAN COMMERCIAL Occupancy Number: 003-055-AB	14614 OHIO RIVER LEV	62 / 8	111
AT & T-TANK#1-148	13101 THIRD AVENUE	146 / 14	224

106

Occupancy Number: AB-059-1554138845155

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

KY HIST LF: Historical Landfills

A review of the KY HIST LF list, as provided by EDR, and dated 05/01/2003 has revealed that there is 1 KY HIST LF site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
BLUEGRASS RECYCLING	105 S 7TH ST	L55 / 11	98
Activity Status: APPLICATION	APPROVED		
Status: OPERATING			
Facility Id: 004-00007			

Records of Emergency Release Reports

KY SPILLS: State spills

A review of the KY SPILLS list, as provided by EDR, and dated 10/31/2022 has revealed that there are 64 KY SPILLS sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
Not reported Facility Status: Env. Clos Inc ID: 2272895	sed	B5 / 11	50
Not reported Facility Status: Initiated Inc ID: 2363368		8/11	53
Not reported Facility Status: Respons Inc ID: 2456971	e/Investigate	12 / 11	61
Not reported Facility Status: Env. Clos Inc ID: 2323468	sed	16 / 11	63
Not reported Facility Status: Env. Clos Inc ID: 196288	sed	18 / 11	67
Not reported Facility Status: Env. Clos Inc ID: 2443246	sed	E19 / 11	68
Not reported Facility Status: Forwarde Inc ID: 2360549	ed to Outside Agency	21 / 11	69
Not reported		G25 / 11	72

Facility Status: Env. Closed Inc ID: 2443819		
Not reported Facility Status: Env. Closed Inc ID: 2371700	G26 / 11	73
Not reported Facility Status: Env. Closed Inc ID: 2335252	G27 / 11	74
Not reported Facility Status: Env. Closed Inc ID: 2344791	G28 / 11	74
Not reported Facility Status: Env. Closed Inc ID: 2326555	G29 / 11	75
Not reported Facility Status: Env. Closed Inc ID: 2383799	G30 / 11	76
Not reported Facility Status: Env. Closed Inc ID: 2388388	G31 / 11	76
Not reported Facility Status: Env. Closed Inc ID: 2385979	G32 / 11	77
Not reported Facility Status: Env. Closed Inc ID: 2400294	G33 / 11	78
Not reported Facility Status: Env. Closed Inc ID: 2354643	H34 / 11	79
Not reported Facility Status: Response/Investigate Inc ID: 2395749	J37 / 11	82
Not reported Facility Status: Env. Closed Inc ID: 2362112	J41 / 11	85
Not reported Facility Status: Env. Closed Inc ID: 2427064	43 / 11	86
Not reported Facility Status: Env. Closed Inc ID: 194212	K47 / 11	95
Not reported Facility Status: Env. Closed Inc ID: 2375528	50 / 11	96
Not reported Facility Status: Env. Closed Inc ID: 2305691	N57 / 11	104
Not reported Facility Status: Env. Closed	N58 / 11	105

Inc ID: 2290577		
Not reported Facility Status: Env. Closed Inc ID: 197036	59 / 11	105
Not reported Facility Status: Env. Closed Inc ID: 2328989	O61 / 11	110
Not reported Facility Status: Env. Closed Inc ID: 2310546	O63 / 11	111
Not reported Facility Status: Env. Closed Inc ID: 210519	R77 / 11	126
Not reported Facility Status: Env. Closed Inc ID: 213739	R78 / 11	127
Not reported Facility Status: Env. Closed Inc ID: 203048	R79 / 11	128
Not reported Facility Status: Approve Environmental Close Inc ID: 2093	R80 / 11	129
Not reported Facility Status: Env. Closed Inc ID: 2251669	R81 / 11	129
Not reported Facility Status: Env. Closed Inc ID: 2270354	R82 / 11	130
Not reported Facility Status: Env. Closed Inc ID: 2272312	R83 / 11	131
Not reported Facility Status: Env. Closed Inc ID: 2270349	R84 / 11	131
Not reported Facility Status: Env. Closed Inc ID: 2270352	R85 / 11	132
Not reported Facility Status: Env. Closed Inc ID: 180385	R86 / 11	133
Not reported Facility Status: Env. Closed Inc ID: 1425	R87 / 11	134
Not reported Facility Status: Env. Closed Inc ID: 192780	R88 / 11	134
Not reported Facility Status: Env. Closed Inc ID: 2275833	R89 / 11	135
Not reported	R90 / 11	136

Facility Status: Env. Closed Inc ID: 2274504		
Not reported Facility Status: Env. Closed Inc ID: 201163	R92 / 11	137
Not reported Facility Status: Env. Closed Inc ID: 2273517	R93 / 11	138
Not reported Facility Status: Env. Closed Inc ID: 196766	R94 / 11	138
Not reported Facility Status: Env. Closed Inc ID: 2329363	R95 / 11	139
Not reported Facility Status: Env. Closed Inc ID: 2326038	R96 / 11	140
Not reported Facility Status: Env. Closed Inc ID: 2348579	R97 / 11	140
Not reported Facility Status: Env. Closed Inc ID: 2415606	R98 / 11	141
Not reported Facility Status: Env. Closed Inc ID: 2357737	R99 / 11	142
Not reported Facility Status: Env. Closed Inc ID: 2340025	R100 / 11	143
Not reported Facility Status: Env. Closed Inc ID: 2390640	R101 / 11	143
Not reported Facility Status: Env. Closed Inc ID: 2390248	R102 / 11	144
Not reported Facility Status: Env. Closed Inc ID: 2335998	R103 / 11	145
Not reported Facility Status: Approve Environmental Close Inc ID: 260	R104 / 11	145
Not reported Facility Status: Env. Closed Inc ID: 2332934	R105 / 11	146
Not reported Facility Status: Env. Closed Inc ID: 2384567	R106 / 11	147
Not reported Facility Status: Approve Environmental Close	R107 / 11	148

Inc ID: 958		
Not reported Facility Status: Initiated Inc ID: 2847	R108 / 11	148
Not reported Facility Status: Env. Closed Inc ID: 2295256	R109 / 11	149
Not reported Facility Status: Env. Closed Inc ID: 2291340	R110 / 11	150
Not reported Facility Status: Env. Closed Inc ID: 2312681	R111 / 11	150
Not reported Facility Status: Env. Closed Inc ID: 2309173	R112 / 11	151
Not reported Facility Status: Env. Closed Inc ID: 196284	114 / 11	152
Not reported Facility Status: Issue Notice of Violation Inc ID: 2264056	122 / 11	162

IL SPILLS: State spills

A review of the IL SPILLS list, as provided by EDR, has revealed that there are 9 IL SPILLS sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
Not reported Database: SPILLS, Date Incident ID: 20020055	OHIO RIVER, ABOVE MP of Government Version: 09/28/2022	1/2	47
Not reported Database: SPILLS, Date Incident ID: 20080906	14930 STATE HWY 37 of Government Version: 09/28/2022	48 / 8	96
Not reported Database: SPILLS, Date Incident ID: 20030672	e of Government Version: 09/28/2022	Q71 / 8	124
Not reported Database: SPILLS, Date Incident ID: 20030551	e of Government Version: 09/28/2022	Q72 / 8	124
Not reported Database: SPILLS, Date Incident ID: 20040418	of Government Version: 09/28/2022	Q73 / 8	125
Not reported Database: SPILLS, Date Incident ID: 20110397	OHIO RIVER MILE 976 of Government Version: 09/28/2022	Q74 / 8	125
Not reported Database: SPILLS, Date	of Government Version: 09/28/2022	Q75 / 8	125

Incident ID: 20031191

CAIRO TRUCK PLAZA 13107 KESSLER RD V130 / 7 168
Database: SPILLS, Date of Government Version: 09/28/2022
Incident ID: 20091270

Not reported 13107 KESSLER RD. V131 / 7 168

ot reported 13107 KESSLER RD. V131 / 7
Database: IEMA SPILLS, Date of Government Version: 10/24/2022

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 11/21/2022 has revealed that there are 6 RCRA NonGen / NLR sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
J & J AUTO SERVICE EPA ID:: KYR000015727	556 BROADWAY	K46 / 11	92
VEACH OIL & GAS EPA ID:: KYR000012500	HWY 60 & WALL ST	P64 / 11	112
MAC & MAC EQUIPMENT EPA ID:: KYR000012203	HWY 60 & WALL ST	P65 / 11	114
ECONO CLEAN INC EPA ID:: ILD984817270	17TH ST WEST	W134 / 7	171
ILLINOIS POWER CO CA EPA ID:: ILD982614224	WASHINGTON AVE AND 1	W135 / 7	184
FT DEFIANCE STATE PA EPA ID:: IL0000488593	US RTE 51	W136 / 7	190

ICIS: Integrated Compliance Information System

A review of the ICIS list, as provided by EDR, and dated 11/18/2016 has revealed that there are 2 ICIS sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
STREET J D & CO INC FRS ID:: 110007561619	HWY 51 NORTH	A3/8	48
J D STREETT & CO INC FRS ID:: 110007264101	RURAL	9/8	53

US AIRS: Aerometric Information Retrieval System Facility Subsystem

A review of the US AIRS list, as provided by EDR, has revealed that there is 1 US AIRS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
READY MIX SOLUTIONS	RTE 1	145 / 14	212
Detailed LIO AIDO MINIOD Deta	-10	004.0	

Database: US AIRS MINOR, Date of Government Version: 10/12/2016

EPA plant ID:: 110007263914

FINDS: Facility Index System/Facility Registry System

A review of the FINDS list, as provided by EDR, and dated 08/03/2022 has revealed that there are 26 FINDS sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
STREET J D & CO INC Registry ID:: 110007561619	HWY 51 NORTH	A3/8	48
ANNA READY MIX INC Registry ID:: 110010007642	51 NORTH	A4/8	50
J D STREETT & CO INC Registry ID:: 110007264101	RURAL	9/8	53
BALLARD CO ROAD DEPA Registry ID:: 110045067253	326 LAKE DR	D14 / 11	62
JOHN STEPHENSON RESI Registry ID:: 110045106318	532 MONROE DR	E15 / 11	62
HANEY ENTERPRISES, L Registry ID:: 110070044955	817 BROADWAY STREET	F23/11	71
64223 - BETTYS CORNE Registry ID:: 110043838853	BROADWAY ST & 4TH	H39 / 11	85
J & J AUTO SERVICE Registry ID:: 110003252532	556 BROADWAY	K46 / 11	92
DENNIS BROWN PROPERT Registry ID:: 110045091404	705 BROADWAY	49 / 11	96
BLUEGRASS RECYCLING Registry ID:: 110045059351	105 S 7TH ST	L51 / 11	97
MAC & MAC EQUIPMENT Registry ID:: 110008371154	HWY 60 & WALL ST	P66 / 11	117
JOHN SULLIVAN PROPER Registry ID:: 110045105658	HWY 60 & WALLL ST	P67 / 11	117
VEACH OIL & GAS Registry ID:: 110008371332	HWY 60 & WALL ST	P68 / 11	118
CAIRO DRY KILNS INC Registry ID:: 110007279435	HWY. 51, 2 MILES N O	113/8	152
VEACH OIL CO Registry ID:: 110018297804	RTE 3 & RTE 51	115 / 8	153
READY MIX SOLUTIONS Registry ID:: 110007263914	ROUTE 1	116/8	153
BARLOW STP Registry ID:: 110009938979	END OF SOUTH 6TH ST	117/11	154
DOLLAR GENERAL STORE Registry ID:: 110061094916	14144 TURNER LN	S119/8	158
TRANSPORT SVC CO Registry ID:: 110018295307	I-57 MM 1	T123 / 7	163
ROADWAY INVESTMENT I	I-57 & RTE 3 NE COR	124 / 7	163

Registry ID:: 110028267621			
BIG TONYS LOUNGE Registry ID:: 110018295352	RTE 51 N RR 1	125 / 8	164
CAIRO TRUCK REPAIR Registry ID:: 110015325851	RT 3 & 157	128 / 7	167
OHIO RIVER CO Registry ID:: 110007279426	RIVER MILE 5.5	X137 / 7	194
PHILLIPS PETROLEUM C Registry ID:: 110002070302	HOLBROOK & MO. PAC R	X138 / 7	195
ILLINOIS CENTRAL RAI Registry ID:: 110010005378	JCT. ROUTE 3 & HWY.	Y140 / 8	205
MOSS, GEORGE Registry ID:: 110033603517	RTE 51 & 1ST ST	143 / 14	211

ECHO: Enforcement & Compliance History Information

A review of the ECHO list, as provided by EDR, and dated 09/25/2022 has revealed that there are 16 ECHO sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
STREET J D & CO INC Registry ID: 110007561619	HWY 51 NORTH	A3/8	48
ANNA READY MIX INC Registry ID: 110010007642	51 NORTH	A4/8	50
J D STREETT & CO INC Registry ID: 110007264101	RURAL	9/8	53
HANEY ENTERPRISES, L Registry ID: 110070044955	817 BROADWAY STREET	F23/11	71
J & J AUTO SERVICE Registry ID: 110003252532	556 BROADWAY	K46 / 11	92
MAC & MAC EQUIPMENT Registry ID: 110008371154	HWY 60 & WALL ST	P66 / 11	117
VEACH OIL & GAS Registry ID: 110008371332	HWY 60 & WALL ST	P68 / 11	118
CAIRO DRY KILNS INC Registry ID: 110007279435	HWY. 51, 2 MILES N O	113/8	152
READY MIX SOLUTIONS Registry ID: 110007263914	ROUTE 1	116/8	153
BARLOW STP Registry ID: 110009938979	END OF SOUTH 6TH ST	117/11	154
DOLLAR GENERAL STORE Registry ID: 110061094916	14144 TURNER LN	S119/8	158
IDOT CAIRO TEAM SECT Registry ID: 110071139357	12864 PATIERDALE RD	U127 / 8	167
CAIRO TRUCK REPAIR Registry ID: 110015325851	RT 3 & 157	128/7	167
OHIO RIVER CO	RIVER MILE 5.5	X137/7	194

Registry ID: 110007279426

 PHILLIPS PETROLEUM C
 HOLBROOK & MO. PAC R
 X138 / 7

 Registry ID: 110002070302
 JCT. ROUTE 3 & HWY.
 Y140 / 8

 Registry ID: 110010005378
 205

KY PFAS: PFAS Detections Site Listing

A review of the KY PFAS list, as provided by EDR, and dated 12/01/2022 has revealed that there is 1 KY PFAS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
BARLOW WTP		20 / 11	68

KY ASBESTOS: Asbestos Notification Listing

A review of the KY ASBESTOS list, as provided by EDR, and dated 09/14/2022 has revealed that there is 1 KY ASBESTOS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
KENTUCKY UTILITIES C	433 OSCAR ROAD	6 / 11	51

IL ASBESTOS: ASBESTOS

A review of the IL ASBESTOS list, as provided by EDR, has revealed that there is 1 IL ASBESTOS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
ILLINOIS BELL - CAIR	12737 PATIERDALE RD	133 / 8	170
Database: ASBESTOS, Date of 0	Government Version: 01/04/2023		

IL AIRS: Air Inventory Listing

A review of the IL AIRS list, as provided by EDR, and dated 01/04/2023 has revealed that there are 5 IL AIRS sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
J D STREETT & CO INC Facility Id: 81	RURAL	9/8	53
OHIO RIVER CO Facility Id: 75	RIVER MILE 5.5	X137/7	194
PHILLIPS PETROLEUM C Facility Id: 72	HOLBROOK & MO. PAC R	X138 / 7	195
CAIRO DRY KILNS INC Facility Id: 78	HWY 51, 2 MILES N OF	X139 / 7	196
READY MIX SOLUTIONS	RTE 1	145 / 14	212

Facility Id: 79

KY Financial Assurance: Financial Assurance Information Listing

A review of the KY Financial Assurance list, as provided by EDR, has revealed that there are 2 KY Financial Assurance sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	<u>Page</u>
J AND J AUTO SERVICE	756 BROADWAY	J42 / 11	86
Database: Financial Assura Al: 57255	ance 2, Date of Government Vers	sion: 05/14/2014	
VEACH OIL & GAS	HWY 60	M56 / 11	99
Database: Financial Assura	ance 2, Date of Government Vers	sion: 05/14/2014	
Al: 57225			

KY NPDES: Permitted Facility Listing

A review of the KY NPDES list, as provided by EDR, and dated 02/21/2023 has revealed that there are 5 KY NPDES sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	<u>Page</u>
HAGOOD OIL CO INC Facility Status: INACTIVE KY DES #: KYR000712	902 BROADWAY	C11 / 11	60
Not reported KY DES #: KYD000021	817 BROADWAY STREET	F22 / 11	70
Not reported KY DES #: KYD000020	817 BROADWAY STREET	F24 / 11	71
DOLLAR GENERAL - BAR Facility Status: Terminated KY DES #: KYR10O401	US 60	70 / 11	123
BARLOW STP Facility Status: ACTIVE KY DES #: KY0025747	END OF SOUTH 6TH ST	R76 / 11	126

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

A review of the EDR MGP list, as provided by EDR, has revealed that there is 1 EDR MGP site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
ILLINOIS POWER TOWN	WASHINGTON AVENUE AN	142 / 8	210

EDR Hist Auto: EDR Exclusive Historical Auto Stations

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 2 EDR Hist Auto sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
J & J SERVICE	756 BROADWAY	J40 / 11	85
CAIRO TRUCK PLAZA &	13113 KESSLER RD	V129 / 7	167

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

KY RGA LF: Recovered Government Archive Solid Waste Facilities List

A review of the KY RGA LF list, as provided by EDR, has revealed that there are 2 KY RGA LF sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	<u>Page</u>
BLUEGRASS RECYCLING Facility ID: 37043	105 S 7TH ST	L52 / 11	97
BLUEGRASS RECYCLING	105 S 7TH ST	L53 / 11	98

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in **bold italics** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of state- and tribal hazardous waste facilities

IL SSU: State Sites Unit Listing

A review of the IL SSU list, as provided by EDR, and dated 03/23/2022 has revealed that there are 2 IL SSU sites within approximately1 mile of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
ELMWOOD SCHOOL SSU Status: Backlog Facility Id: 0030055066 Facility Id: 0030055066	500 37TH STREET	S 1/2 - 1 (0.556 mi.)	151 / 14	232
CAIRO SCHOOL	29TH AND SYCAMORE	S 1/2 - 1 (0.890 mi.)	152 / 14	232

SSU Status: Completed Facility Id: 0030055064 Facility Id: 0030055064

Lists of state and tribal landfills and solid waste disposal facilities

IL SWF/LF: Available Disposal for Solid Waste in Illinois - Solid Waste Landfills Subject to State Surcharge

A review of the IL SWF/LF list, as provided by EDR, has revealed that there are 3 IL SWF/LF sites within approximately 0.5 miles of the requested target property.

	Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
MOUND CITY MUNICIPAL Database: LF WMRC, Date of Government Version: 12/31/2001 Operational Status: CLOSED FINAL COVER IEPA ID Number: 1538540001			NNE 1/8 - 1/4 (0.168 mi.)	147 / 2	225
	DEAL, BRUCE Database: LF WMRC, Date of Go Operational Status: CLOSED FIN IEPA ID Number: 1538540004		NNE 1/4 - 1/2 (0.303 mi.)	149 / 2	229
	CAIRO MUNICIPAL 1 Database: LF WMRC, Date of Go Operational Status: CLOSED FIN. IFPA ID Number: 30050001		S 1/4 - 1/2 (0.476 mi.)	150 / 14	230

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 11/21/2022 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
JOHNSON BERT PARAGON	3RD ST RIVER BANK	NNE 1/8 - 1/4 (0.183 mi.)	148/2	226
EDΔ ID.: II P000000711				

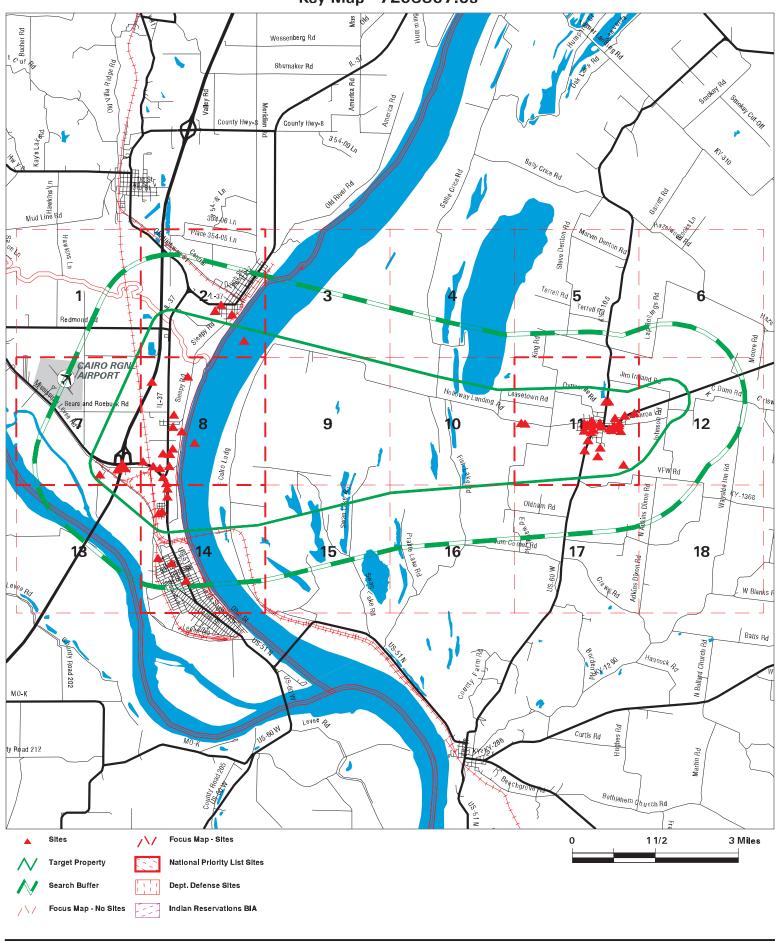
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1/2	SITE NAME	OHIO RIVER, ABOVE MP	IL SPILLS	TP
2/8	CAIRO DRAINAGE DISTR		IL SWF/LF	TP
A3 / 8	STREET J D & CO INC	HWY 51 NORTH	ICIS, FINDS, ECHO	TP
A4 / 8	ANNA READY MIX INC	51 NORTH	FINDS, ECHO	TP
B5 / 11			KY SPILLS	TP
6/11	KENTUCKY UTILITIES C	433 OSCAR ROAD	KY ASBESTOS	TP
B7 / 11	KENTUCKY UTILITIES C	KY 1105	KY UST	TP
8 / 11			KY SPILLS	TP
9/8	J D STREETT & CO INC	RURAL	ICIS, FINDS, ECHO, IL AIRS	TP
C10 / 11	HAGOOD OIL CO INC	902 BROADWAY ST	KY UST	TP
C11 / 11	HAGOOD OIL CO INC	902 BROADWAY	KY NPDES	TP
12 / 11			KY SPILLS	TP
D13 / 11	BALLARD CO FISCAL CT	326 LAKE DRIVE	KY AST	TP
D14 / 11	BALLARD CO ROAD DEPA	326 LAKE DR	FINDS	TP
E15 / 11	JOHN STEPHENSON RESI	532 MONROE DR	FINDS	TP
16 / 11			KY SPILLS	TP
F17 / 11	ALLREDS SERVICE STAT	808 BROADWAY	KY UST	TP
18 / 11			KY SPILLS	TP
E19 / 11			KY SPILLS	TP
20 / 11	BARLOW WTP		KY PFAS	TP
21 / 11			KY SPILLS	TP
F22 / 11		817 BROADWAY STREET	KY NPDES	TP
F23 / 11	HANEY ENTERPRISES, L	817 BROADWAY STREET	FINDS, ECHO	TP
F24 / 11		817 BROADWAY STREET	KY NPDES	TP
G25 / 11			KY SPILLS	TP
G26 / 11			KY SPILLS	TP
G27 / 11			KY SPILLS	TP
G28 / 11			KY SPILLS	TP
G29 / 11			KY SPILLS	TP
G30 / 11			KY SPILLS	TP
G31 / 11			KY SPILLS	TP
G32 / 11			KY SPILLS	TP
G33 / 11			KY SPILLS	TP
H34 / 11			KY SPILLS	TP
I35 / 11	AA INVESTMENTS & HOL	799 BROADWAY ST	KY AST	TP
I36 / 11	CUTMART #5	799 BROADWAY ST	KY UST	TP
J37 / 11			KY SPILLS	TP
H38 / 11	BETTYS CORNER CAFE	BROADWAY ST & 4TH	KY UST	TP
H39 / 11	64223 - BETTYS CORNE	BROADWAY ST & 4TH	FINDS	TP

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
J40 / 11	J & J SERVICE	756 BROADWAY	EDR Hist Auto	TP
J41 / 11			KY SPILLS	TP
J42 / 11	J AND J AUTO SERVICE	756 BROADWAY	KY Financial Assurance	TP
43 / 11			KY SPILLS	TP
K44 / 11	J & J AUTO SERVICE	556 BROADWAY	KY UST	TP
K45 / 11	J AND J AUTO SERVICE	556 BROADWAY	KY SB193	TP
K46 / 11	J & J AUTO SERVICE	556 BROADWAY	RCRA NonGen / NLR, FINDS, ECHO	TP
K47 / 11			KY SPILLS	TP
48 / 8		14930 STATE HWY 37	IL SPILLS	TP
49 / 11	DENNIS BROWN PROPERT	705 BROADWAY	FINDS	TP
50 / 11			KY SPILLS	TP
L51 / 11	BLUEGRASS RECYCLING	105 S 7TH ST	FINDS	TP
L52 / 11	BLUEGRASS RECYCLING	105 S 7TH ST	KY RGA LF	TP
L53 / 11	BLUEGRASS RECYCLING	105 S 7TH ST	KY RGA LF	TP
L54 / 11	COMMERCIAL WASTE INC	105 N 7TH ST	KY AST	TP
L55 / 11	BLUEGRASS RECYCLING	105 S 7TH ST	KY SWF/LF, KY HIST LF	TP
M56 / 11	VEACH OIL & GAS	HWY 60	KY SB193, KY UST, KY Financial Assurance	TP
N57 / 11			KY SPILLS	TP
N58 / 11			KY SPILLS	TP
59 / 11			KY SPILLS	TP
M60 / 11	MAC & MAC EQUIP CO	HWY 60	KY UST	TP
O61 / 11			KY SPILLS	TP
62 / 8	AMERICAN COMMERCIAL	14614 OHIO RIVER LEV	IL AST	TP
O63 / 11			KY SPILLS	TP
P64 / 11	VEACH OIL & GAS	HWY 60 & WALL ST	RCRA NonGen / NLR	TP
P65 / 11	MAC & MAC EQUIPMENT	HWY 60 & WALL ST	KY SB193, RCRA NonGen / NLR	TP
P66 / 11	MAC & MAC EQUIPMENT	HWY 60 & WALL ST	FINDS, ECHO	TP
P67 / 11	JOHN SULLIVAN PROPER	HWY 60 & WALLL ST	FINDS	TP
P68 / 11	VEACH OIL & GAS	HWY 60 & WALL ST	FINDS, ECHO	TP
P69 / 11	JOHN SULLIVAN PROPER	JCT OF US 60 & WALL	KY UST	TP
70 / 11	DOLLAR GENERAL - BAR	US 60	KY NPDES	TP
Q71 / 8			IL SPILLS	TP
Q72 / 8			IL SPILLS	TP
Q73 / 8			IL SPILLS	TP
Q74 / 8		OHIO RIVER MILE 976	IL SPILLS	TP
Q75 / 8			IL SPILLS	TP
R76 / 11	BARLOW STP	END OF SOUTH 6TH ST	KY NPDES	TP
R77 / 11			KY SPILLS	TP
R78 / 11			KY SPILLS	TP

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
R79 / 11			KY SPILLS	TP
R80 / 11			KY SPILLS	TP
R81 / 11			KY SPILLS	TP
R82 / 11			KY SPILLS	TP
R83 / 11			KY SPILLS	TP
R84 / 11			KY SPILLS	TP
R85 / 11			KY SPILLS	TP
R86 / 11			KY SPILLS	TP
R87 / 11			KY SPILLS	TP
R88 / 11			KY SPILLS	TP
R89 / 11			KY SPILLS	TP
R90 / 11			KY SPILLS	TP
R91 / 11	BARLOW WWTP	END OF 6TH STREET	KY SHWS	TP
R92 / 11			KY SPILLS	TP
R93 / 11			KY SPILLS	TP
R94 / 11			KY SPILLS	TP
R95 / 11			KY SPILLS	TP
R96 / 11			KY SPILLS	TP
R97 / 11			KY SPILLS	TP
R98 / 11			KY SPILLS	TP
R99 / 11			KY SPILLS	TP
R100 / 11			KY SPILLS	TP
R101 / 11			KY SPILLS	TP
R102 / 11			KY SPILLS	TP
R103 / 11			KY SPILLS	TP
R104 / 11			KY SPILLS	TP
R105 / 11			KY SPILLS	TP
R106 / 11			KY SPILLS	TP
R107 / 11			KY SPILLS	TP
R108 / 11			KY SPILLS	TP
R109 / 11			KY SPILLS	TP
R110 / 11			KY SPILLS	TP
R111 / 11			KY SPILLS	TP
R112 / 11			KY SPILLS	TP
113 / 8	CAIRO DRY KILNS INC	HWY. 51, 2 MILES N O	FINDS, ECHO	TP
114 / 11			KY SPILLS	TP
115 / 8	VEACH OIL CO	RTE 3 & RTE 51	FINDS	TP
116 / 8	READY MIX SOLUTIONS	ROUTE 1	FINDS, ECHO	TP
117 / 11	BARLOW STP	END OF SOUTH 6TH ST	FINDS, ECHO	TP

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
S118 / 8	DOLLAR GENERAL STORE	14144 TURNER LN	RCRA-VSQG	TP
S119 / 8	DOLLAR GENERAL STORE	14144 TURNER LN	FINDS, ECHO	TP
T120 / 7	TRAVEL HUT I	I-57 & RT 3	IL UST	TP
T121 / 7	CAIRO TRUCK PLAZA	1311 KESSLER RD.	IL UST	TP
122 / 11			KY SPILLS	TP
T123 / 7	TRANSPORT SVC CO	I-57 MM 1	FINDS	TP
124 / 7	ROADWAY INVESTMENT I	I-57 & RTE 3 NE COR	FINDS	TP
125 / 8	BIG TONYS LOUNGE	RTE 51 N RR 1	FINDS	TP
U126 / 8	IDOT CAIRO TEAM SECT	12864 PATIERDALE RD	RCRA-VSQG	TP
U127 / 8	IDOT CAIRO TEAM SECT	12864 PATIERDALE RD	ECHO	TP
128 / 7	CAIRO TRUCK REPAIR	RT 3 & I57	FINDS, ECHO	TP
V129 / 7	CAIRO TRUCK PLAZA &	13113 KESSLER RD	EDR Hist Auto	TP
V130 / 7	CAIRO TRUCK PLAZA	13107 KESSLER RD	IL SPILLS	TP
V131 / 7		13107 KESSLER RD.	IL SPILLS	TP
V132 / 7		13107 KESSLER ROAD	ERNS	TP
133 / 8	ILLINOIS BELL - CAIR	12737 PATIERDALE RD	IL ASBESTOS	TP
W134 / 7	ECONO CLEAN INC	17TH ST WEST	RCRA NonGen / NLR	TP
W135 / 7	ILLINOIS POWER CO CA	WASHINGTON AVE AND 1	RCRA NonGen / NLR	TP
W136 / 7	FT DEFIANCE STATE PA	US RTE 51	RCRA NonGen / NLR	TP
X137 / 7	OHIO RIVER CO	RIVER MILE 5.5	FINDS, ECHO, IL AIRS	TP
X138 / 7	PHILLIPS PETROLEUM C	HOLBROOK & MO. PAC R	FINDS, ECHO, IL AIRS	TP
X139 / 7	CAIRO DRY KILNS INC	HWY 51, 2 MILES N OF	IL AIRS	TP
Y140 / 8	ILLINOIS CENTRAL RAI	JCT. ROUTE 3 & HWY.	FINDS, ECHO	TP
Y141 / 8	VEACH SERVICE	HWY 3 & 51	IL UST	TP
142 / 8	ILLINOIS POWER TOWN	WASHINGTON AVENUE AN	EDR MGP	TP
143 / 14	MOSS, GEORGE	RTE 51 & 1ST ST	FINDS	TP
144 / 14	CAIRO DRAINAGE DIST		IL SWF/LF	TP
145 / 14	READY MIX SOLUTIONS	RTE 1	US AIRS, IL AIRS	TP
146 / 14	AT & T-TANK#1-148	13101 THIRD AVENUE	IL AST	TP
147 / 2	MOUND CITY MUNICIPAL		IL SWF/LF	887 0.168 NNE
148 / 2	JOHNSON BERT PARAGON	3RD ST RIVER BANK	RCRA NonGen / NLR, FINDS, ECHO	967 0.183 NNE
149 / 2	DEAL, BRUCE	613 WALNUT ST	IL SWF/LF	1598 0.303 NNE
150 / 14	CAIRO MUNICIPAL 1		IL SWF/LF	2514 0.476 South
151 / 14	ELMWOOD SCHOOL	500 37TH STREET	IL SSU	2937 0.556 South
152 / 14	CAIRO SCHOOL	29TH AND SYCAMORE	IL SSU	4698 0.890 South

Key Map - 7268867.5s



SITE NAME: US 60 Ballard County ADDRESS: US 60 Ballard County

CITY/STATE: Barlow KY ZIP: 42024

CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

7:51 PM

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted				
STANDARD ENVIRONMENTAL RECORDS												
Lists of Federal NPL (Su	perfund) site	s										
NPL Proposed NPL NPL LIENS	1.000 1.000 1.000		0 0 0	0 0 0	0 0 0	0 0 0	NR NR NR	0 0 0				
Lists of Federal Delisted	NPL sites											
Delisted NPL	1.000		0	0	0	0	NR	0				
Lists of Federal sites su CERCLA removals and (rs										
FEDERAL FACILITY SEMS	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0				
Lists of Federal CERCLA	A sites with N	FRAP										
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0				
Lists of Federal RCRA fa undergoing Corrective A												
CORRACTS	1.000		0	0	0	0	NR	0				
Lists of Federal RCRA T	SD facilities											
RCRA-TSDF	0.500		0	0	0	NR	NR	0				
Lists of Federal RCRA g	enerators											
RCRA-LQG RCRA-SQG RCRA-VSQG	0.250 0.250 0.250	2	0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 0 2				
Federal institutional con engineering controls reg												
LUCIS US ENG CONTROLS US INST CONTROLS	0.500 0.500 0.500		0 0 0	0 0 0	0 0 0	NR NR NR	NR NR NR	0 0 0				
Federal ERNS list												
ERNS	TP	1	NR	NR	NR	NR	NR	1				
Lists of state- and tribal hazardous waste facilities	es											
KY SHWS IL SSU	1.000 1.000	1	0 0	0 0	0 0	0 2	NR NR	1 2				
Lists of state and tribal l and solid waste disposa												
KY SWF/LF IL SWF/LF	0.500 0.500	1 2	0 0	0 1	0 2	NR NR	NR NR	1 5				
Lists of state and tribal l	leaking storag	ge tanks										
KY PSTEAF	0.500		0	0	0	NR	NR	0				

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST KY SB193	0.500 0.500	3	0 0	0 0	0	NR NR	NR NR	0 3
Lists of state and tribal i	egistered sto	rage tanks						
FEMA UST KY UST IL UST	0.250 0.250 0.250	9	0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 9 3
KY AST IL AST INDIAN UST	0.250 0.250 0.250	3 2	0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	3 2 0
State and tribal institution control / engineering control		es						
KY ENG CONTROLS KY INST CONTROL	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
Lists of state and tribal v	oluntary clea	anup sites						
KY VCP INDIAN VCP	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
Lists of state and tribal l	prownfield sit	tes						
KY BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONME	NTAL RECORI	<u>os</u>						
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / S Waste Disposal Sites	Solid							
KY SWRCY KY HIST LF INDIAN ODI DEBRIS REGION 9 ODI IHS OPEN DUMPS	0.500 0.500 0.500 0.500 0.500 0.500	1	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	NR NR NR NR NR	NR NR NR NR NR	0 1 0 0 0
Local Lists of Hazardous Contaminated Sites	s waste /							
US HIST CDL KY CDL US CDL	TP TP TP		NR NR NR	NR NR NR	NR NR NR	NR NR NR	NR NR NR	0 0 0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency I	Release Repo	rts						
HMIRS KY SPILLS IL SPILLS	TP TP TP	64 9	NR NR NR	NR NR NR	NR NR NR	NR NR NR	NR NR NR	0 64 9

Other Ascertainable Records	Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUIDS	Other Ascertainable Reco	ords							
PFAS ECHO 0.250 0 0 NR NR NR 0 PFAS ECHO FIRE TRAININGO.250 0 0 NR NR NR 0 PFAS PART 139 AIRPORT 0.250 0 0 NR NR NR 0 AQUEOUS FOAM NRC 0.250 0 0 NR NR NR 0	RCRA NonGen / NLR FUDS DOD SCRD DRYCLEANERS US FIN ASSUR EPA WATCH LIST 2020 COR ACTION TSCA TRIS SSTS ROD RMP RAATS PRP PADS ICIS FTTS MLTS COAL ASH DOE COAL ASH EPA PCB TRANSFORMER RADINFO HIST FTTS DOT OPS CONSENT INDIAN RESERV FUSRAP UMTRA LEAD SMELTERS US AIRS US MINES ABANDONED MINES FINDS UXO DOCKET HWC ECHO FUELS PROGRAM PFAS NPL PFAS FEDERAL SITES PFAS TSCA PFAS RCRA MANIFEST PFAS ATSDR PFAS WQP	0.250 1.000 1.000 0.500 TP TP 0.250 TP TP 1.000 TP	6 1 26	0 0 0 0 0 RR 0 RR R R R R R R R R R R R	0 0 0 RR 0 RR 0 RR RR RR RR RR 0 RR RR 0 0 0 0 RR 0 0 R 0 RR 0	000 RR RR R O R R R R R R R R R O R O O O O R R R R R O R	N O O N N N N N N N N N N N N N N N N N		7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
PFAS PART 139 AIRPORT 0.250 0 0 NR NR NR 0 AQUEOUS FOAM NRC 0.250 0 0 NR NR NR 0	PFAS ECHO	0.250		0	0	NR	NR	NR	0
	PFAS PART 139 AIRPORT	0.250	1	0 0	0	NR	NR	NR	0 0

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
KY AIRS	TP		NR	NR	NR	NR	NR	0
KY ASBESTOS	TP	1	NR	NR	NR	NR	NR	1
IL ASBESTOS	TP	1	NR	NR	NR	NR	NR	1
IL AIRS	TP	5	NR	NR	NR	NR	NR	5
KY COAL ASH	0.500		0	0	0	NR	NR	0
KY DRYCLEANERS	0.250		0	0	NR	NR	NR	0
KY Financial Assurance	TP	2	NR	NR	NR	NR	NR	2
KY LEAD	TP		NR	NR	NR	NR	NR	0
KY NPDES	TP	5	NR	NR	NR	NR	NR	5
KY UIC	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS EDR Exclusive Records								
EDR MGP	1.000	4	0	0	0	0	NR	4
EDR MGP EDR Hist Auto	0.125	1 2	0 0	NR	NR	0 NR	NR NR	1 2
EDR Hist Cleaner	0.125	2	0	NR	NR	NR	NR	0
LDIVI list Cleaner	0.123		U	IVIX	INIX	INIX	IVIX	U
EDR RECOVERED GOVERNMENT ARCHIVES								
		_						
Exclusive Recovered Govt. Archives								
KY RGA HWS KY RGA LF	TP TP	2	NR NR	NR NR	NR NR	NR NR	NR NR	0 2
- Totals		172	0	2	2	2	0	178

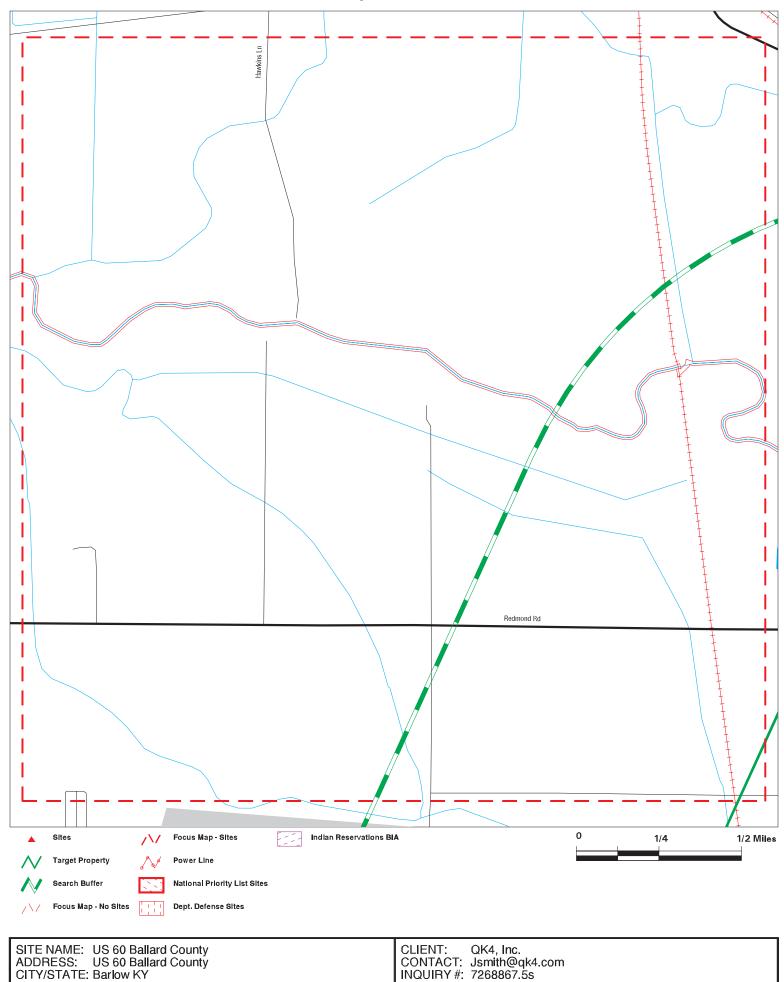
NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Focus Map - 1 - 7268867.5s



ZIP:

42024

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03/02/23

DATE:

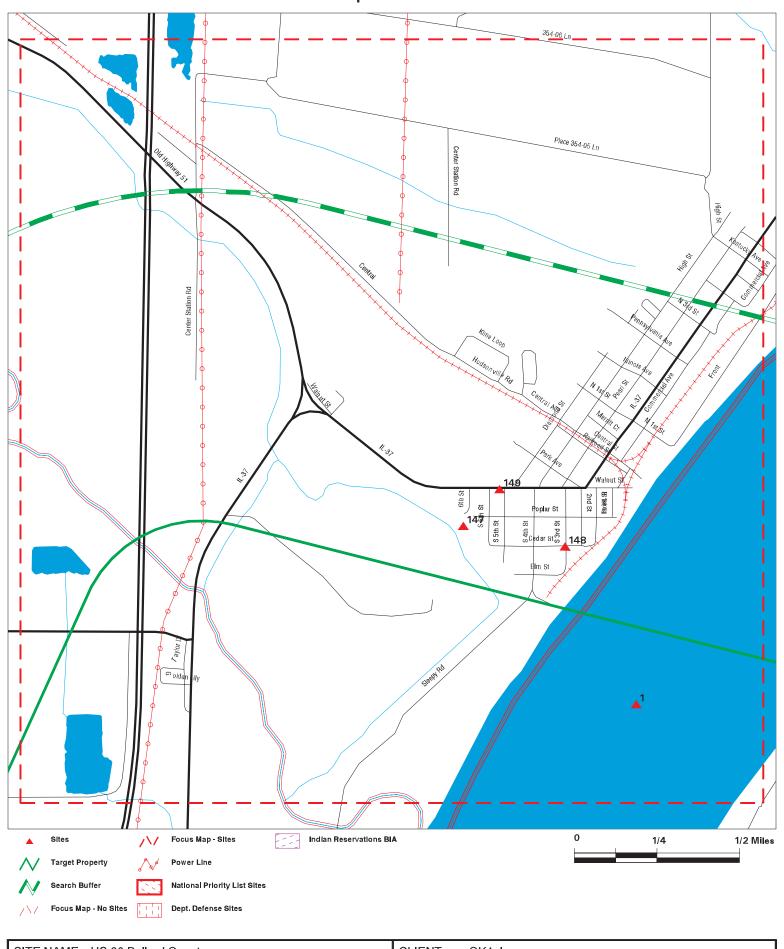
MAPPED SITES SUMMARY - FOCUS MAP 1

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

NO MAPPED SITES FOUND

Focus Map - 2 - 7268867.5s



SITE NAME: US 60 Ballard County ADDRESS: US 60 Ballard County CITY/STATE: Barlow KY 42024

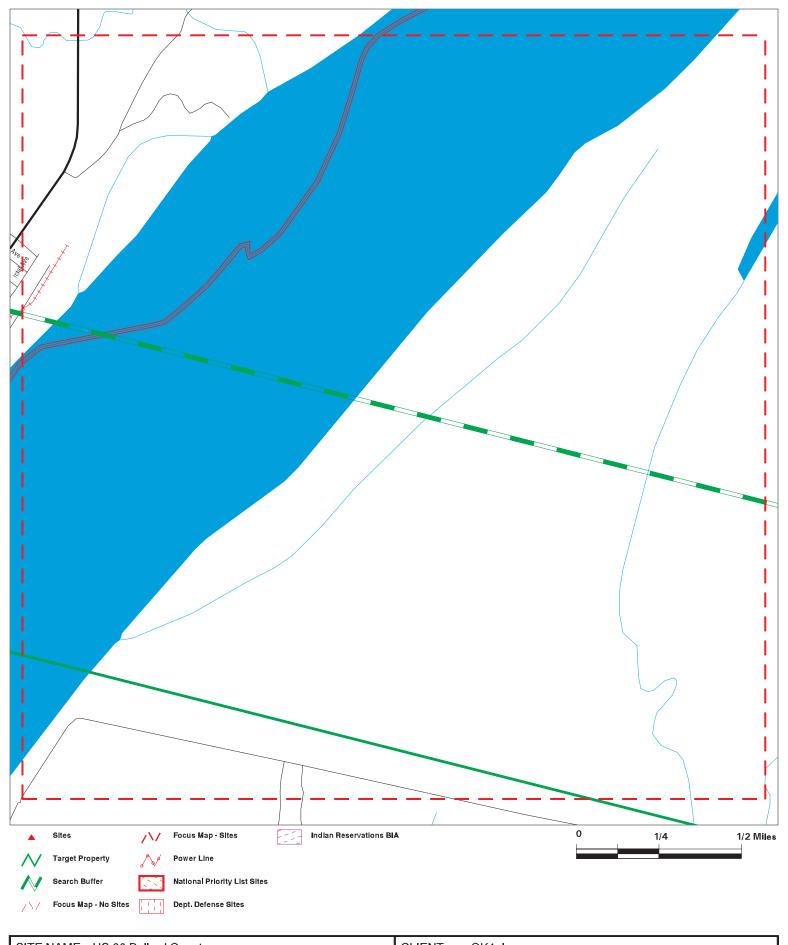
ZIP:

CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

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MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS		(ft. & m	,
1 / 2		OHIO RIVER, ABOVE MP	IL SPILLS	TP		
147 / 2	MOUND CITY MUNICIPAL		IL SWF/LF	887	0.168	NNE
148 / 2	JOHNSON BERT PARAGON	3RD ST RIVER BANK	RCRA NonGen / NLR, FINDS, ECHO	967	0.183	NNE
149 / 2	DEAL, BRUCE	613 WALNUT ST	IL SWF/LF	1598	0.303	NNE

Focus Map - 3 - 7268867.5s



SITE NAME: US 60 Ballard County ADDRESS: US 60 Ballard County ADDRESS: US 60 Ballard County CITY/STATE: Barlow KY

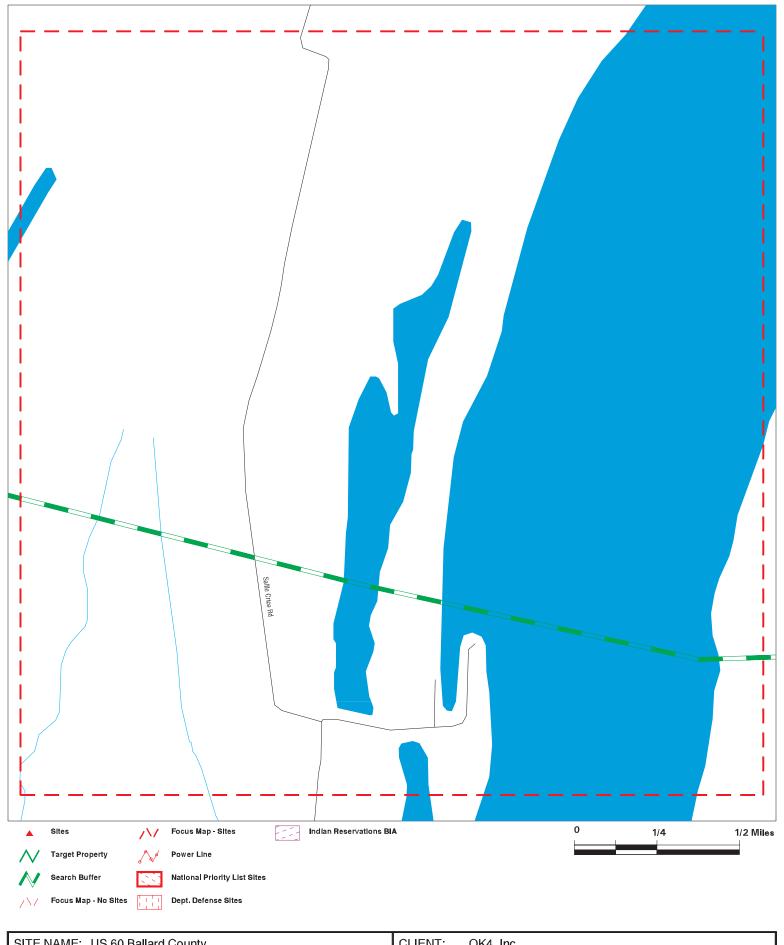
ZIP: 42024 CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

Copyright © 2023 EDR, Inc. © 2015 TomTom Rel. 2015.

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 4 - 7268867.5s



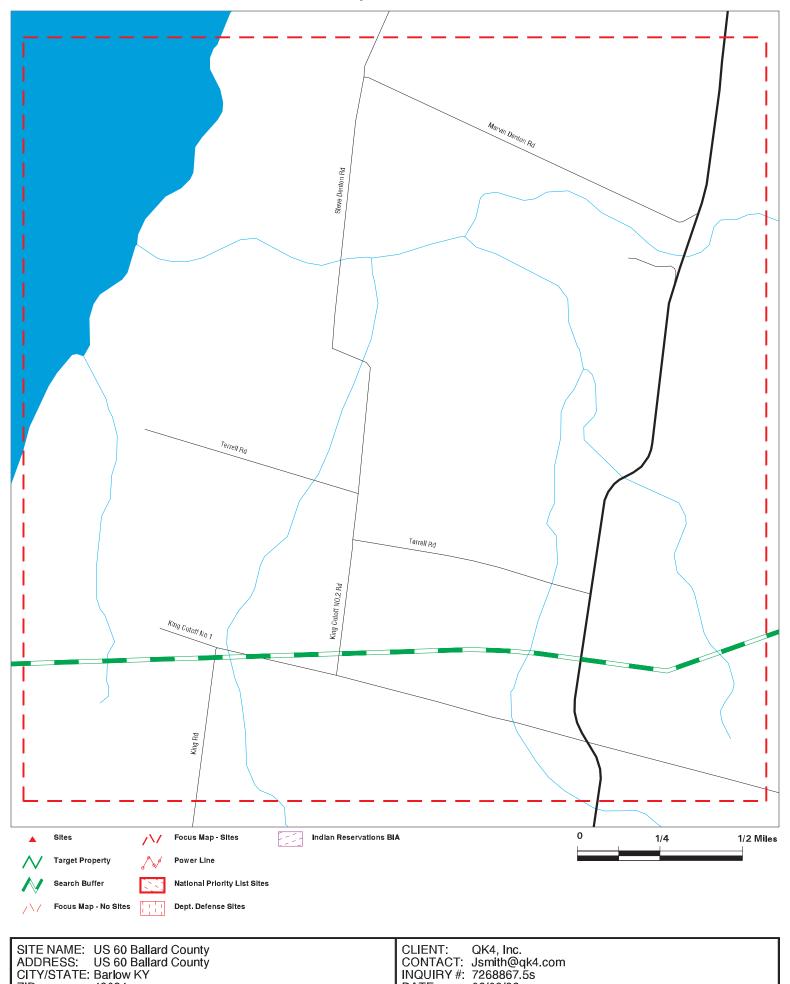
SITE NAME: US 60 Ballard County ADDRESS: US 60 Ballard County CITY/STATE: Barlow KY

CITY/STATE: Barlow KY ZIP: 42024 CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 5 - 7268867.5s



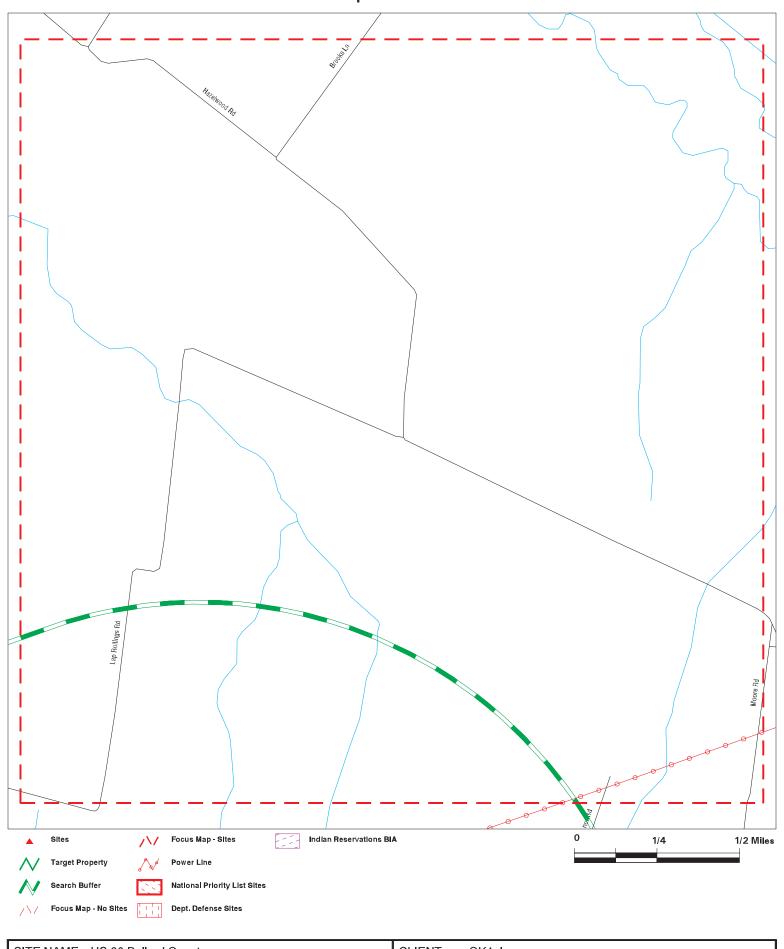
ZIP: 42024 DATE: 03/02/23 Copyright © 2023 EDR, Inc. © 2015 TomTom Rel. 2015.

CITY/STATE: Barlow KY

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 6 - 7268867.5s



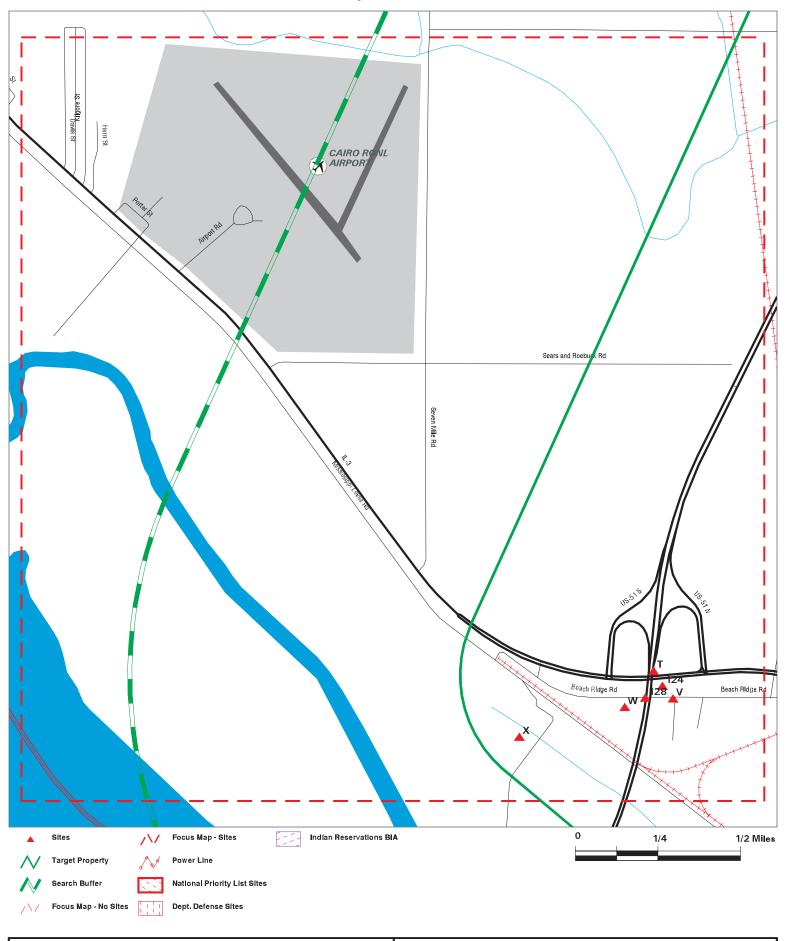
SITE NAME: US 60 Ballard County ADDRESS: US 60 Ballard County CITY/STATE: Barlow KY

CITY/STATE: Barlow KY ZIP: 42024 CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 7 - 7268867.5s

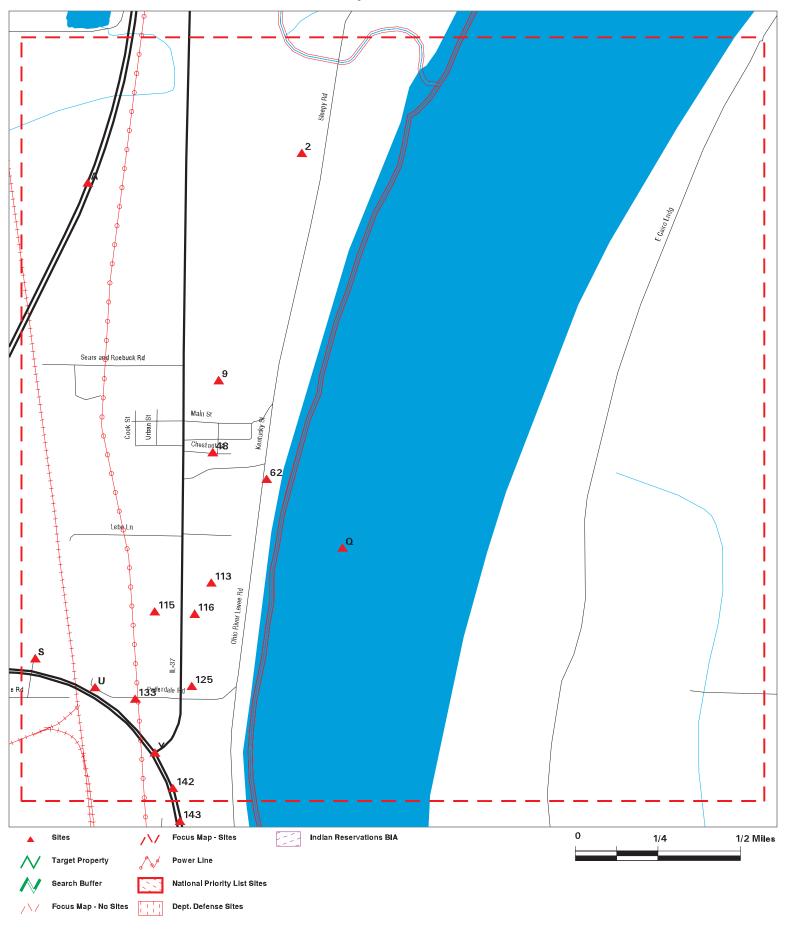


SITE NAME: US 60 Ballard County ADDRESS: US 60 Ballard County CITY/STATE: Barlow KY

CITY/STATE: Barlow KY ZIP: 42024 CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
T120 / 7	TRAVEL HUT I	I-57 & RT 3	IL UST	TP
T121 / 7	CAIRO TRUCK PLAZA	1311 KESSLER RD.	IL UST	TP
T123 / 7	TRANSPORT SVC CO	I-57 MM 1	FINDS	TP
124 / 7	ROADWAY INVESTMENT I	I-57 & RTE 3 NE COR	FINDS	TP
128 / 7	CAIRO TRUCK REPAIR	RT 3 & I57	FINDS, ECHO	TP
V129 / 7	CAIRO TRUCK PLAZA &	13113 KESSLER RD	EDR Hist Auto	TP
V130 / 7	CAIRO TRUCK PLAZA	13107 KESSLER RD	IL SPILLS	TP
V131 / 7		13107 KESSLER RD.	IL SPILLS	TP
V132 / 7		13107 KESSLER ROAD	ERNS	TP
W134 / 7	ECONO CLEAN INC	17TH ST WEST	RCRA NonGen / NLR	TP
W135 / 7	ILLINOIS POWER CO CA	WASHINGTON AVE AND 1	RCRA NonGen / NLR	TP
W136 / 7	FT DEFIANCE STATE PA	US RTE 51	RCRA NonGen / NLR	TP
X137 / 7	OHIO RIVER CO	RIVER MILE 5.5	FINDS, ECHO, IL AIRS	TP
X138 / 7	PHILLIPS PETROLEUM C	HOLBROOK & MO. PAC R	FINDS, ECHO, IL AIRS	TP
X139 / 7	CAIRO DRY KILNS INC	HWY 51, 2 MILES N OF	IL AIRS	TP

Focus Map - 8 - 7268867.5s



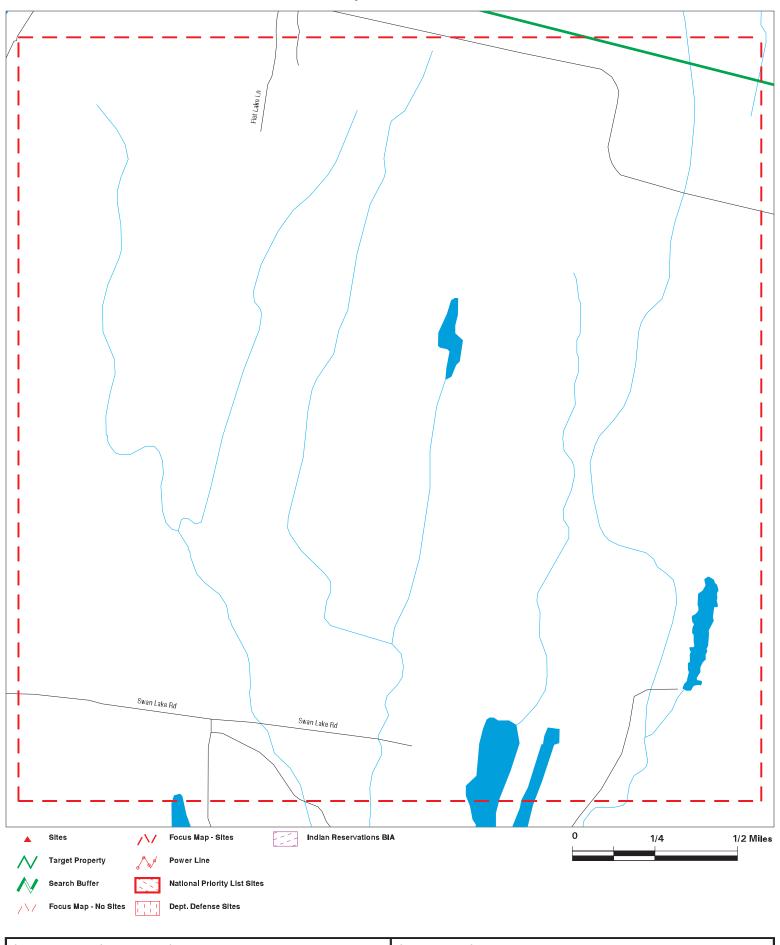
SITE NAME: US 60 Ballard County ADDRESS: US 60 Ballard County CITY/STATE: Barlow KY

ZIP:

CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INCUJIRY #: 7268867.5s 42024 DATE: 03/02/23

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
2/8	CAIRO DRAINAGE DISTR		IL SWF/LF	TP
A3 / 8	STREET J D & CO INC	HWY 51 NORTH	ICIS, FINDS, ECHO	TP
A4 / 8	ANNA READY MIX INC	51 NORTH	FINDS, ECHO	TP
9/8	J D STREETT & CO INC	RURAL	ICIS, FINDS, ECHO, IL AIRS	TP
48 / 8		14930 STATE HWY 37	IL SPILLS	TP
62 / 8	AMERICAN COMMERCIAL	14614 OHIO RIVER LEV	IL AST	TP
Q71 / 8			IL SPILLS	TP
Q72 / 8			IL SPILLS	TP
Q73 / 8			IL SPILLS	TP
Q74 / 8		OHIO RIVER MILE 976	IL SPILLS	TP
Q75 / 8			IL SPILLS	TP
113 / 8	CAIRO DRY KILNS INC	HWY. 51, 2 MILES N O	FINDS, ECHO	TP
115 / 8	VEACH OIL CO	RTE 3 & RTE 51	FINDS	TP
116 / 8	READY MIX SOLUTIONS	ROUTE 1	FINDS, ECHO	TP
S118/8	DOLLAR GENERAL STORE	14144 TURNER LN	RCRA-VSQG	TP
S119/8	DOLLAR GENERAL STORE	14144 TURNER LN	FINDS, ECHO	TP
125 / 8	BIG TONYS LOUNGE	RTE 51 N RR 1	FINDS	TP
U126 / 8	IDOT CAIRO TEAM SECT	12864 PATIERDALE RD	RCRA-VSQG	TP
U127 / 8	IDOT CAIRO TEAM SECT	12864 PATIERDALE RD	ECHO	TP
133 / 8	ILLINOIS BELL - CAIR	12737 PATIERDALE RD	IL ASBESTOS	TP
Y140 / 8	ILLINOIS CENTRAL RAI	JCT. ROUTE 3 & HWY.	FINDS, ECHO	TP
Y141 / 8	VEACH SERVICE	HWY 3 & 51	IL UST	TP
142 / 8	ILLINOIS POWER TOWN	WASHINGTON AVENUE AN	EDR MGP	TP

Focus Map - 9 - 7268867.5s



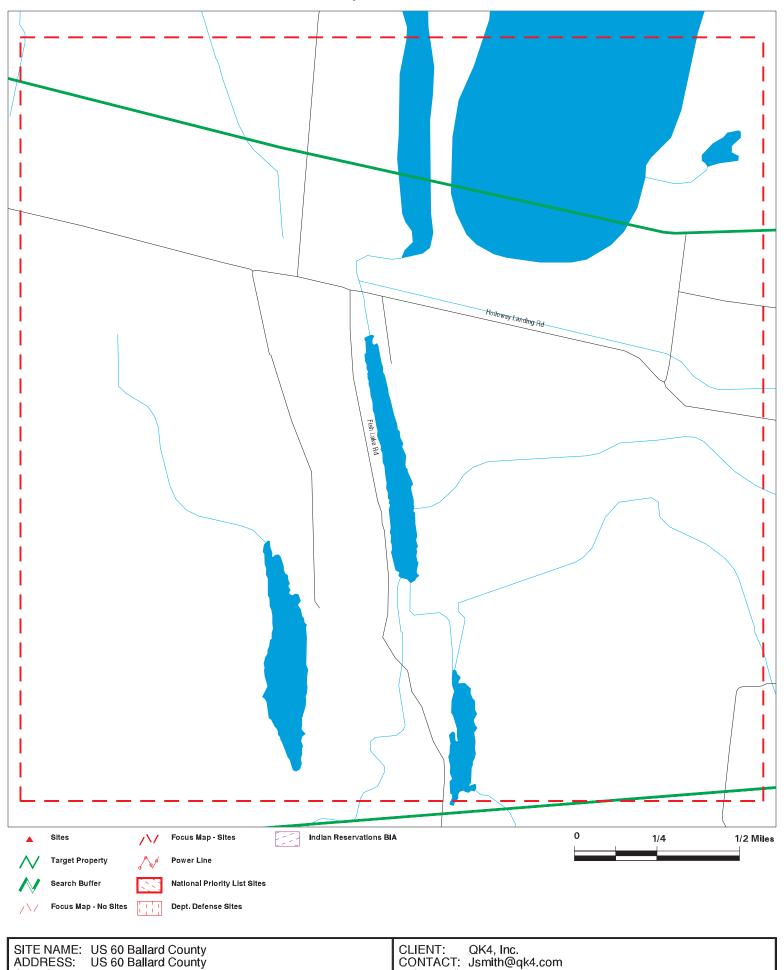
SITE NAME: US 60 Ballard County ADDRESS: US 60 Ballard County

CITY/STATE: Barlow KY ZIP: 42024 CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 10 - 7268867.5s



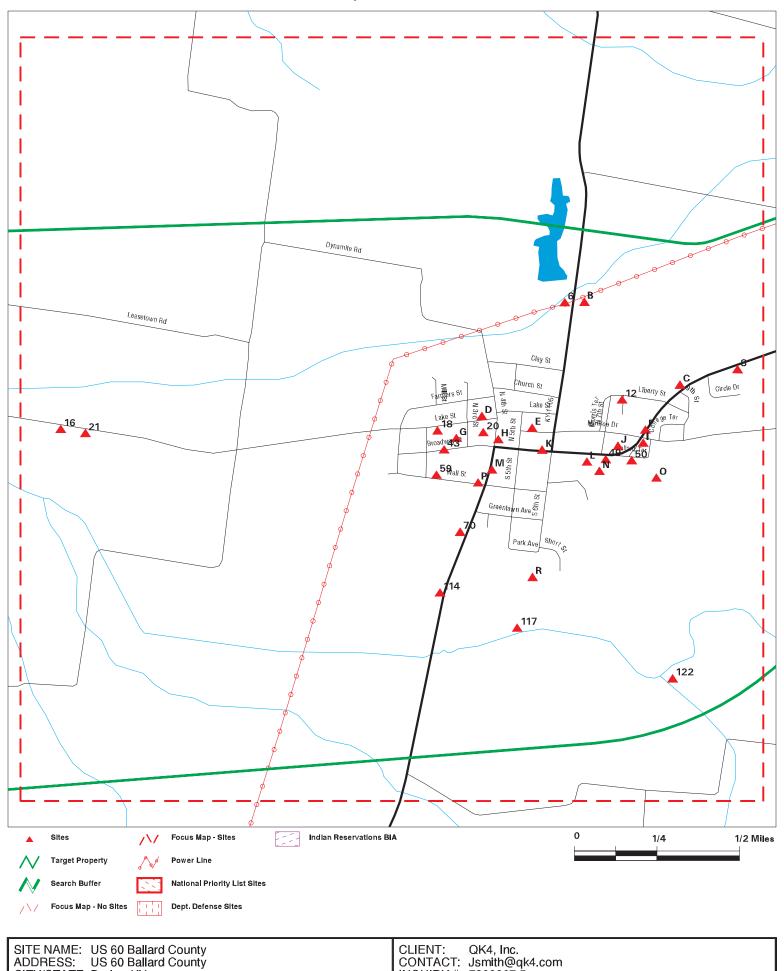
CITY/STATE: Barlow KY ZIP: 42024

CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 11 - 7268867.5s



CITY/STATE: Barlow KY

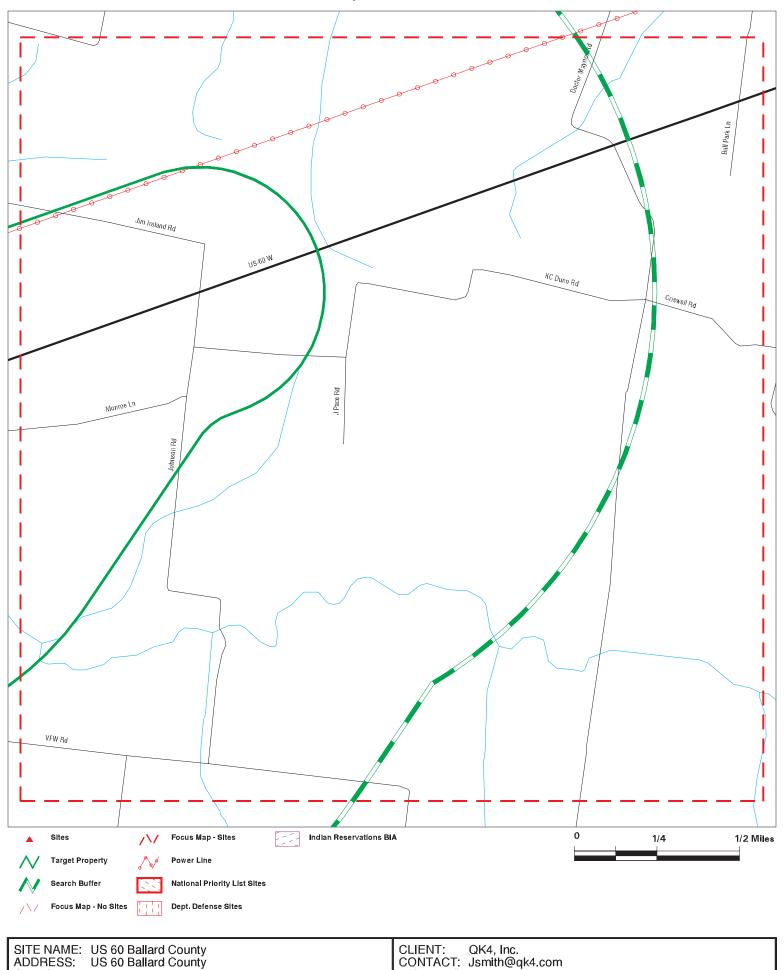
ZIP: 42024 INQUIRY#: 7268867.5s DATE: 03/02/23

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
B5 / 11			KY SPILLS	TP
6 / 11	KENTUCKY UTILITIES C	433 OSCAR ROAD	KY ASBESTOS	TP
B7 / 11	KENTUCKY UTILITIES C	KY 1105	KY UST	TP
8 / 11			KY SPILLS	TP
C10 / 11	HAGOOD OIL CO INC	902 BROADWAY ST	KY UST	TP
C11 / 11	HAGOOD OIL CO INC	902 BROADWAY	KY NPDES	TP
12 / 11			KY SPILLS	TP
D13 / 11	BALLARD CO FISCAL CT	326 LAKE DRIVE	KY AST	TP
D14 / 11	BALLARD CO ROAD DEPA	326 LAKE DR	FINDS	TP
E15 / 11	JOHN STEPHENSON RESI	532 MONROE DR	FINDS	TP
16 / 11			KY SPILLS	TP
F17 / 11	ALLREDS SERVICE STAT	808 BROADWAY	KY UST	TP
18 / 11			KY SPILLS	TP
E19 / 11			KY SPILLS	TP
20 / 11	BARLOW WTP		KY PFAS	TP
21 / 11			KY SPILLS	TP
F22 / 11		817 BROADWAY STREET	KY NPDES	TP
F23 / 11	HANEY ENTERPRISES, L	817 BROADWAY STREET	FINDS, ECHO	TP
F24 / 11		817 BROADWAY STREET	KY NPDES	TP
G25 / 11			KY SPILLS	TP
G26 / 11			KY SPILLS	TP
G27 / 11			KY SPILLS	TP
G28 / 11			KY SPILLS	TP
G29 / 11			KY SPILLS	TP
G30 / 11			KY SPILLS	TP
G31 / 11			KY SPILLS	TP
G32 / 11			KY SPILLS	TP
G33 / 11			KY SPILLS	TP
H34 / 11			KY SPILLS	TP
I35 / 11	AA INVESTMENTS & HOL	799 BROADWAY ST	KY AST	TP
I36 / 11	CUTMART #5	799 BROADWAY ST	KY UST	TP
J37 / 11			KY SPILLS	TP
H38 / 11	BETTYS CORNER CAFE	BROADWAY ST & 4TH	KY UST	TP
H39 / 11	64223 - BETTYS CORNE	BROADWAY ST & 4TH	FINDS	TP
J40 / 11	J & J SERVICE	756 BROADWAY	EDR Hist Auto	TP
J41 / 11			KY SPILLS	TP
J42 / 11	J AND J AUTO SERVICE	756 BROADWAY	KY Financial Assurance	TP
43 / 11			KY SPILLS	TP
K44 / 11	J & J AUTO SERVICE	556 BROADWAY	KY UST	TP

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
K45 / 11	J AND J AUTO SERVICE	556 BROADWAY	KY SB193	TP
K46 / 11	J & J AUTO SERVICE	556 BROADWAY	RCRA NonGen / NLR, FINDS, ECHO	TP
K47 / 11			KY SPILLS	TP
49 / 11	DENNIS BROWN PROPERT	705 BROADWAY	FINDS	TP
50 / 11			KY SPILLS	TP
L51 / 11	BLUEGRASS RECYCLING	105 S 7TH ST	FINDS	TP
L52 / 11	BLUEGRASS RECYCLING	105 S 7TH ST	KY RGA LF	TP
L53 / 11	BLUEGRASS RECYCLING	105 S 7TH ST	KY RGA LF	TP
L54 / 11	COMMERCIAL WASTE INC	105 N 7TH ST	KY AST	TP
L55 / 11	BLUEGRASS RECYCLING	105 S 7TH ST	KY SWF/LF, KY HIST LF	TP
M56 / 11	VEACH OIL & GAS	HWY 60	KY SB193, KY UST, KY Financial Assurance	TP
N57 / 11			KY SPILLS	TP
N58 / 11			KY SPILLS	TP
59 / 11			KY SPILLS	TP
M60 / 11	MAC & MAC EQUIP CO	HWY 60	KY UST	TP
O61 / 11			KY SPILLS	TP
O63 / 11			KY SPILLS	TP
P64 / 11	VEACH OIL & GAS	HWY 60 & WALL ST	RCRA NonGen / NLR	TP
P65 / 11	MAC & MAC EQUIPMENT	HWY 60 & WALL ST	KY SB193, RCRA NonGen / NLR	TP
P66 / 11	MAC & MAC EQUIPMENT	HWY 60 & WALL ST	FINDS, ECHO	TP
P67 / 11	JOHN SULLIVAN PROPER	HWY 60 & WALLL ST	FINDS	TP
P68 / 11	VEACH OIL & GAS	HWY 60 & WALL ST	FINDS, ECHO	TP
P69 / 11	JOHN SULLIVAN PROPER	JCT OF US 60 & WALL	KY UST	TP
70 / 11	DOLLAR GENERAL - BAR	US 60	KY NPDES	TP
R76 / 11	BARLOW STP	END OF SOUTH 6TH ST	KY NPDES	TP
R77 / 11			KY SPILLS	TP
R78 / 11			KY SPILLS	TP
R79 / 11			KY SPILLS	TP
R80 / 11			KY SPILLS	TP
R81 / 11			KY SPILLS	TP
R82 / 11			KY SPILLS	TP
R83 / 11			KY SPILLS	TP
R84 / 11			KY SPILLS	TP
R85 / 11			KY SPILLS	TP
R86 / 11			KY SPILLS	TP
R87 / 11			KY SPILLS	TP
R88 / 11			KY SPILLS	TP
R89 / 11			KY SPILLS	TP
R90 / 11			KY SPILLS	TP

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
R91 / 11	BARLOW WWTP	END OF 6TH STREET	KY SHWS	TP
R92 / 11			KY SPILLS	TP
R93 / 11			KY SPILLS	TP
R94 / 11			KY SPILLS	TP
R95 / 11			KY SPILLS	TP
R96 / 11			KY SPILLS	TP
R97 / 11			KY SPILLS	TP
R98 / 11			KY SPILLS	TP
R99 / 11			KY SPILLS	TP
R100 / 11			KY SPILLS	TP
R101 / 11			KY SPILLS	TP
R102 / 11			KY SPILLS	TP
R103 / 11			KY SPILLS	TP
R104 / 11			KY SPILLS	TP
R105 / 11			KY SPILLS	TP
R106 / 11			KY SPILLS	TP
R107 / 11			KY SPILLS	TP
R108 / 11			KY SPILLS	TP
R109 / 11			KY SPILLS	TP
R110 / 11			KY SPILLS	TP
R111 / 11			KY SPILLS	TP
R112 / 11			KY SPILLS	TP
114 / 11			KY SPILLS	TP
117 / 11	BARLOW STP	END OF SOUTH 6TH ST	FINDS, ECHO	TP
122 / 11			KY SPILLS	TP

Focus Map - 12 - 7268867.5s

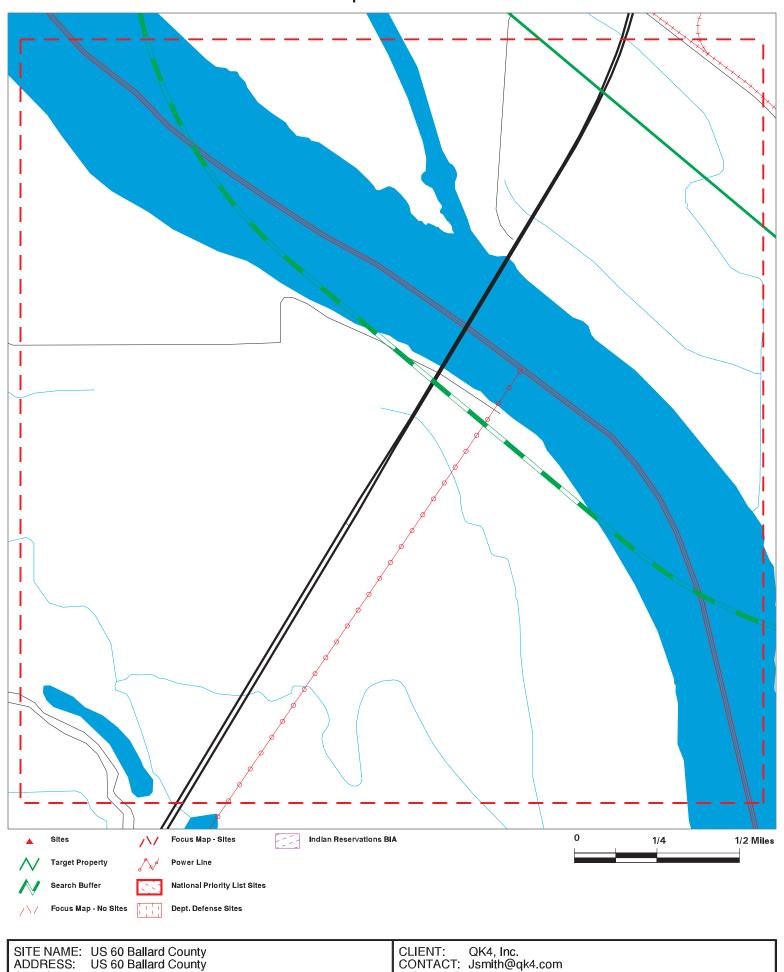


CITY/STATE: Barlow KY ZIP: 42024

CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION



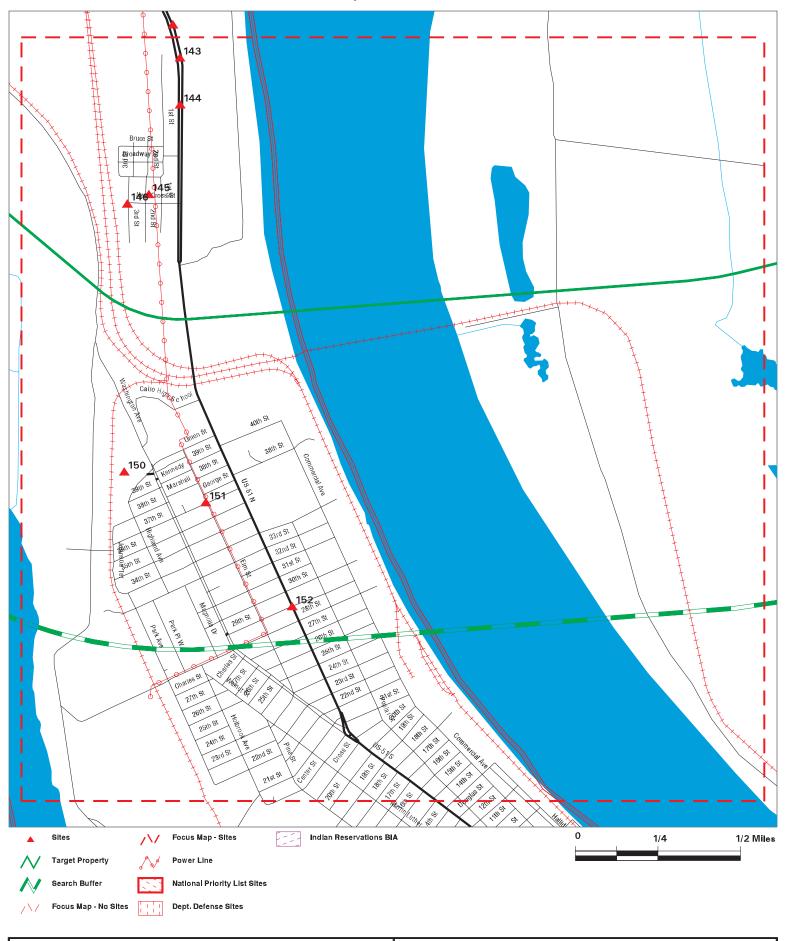
CITY/STATE: Barlow KY ZIP: 42024

CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 14 - 7268867.5s



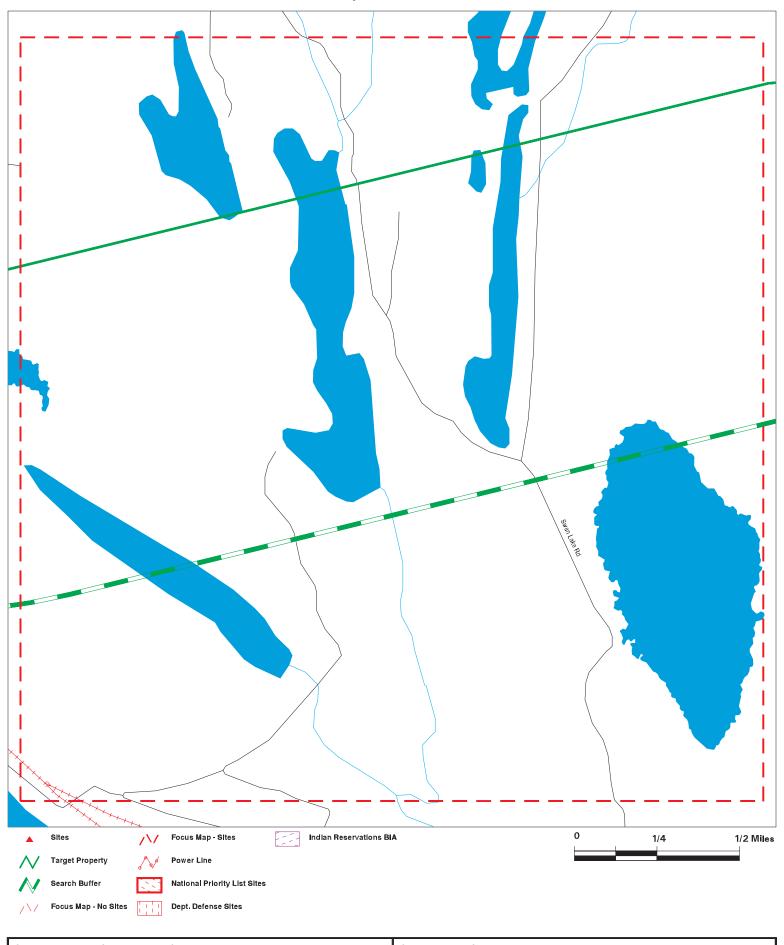
SITE NAME: US 60 Ballard County US 60 Ballard County ADDRESS: CITY/STATE: Barlow KY 42024

ZIP:

CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
143 / 14	MOSS, GEORGE	RTE 51 & 1ST ST	FINDS	TP
144 / 14	CAIRO DRAINAGE DIST		IL SWF/LF	TP
145 / 14	READY MIX SOLUTIONS	RTE 1	US AIRS, IL AIRS	TP
146 / 14	AT & T-TANK#1-148	13101 THIRD AVENUE	IL AST	TP
150 / 14	CAIRO MUNICIPAL 1		IL SWF/LF	2514 0.476 South
151 / 14	ELMWOOD SCHOOL	500 37TH STREET	IL SSU	2937 0.556 South
152 / 14	CAIRO SCHOOL	29TH AND SYCAMORE	IL SSU	4698 0.890 South

Focus Map - 15 - 7268867.5s



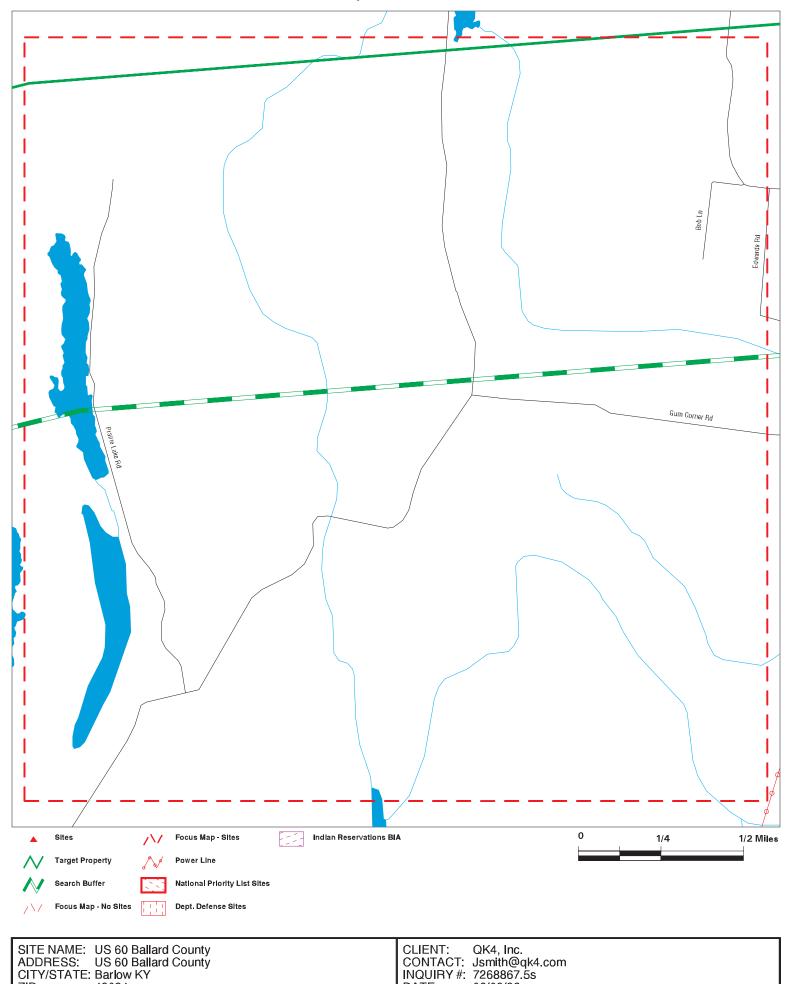
SITE NAME: US 60 Ballard County ADDRESS: US 60 Ballard County

CITY/STATE: Barlow KY ZIP: 42024 CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 16 - 7268867.5s



ZIP:

42024

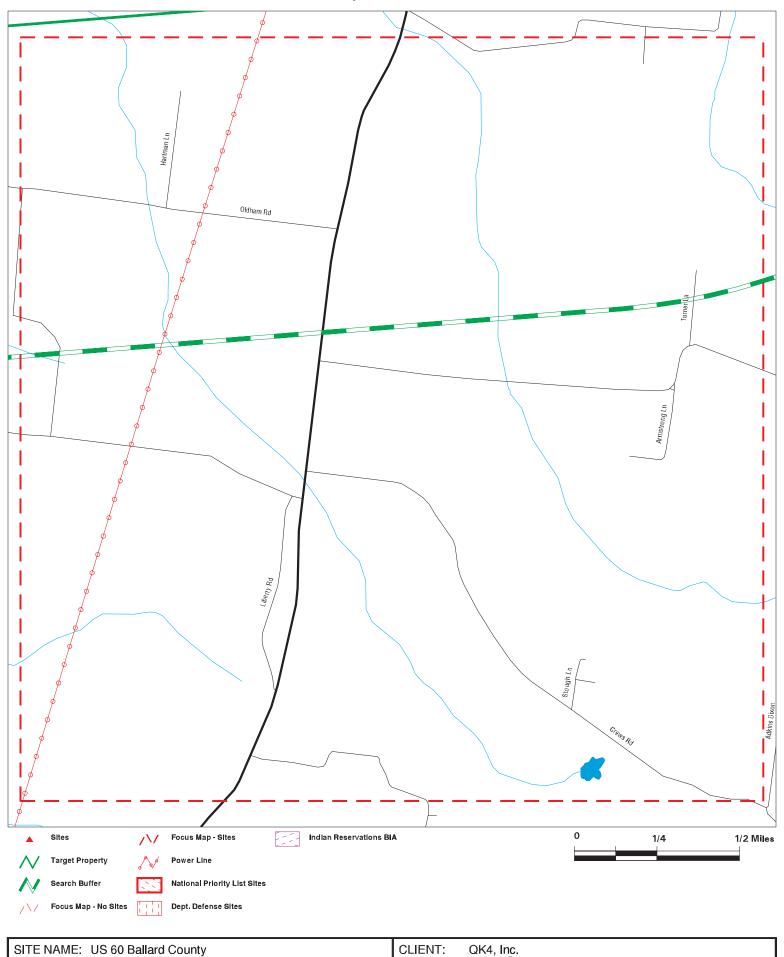
DATE: Copyright © 2023 EDR, Inc. © 2015 TomTom Rel. 2015.

03/02/23

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 17 - 7268867.5s



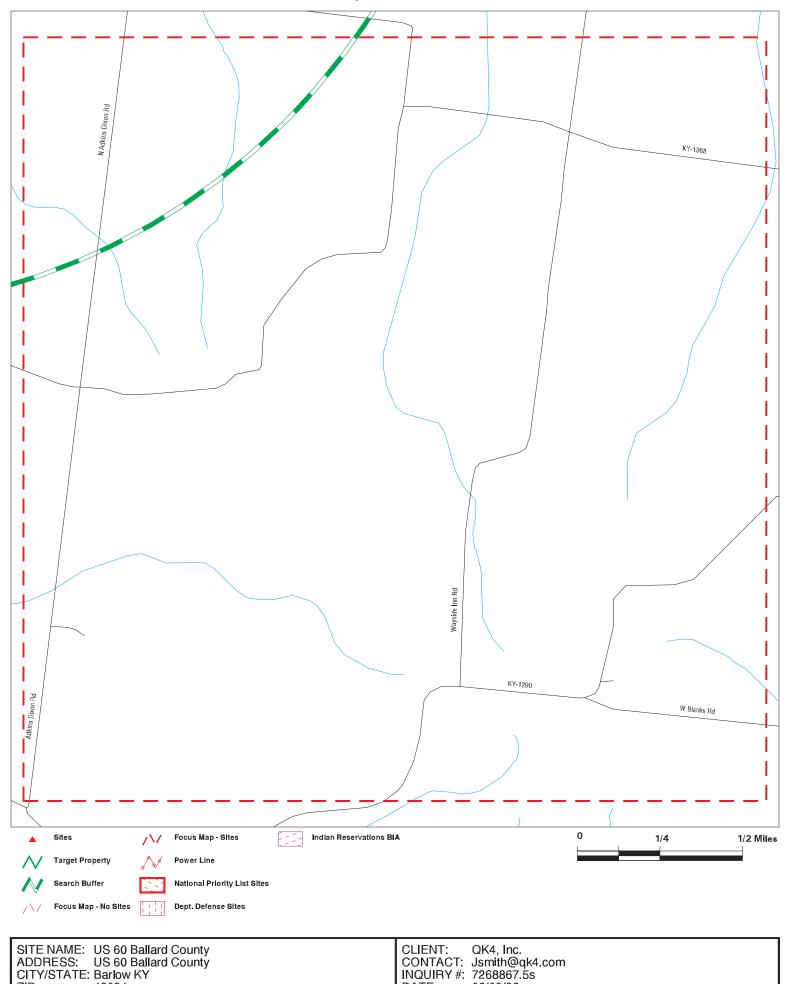
SITE NAME: US 60 Ballard County ADDRESS: US 60 Ballard County CITY/STATE: Barlow KY

ZIP: 42024 CLIENT: QK4, Inc. CONTACT: Jsmith@qk4.com INQUIRY#: 7268867.5s DATE: 03/02/23

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Focus Map - 18 - 7268867.5s



ZIP:

42024

03/02/23

DATE:

Target Property: US 60 BALLARD COUNTY BARLOW, KY 42024

MAP ID / DIST (ft. & mi.) FOCUS MAP SITE NAME ADDRESS DATABASE ACRONYMS DIRECTION

Map ID MAP FINDINGS

Direction Distance

Elevation Site Database(s) EPA ID Number

1 IL SPILLS S111910882
Target OHIO RIVER, ABOVE MP 974 N/A

Property CAIRO, IL

SPILLS:

 Actual:
 City,State,Zip:
 CAIRO, IL

 286 ft.
 Incident ID:
 20020055

 Focus Map:
 Incident Date:
 Not reported

 2
 Date Received:
 1/10/2002

Lust Ind: No

Facility Address: OHIO RIVER, ABOVE MP 974

Facility City: CAIRO
PRP Name: UNKNOWN
AC: Not reported

Source Table: dbo_OCIN_INCIDENTCUR

2 CAIRO DRAINAGE DISTRICT IL SWF/LF S108110914
Target N/A

Property CAIRO, IL 62914

IL WMRC_LF:

Region: WMRC

Actual: General: Not reported
309 ft. IEPA ID Number: 38520001

Focus Map: Municipal Waste: Not reported
Provisional IEPA ID: Not reported
Septic: Not reported

NIPC Map Number: Not reported Animal: Not reported Not reported

Owner Name: CAIRO DRAINAGE DIST Pathological: Not reported

Operator: CAIRO/DRAINAGE DIST

Industrial: Not reported PO Box: Not reported Foundry Sand: Not reported Incinerator Ash: Not reported Slag: Not reported Hazardous: Not reported Hazardous Liquid: Not reported Radiation: Not reported Demolition: Not reported Lat/Long: 370353/891047 Landscaping: Not reported Not reported Oil Field:

Primemer ID: 3
Special: Not reported

Township: 17S
Other: Not reported
Range: 01W
Unknown: X
Section: 11

Quarter Section1:Not reportedQuarter Section2:Not reportedQuarter Section3:Not reportedQuarter Section4:Not reported

IEPA:

ISGS: Not reported PollutionControlBoard: Not reported IDM&M: Not reported

EDR ID Number

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

> Not reported Not reported

CAIRO DRAINAGE DISTRICT (Continued)

DPH:

Operational Status:

S108110914

Local Agency: Not reported Permit Status: Not reported Agency: Not reported IEPA Permit Date: Not reported Not reported Source Other: Close Date: Not reported Not reported Reaction: RCRA Facility: Not reported Date Discover: 10171 GW Monitoring: Not reported Date Cleaned: Not reported Not reported FD Site: Offsite Waste: Not reported Landfill Size: Not reported Random Dump: Size Fill: Not reported Open Dump: Not reported Leachate Collected: Not reported Abandonment: Not reported Other: Not reported Recompacted Clav: Not reported

Combination: Not reported Landfill: None: Not reported Incineration: Not reported Not reported Other: Survace Impoundment:

Not reported Land Application: Not reported

STREET J D & CO INC **A3 Target HWY 51 NORTH Property** URBANDALE, IL 62914

Not reported

Not reported

Site 1 of 2 in cluster A

In-situ Clay:

Secured Containers:

Actual:

307 ft. Enforcement Action ID: 05-1980-0071 FRS ID: 110007561619 Focus Map:

J D STREET & CO INC Action Name: Facility Name: STREET J D & CO INC Facility Address: **HWY 51 NORTH** URBANDALE, IL 62914

Enforcement Action Type: Civil Judicial Action ALEXANDER Facility County:

Program System Acronym: **ICIS** Enforcement Action Forum Desc: Judicial EA Type Code: CIV Facility SIC Code: 5171 Not reported Federal Facility ID: Latitude in Decimal Degrees: 37.063417 Longitude in Decimal Degrees: -89.191445 Permit Type Desc: Not reported Program System Acronym: 35154 Facility NAICS Code: Not reported

ICIS

FINDS

ECHO

1016227877

N/A

Direction Distance Elevation

on Site Database(s) EPA ID Number

STREET J D & CO INC (Continued)

1016227877

EDR ID Number

Tribal Land Code: Not reported

Facility Name: STREET J D & CO INC Address: HWY 51 NORTH

Tribal Indicator: N Fed Facility: No

NAIC Code: Not reported SIC Code: 5171

Facility Name: STREET J D & CO INC Address: HWY 51 NORTH

Tribal Indicator: N Fed Facility: No

NAIC Code: Not reported SIC Code: 5171

FINDS:

Registry ID: 110007561619

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

<u>Click this hyperlink</u> while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1016227877 Registry ID: 110007561619

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110007561619

Name: STREET J D & CO INC
Address: HWY 51 NORTH
City, State, Zip: URBANDALE, IL 62914

Direction Distance

Elevation Site Database(s) EPA ID Number

A4 ANNA READY MIX INC FINDS 1005569802
Target 51 NORTH ECHO N/A

Target 51 NORTH
Property CAIRO, IL 62914

Site 2 of 2 in cluster A

Actual: FINDS:

307 ft. Registry ID: 110010007642

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

ACES (Illinois - Agency Compliance And Enforcement System) is the

Illinois EPA Project to facilitate the permitting operations

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1005569802 Registry ID: 110010007642

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110010007642

Name: ANNA READY MIX INC

Address: 51 NORTH
City,State,Zip: CAIRO, IL 62914

B5 KY SPILLS S117127652
Target N/A

Property BARLOW, KY

Site 1 of 2 in cluster B

Substances:

Actual: SPILLS:

360 ft.Name:Not reportedFocus Map:Address:Not reported11City,State,Zip:BARLOW, K'

City,State,Zip: BARLOW, KY
Facility Status: Env. Closed
Incident Type: OPEN BURNING

Program Code: 01

Received By Staff: Saunier, Kathleen Received Date: 02/19/2008

Report Date: 2008-02-20 11:00:10

Dispatch Description: Investigation of storm debris pile (City of Barlow)

Source Name: City of Barlow Property (Al ID: 103288)

Source Address: City of Barlow--go to Baptist Church and turn right towards Oscar,

just past cemetary on right--Maintenance Garage PM10 (Particulate Matter - 10 Microns Or Less):

Other Substances Desc: Not reported

Media Impacted: Air

Inc ID: 2272895
Lead Invest Person ID: 37395
Compliance: No
Notification: Yes

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S117127652

Priority: Routine

Incident End Date: 2008-02-19 00:00:00

Follow Up Priority Desc: Routine

Most Recent Comp Eval Activity: Al: 103288 CIN20090002

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action/Managed

Waterbody: Not reported Latitude: 37.05819 Longitude: -89.04216

6 KENTUCKY UTILITIES CO STOREROOM (AI ID: 64401)
Target 433 OSCAR ROAD

KY ASBESTOS S127322154

N/A

EDR ID Number

Property BARLOW, KY 42024

ASBESTOS:

Incident ID: 2476458

Actual: Name: KENTUCKY UTILITIES CO STOREROOM (AI ID: 64401)

352 ft.Address:433 OSCAR ROADFocus Map:City,State,Zip:BARLOW, KY 4202411Incident Type:ASBESTOS-DEMOLITION

Compliance: No Notification: Yes

Date: 12/20/2020
Lead Investigator: Groover, Cory
Program: Asbestos
Status: Env. Closed

Incident Description: Demolition of structure in Barlow, KY. The structure is owned by

Kentucky Utility Electric and the job is contracted to Central Paving

of Paducah. Asbestos abated by IMAC prior to demolition.

Regional Office: Paducah Regional Office

Priority: Routine
Lead Investigator ID: 99293
Incident Municipality Desc: Barlow

Location Desc: 433 Oscar Road Barlow, KY 42024

Follow Up Priority Desc:
Incident End Date:

Mars Func Code:
Other Substances Desc:

Not reported
Not reported
Not reported

Program Code: 02

Coordinate Method Desc: Handheld GPS - Not Differentially Corrected

Locked Flag:

Closure Type Desc: Env. Closed-Mitigated

First Report Date: 12/09/2020

Most Recent Comp Eval Activity: Al: 64401 CIN20200001

Most Recent Enf Activity:

Substances:

Rot reported

Not reported

Begin Emergency Date:

End Emergency Date:

Not reported

Not reported

Not reported

Not reported

12 Topic State Sta

Direction Distance

Elevation Site Database(s) **EPA ID Number**

B7 KENTUCKY UTILITIES CO STOREROOM KY UST U000808483 N/A

Target KY 1105

BARLOW, KY 42024 Property

Site 2 of 2 in cluster B

UST: Actual: 357 ft.

KENTUCKY UTILITIES CO STOREROOM Name:

Focus Map:

Address: **KY 1105**

City,State,Zip: BARLOW, KY 42024 Sequence Id: 4197004

Facility ID: 64401 Owner Name: KY Utilities Co 1 Quality St Owner Address: Owner Address2: Not reported Owner Address3: Not reported

Owner City, St, Zip: Lexington, KY 40507

Internal Document ID:

37.058054 Latitude: -89.042816 Longitude:

Inert Material Code: Not reported Removed Date: 12/01/1988 Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: UNK Last Tank Test Date: Not reported

Relined Date: Not reported Lining Insp Date: Not reported UNK Pipe Release Detection: Pipe Rel Detect Suc Code: UNK Pipe Leak Detect Code: Not reported

Last Contained Date: Not reported Pipe Mfg Code: Not reported Last Pipe Test Date: Not reported Last CP Test Date: Not reported Not reported Added To Flex Date: Added To Piping Date: Not reported

Decode For Tstatus: Removed Prior to 1988

Decode For Inertmatcd: Not reported Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: Unknown Decode For Treldetcod: None Decode For Tintprotcd: Unknown Decode For Tsplprevcd: Unknown Decode For Tovflprvcd: Unknown Decode For Pmatcode: Single Wall Steel

Decode For Pextcoprcd: Unknown Decode For Ptypecode: Unknown Decode For Preldetcod: Unknown Decode For Preldetsuc: Unknown Not reported Decode For Plekdetcod: Decode For Tsubcd: Gasoline

Decode For Pmancd: Not reported Subject Item ID: Tank Status: TR8

Not reported

Decode For Tmancd:

Installation Date: 01/01/1976

Direction Distance

Elevation Site Database(s) **EPA ID Number**

KENTUCKY UTILITIES CO STOREROOM (Continued)

U000808483

EDR ID Number

Closed In Place Date: Not reported 1000 Capacity in Gallons: Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

KY SPILLS S113882472

Target N/A

BARLOW, KY **Property**

SPILLS:

Substances:

Not reported Name: Actual: Address: Not reported 380 ft. City,State,Zip: BARLOW, KY Initiated Facility Status:

Focus Map:

TRANSPORTATION ACCIDENT - TRUCK Incident Type:

Diesel:20

Program Code:

Received By Staff: Williams, Margie Received Date: 06/12/2013 2013-06-12 15:14:00 Report Date:

Dispatch Description: Vehicle Crash involving 2 CMV and a pickup truck. 20 gallons of diesel

was spilled in a ditch beside the roadway.

Wagner Moving & Storage Source Name: US 60 at the Barlow City limits Source Address:

Not reported Other Substances Desc: Media Impacted: Solid Waste Inc ID: 2363368 Lead Invest Person ID: 9498 Compliance: Yes Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: No

Closure Type Desc: Not reported Waterbody: Not reported Latitude: 37.05523 Longitude: 89.033779

J D STREETT & CO INC - CAIRO TERMINAL ICIS 1006172323 **Target**

RURAL FINDS N/A **Property CAIRO, IL 62914 ECHO IL AIRS**

ICIS:

Actual: Enforcement Action ID: 05-1981-A001 312 ft. FRS ID: 110007264101

Action Name: J D STREETT & CO INC - CAIRO TERMINAL 170030001100004 Focus Map:

Facility Name: J D STREETT & CO INC - CAIRO TERMINAL

Facility Address: **RURAL** Map ID MAP FINDINGS
Direction

Distance Flevation Site

Elevation Site Database(s) EPA ID Number

J D STREETT & CO INC - CAIRO TERMINAL (Continued)

1006172323

EDR ID Number

CAIRO, IL 62914

Enforcement Action Type: Civil Judicial Action Facility County: ALEXANDER

Program System Acronym: **AIR** Enforcement Action Forum Desc: Judicial EA Type Code: CIV Facility SIC Code: 5171 Federal Facility ID: Not reported Latitude in Decimal Degrees: 37.054751 Longitude in Decimal Degrees: -89.184273 Permit Type Desc: Not reported IL000003851AAF Program System Acronym:

Facility NAICS Code: 424710
Tribal Land Code: Not reported

Enforcement Action ID: 05-000F000170030001100001

FRS ID: 110007264101

Action Name: J D STREETT & CO INC - CAIRO TERMINAL 170030001100001

Facility Name: J D STREETT & CO INC - CAIRO TERMINAL

Facility Address: RURAL

CAIRO, IL 62914

Enforcement Action Type: Notice of Violation Facility County: ALEXANDER

Program System Acronym: AIR

Enforcement Action Forum Desc: Administrative - Informal

EA Type Code:

Facility SIC Code:

Federal Facility ID:

Latitude in Decimal Degrees:

Longitude in Decimal Degrees:

Permit Type Desc:

Program System Acronym:

Not reported

1L000003851AAF

Facility NAICS Code: 424710
Tribal Land Code: Not reported

FINDS:

Registry ID: 110007264101

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

ACES (Illinois - Agency Compliance And Enforcement System) is the Illinois EPA Project to facilitate the permitting operations

AIR MINOR

Direction Distance

Elevation Site Database(s) EPA ID Number

J D STREETT & CO INC - CAIRO TERMINAL (Continued)

1006172323

EDR ID Number

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1006172323 Registry ID: 110007264101

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110007264101

Name: J D STREETT & CO INC - CAIRO TERMINAL

Address: RURAL

City, State, Zip: CAIRO, IL 62914

AIRS:

Name: J D STREETT & CO INC - CAIRO TERMINAL

Address: RURAL
City,State,Zip: CAIRO, IL
2nd Address: Not reported

Facility ID: 81

Year: Not reported Contact Name: Not reported Contact Title: Not reported Contact Telephone: Not reported Contact Fax: Not reported Contact Ext: Not reported Not reported Contact Email: ID Number: 003851AAF 6/24/1994 Cease Operation Date: SIC Code: 5171 NAICS: Not reported Type Code: LOC

Permit: Not reported Type: Not reported Status: Not reported Status Date: Not reported Expiration Date: Not reported Latitude: Not reported Longitude: Not reported Not reported Not reported Not reported Not reported Not reported Not reported

C10 HAGOOD OIL CO INC Target 902 BROADWAY ST Property BARLOW, KY 42024 KY UST U001183601 N/A

Site 1 of 2 in cluster C

Actual: UST:

 385 ft.
 Name:
 HAGOOD OIL CO INC

 Focus Map:
 Address:
 902 BROADWAY ST

 11
 City,State,Zip:
 BARLOW, KY 42024

Sequence Id: 5604004
Facility ID: 57252
Owner Name: Jennifer Mills
Owner Address: 151 Rashea St
Owner Address2: Not reported
Owner Address3: Not reported
Owner City, St, Zip: Mayfield, KY 42066

Owner City,St,Zip: Noternal Document ID: 0

Latitude: 37.054323 Longitude: -89.037223 Map ID MAP FINDINGS
Direction

Distance Elevation Site EDR ID Number

Database(s) EPA ID Number

HAGOOD OIL CO INC (Continued)

U001183601

Inert Material Code:
Removed Date:
Change in Service Date:
Not reported
Tank Mfg Code:
Not reported
Tank Overfill Protection:
FLR

Last Tank Test Date: Not reported

Relined Date: 09/07/1990 Lining Insp Date: Not reported

Pipe Release Detection: SIR
Pipe Rel Detect Suc Code: SIR

Pipe Leak Detect Code:
Last Contained Date:
Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel
Decode For Textcrprcd: Not Applicable

Decode For Treldetcod: Statistical Inventory Recon
Decode For Tintprotcd: Interior Lining

Decode For Tsplprevcd: Single Wall Spill Bucket
Decode For Tovflprvcd: Flow Restrictor

Decode For Pmatcode: Single Wall Steel
Decode For Pextcoprcd: Unknown
Decode For Ptypecode: Suction

Decode For Preldetcod: Statistical Inventory Recon Decode For Preldetsuc: Statistical Inventory Recon

Decode For Plekdetcod: Not reported
Decode For Tsubcd: Gasoline
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported

Subject Item ID: 1
Tank Status: TRM
Installation Date: 01/01/1956
Closed In Place Date: 11/01/2000
Capacity in Gallons: 12000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
O4/06/2005
Change in Service Date:
Not reported
Funk Mfg Code:
Not reported
Not reported
Not reported
FLR

Last Tank Test Date:

Relined Date:

Lining Insp Date:

Not reported
09/07/1990

Not reported

Pipe Release Detection: SIR
Pipe Rel Detect Suc Code: SIR

Pipe Leak Detect Code: Not reported Last Contained Date: Not reported

Map ID MAP FINDINGS
Direction

Distance Elevation

ation Site Database(s) EPA ID Number

HAGOOD OIL CO INC (Continued)

U001183601

EDR ID Number

Pipe Mfg Code:

Last Pipe Test Date:

Last CP Test Date:

Added To Flex Date:

Added To Piping Date:

Not reported

Not reported

Not reported

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd:
Decode For Tmatcode:
Decode For Textcrprcd:
Not Applicable

Decode For Treldetcod: Statistical Inventory Recon

Decode For Tintprotcd: Interior Lining

Decode For Tsplprevcd: Single Wall Spill Bucket

Decode For Tovflprvcd: Flow Restrictor
Decode For Pmatcode: Single Wall Steel
Decode For Pextcoprcd: Unknown

Decode For Ptypecode: Suction
Decode For Preldetcod: Statistical Inventory Recon
Decode For Preldetsuc: Statistical Inventory Recon

Decode For Plekdetcod: Not reported
Decode For Tsubcd: Diesel
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported

Subject Item ID: 2
Tank Status: TRM
Installation Date: 01/01/1956
Closed In Place Date: 11/01/2000
Capacity in Gallons: 12000

Compartment Number:

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code: Not reported Removed Date: 04/06/2005 Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: FLR

Last Tank Test Date: Not reported Relined Date: 09/07/1990 Lining Insp Date: Not reported

Pipe Release Detection: SIR
Pipe Rel Detect Suc Code: SIR

Pipe Leak Detect Code:

Last Contained Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd:
Decode For Tmatcode:
Decode For Textcrprcd:
Not reported
Single Wall Steel
Not Applicable

Decode For Treldetcod: Statistical Inventory Recon

Decode For Tintprotcd: Interior Lining

Decode For Tsplprevcd: Single Wall Spill Bucket

Decode For Tovflprvcd: Flow Restrictor

Direction Distance Elevation

Site Database(s) EPA ID Number

HAGOOD OIL CO INC (Continued)

U001183601

EDR ID Number

Decode For Pmatcode: Single Wall Steel
Decode For Pextcoprcd: Not Applicable

Decode For Ptypecode: Suction

Decode For Preldetcod: Statistical Inventory Recon Decode For Preldetsuc: Statistical Inventory Recon

Decode For Plekdetcod: Not reported
Decode For Tsubcd: Gasoline
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported

Subject Item ID: 3
Tank Status: TRM
Installation Date: 01/01/1956
Closed In Place Date: 11/01/2000
Capacity in Gallons: 4000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code: Not reported Removed Date: 11/01/1988 Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: UNK Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported Pipe Release Detection: UNK Pipe Rel Detect Suc Code: UNK Not reported Pipe Leak Detect Code:

Pipe Leak Detect Code: Not reported
Last Contained Date: Not reported
Pipe Mfg Code: Not reported
Last Pipe Test Date: Not reported
Last CP Test Date: Not reported
Added To Flex Date: Not reported
Added To Piping Date: Not reported
Added To Piping Date: Not reported
Added To Piping Date: Not reported

Decode For Tstatus: Removed Prior to 1988

Decode For Inertmatcd:
Decode For Tmatcode:
Decode For Textcrprcd:
Decode For Treldetcod:
Decode For Tintprotcd:
Unknown
None
Decode For Tintprotcd:
Unknown

Decode For Tintprotcd: Unknown
Decode For Tsplprevcd: Unknown
Decode For Tovflprvcd: Unknown

Decode For Pmatcode: Single Wall Steel

Decode For Pextcoprcd: Unknown Decode For Ptypecode: Unknown Decode For Preldetcod: Unknown Decode For Preldetsuc: Unknown Decode For Plekdetcod: Not reported Decode For Tsubcd: Kerosene Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: 4
Tank Status: TR8
Installation Date: 01/01/1966
Closed In Place Date: Not reported

Map ID MAP FINDINGS
Direction

Distance Elevation Site

Site Database(s) EPA ID Number

HAGOOD OIL CO INC (Continued)

U001183601

EDR ID Number

Capacity in Gallons: 4000 Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
O4/06/2005
Change in Service Date:
Not reported
Tank Pit Num:
Not reported
Tank Mfg Code:
Not reported
Tank Overfill Protection:
FLR

Last Tank Test Date:

Relined Date:

Not reported
09/07/1990

Lining Insp Date:

Not reported

Pipe Release Detection: SIR
Pipe Rel Detect Suc Code: SIR

Pipe Leak Detect Code:

Last Contained Date:

Pipe Mfg Code:

Last Pipe Test Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd:
Decode For Tmatcode:
Decode For Textcrprcd:
Not reported
Single Wall Steel
Not Applicable

Decode For Treldetcod: Statistical Inventory Recon

Decode For Tintprotcd: Interior Lining

Decode For Tsplprevcd:
Decode For Tovflprvcd:
Decode For Pmatcode:
Decode For Pextcoprcd:
Decode For Ptypecode:
Single Wall Spill Bucket
Flow Restrictor
Single Wall Steel
Unknown
Suction

Decode For Preldetcod: Statistical Inventory Recon Decode For Preldetsuc: Statistical Inventory Recon

Decode For Plekdetcod: Not reported
Decode For Tsubcd: Diesel
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported

Subject Item ID: 5
Tank Status: TRM
Installation Date: 01/01/1956
Closed In Place Date: 11/01/2000
Capacity in Gallons: 12000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code: Not reported Removed Date: 04/06/2005 Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: FLR

Last Tank Test Date: Not reported Relined Date: 09/07/1990

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

HAGOOD OIL CO INC (Continued)

U001183601

Lining Insp Date: Not reported Pipe Release Detection: SIR

Pipe Rel Detect Suc Code: SIR

Pipe Leak Detect Code: Not reported Last Contained Date: Not reported Not reported Pipe Mfg Code: Not reported Last Pipe Test Date: Last CP Test Date: Not reported Added To Flex Date: Not reported Added To Piping Date: Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported Decode For Tmatcode: Single Wall Steel Decode For Textcrprcd: Not Applicable

Decode For Treldetcod: Statistical Inventory Recon

Decode For Tintprotcd: Interior Lining

Decode For Tsplprevcd: Single Wall Spill Bucket Decode For Tovflprvcd: Flow Restrictor Decode For Pmatcode: Single Wall Steel

Decode For Pextcoprcd: Unknown Decode For Ptypecode: Suction

Decode For Preldetcod: Statistical Inventory Recon Decode For Preldetsuc: Statistical Inventory Recon

Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: 6 Tank Status: TRM 01/01/1956 Installation Date: Closed In Place Date: 11/01/2000 Capacity in Gallons: 12000 Compartment Number:

Piping Installation Date: Not reported Added To Tank Date: Not reported

HAGOOD OIL CO INC 902 BROADWAY BARLOW, KY 42024

Site 2 of 2 in cluster C

Actual: NPDES: 385 ft. Name:

C11

Target

Property

HAGOOD OIL CO INC 902 BROADWAY Address: Focus Map: City, State, Zip: BARLOW, KY 42024 Federal Facility ID: Not reported

INACTIVE Facility Status: KY DES #: KYR000712 Total App# Design Flow (MGD): Not reported Horizontal Collect Method Desc: Not reported Not reported Facility Addr 2: Inactive Date: 12/03/2002 Design Capacity: Not reported Fee Category: Not reported

SIC Code: 5171

+3703060 / -08902420 Lat/Long:

Lat/Long Method: Α S108899008

N/A

KY NPDES

Direction Distance

Elevation Site Database(s) **EPA ID Number**

HAGOOD OIL CO INC (Continued)

S108899008

EDR ID Number

USGS Hydrologic Basin Code: 08010100 Facility Stream Segment: Not reported Facility Mileage Indicator: Not reported Basin Code: Not reported Basin Code Description: Not reported TIM HAGOOD **DMR Contact:** Contact Telephone: 5023343125 Mailing Address: PO BOX 190 Mailing Address 2: Not reported Mailing City, St, Zip: BARLOW, KY 42024

Permit Issued: 09/13/2002 Permit Expires: 09/30/1997

PETROLEUM BULK STATIONS & TERM SIC Code Description:

Reveiving Waters: SODOM CRK Major/Minor: **MINOR** Effective Date: Not reported Affiliation Type Desc: Not reported Organization Formal Name: Not reported Facility Type Desc: Not reported State Facility ID: Not reported Original Issue Date: Not reported

Approved For Electronic DMR Submission: Not reported

12 KY SPILLS S125318344 **Target** N/A

Property BARLOW, KY

SPILLS:

Not reported Name: Actual: Address: Not reported 380 ft. City, State, Zip: BARLOW, KY Facility Status: Response/Investigate Focus Map:

Incident Type:

ILLEGAL DISPOSAL (NOT OPEN DUMP); OPEN BURNING

Program Code: 08

Received By Staff: Lents, Elizabeth Received Date: 06/29/2019 Report Date: 2019-06-29 09:15:00

Dispatch Description: Caller reported residential structure demolition occurring with

materials (exterior treated lumber, flooring, etc) being placed in an open pit in the back yard and burned. ERT notified Ballard County EM, Travis Holder, of the complaint for the purpose of notifying the local

Fire Department.

Source Name: Robert A. Ford - Deceased

Source Address: 733 Liberty Street in Barlow Kentucky. Substances:

Not reported Other Substances Desc: Not reported Media Impacted: Solid Waste Inc ID: 2456971 Lead Invest Person ID: 64075 Compliance: Yes Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S125318344

MARS Function Code: Not reported

Locked: No

Closure Type Desc: Not reported Waterbody: Not reported 37.05390 Latitude: 89.04010 Longitude:

D13 **BALLARD CO FISCAL CT** KY AST A100480455 N/A

Target 326 LAKE DRIVE BARLOW, KY 42024 **Property**

Site 1 of 2 in cluster D

Actual: AST:

375 ft. Permit Number: PAG0009380

BALLARD CO FISCAL CT Name: Focus Map:

Address: 326 LAKE DRIVE Telephone: (270) 335-5176

City, State, Zip: BARLOW, KY 42024 Permit Type: Government

Category: Adding New Tank to Existing Site

Permit Status: Completed Issue Date: 07/18/2019

Last Inspection: Final - PAG, 10/17/2019, Passed Installer: Mid West Terminal - David Driskill

D14 **BALLARD CO ROAD DEPARTMENT** FINDS 1015809501

Target 326 LAKE DR **Property BARLOW, KY 42024**

Site 2 of 2 in cluster D

Actual: FINDS:

375 ft. 110045067253 Registry ID:

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

STATE MASTER

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

JOHN STEPHENSON RESIDENCE **FINDS** 1015808429 E15

532 MONROE DR Target BARLOW, KY 42024 **Property**

Site 1 of 2 in cluster E

Actual: FINDS:

381 ft. Registry ID: 110045106318

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

STATE MASTER

N/A

N/A

Direction Distance

Elevation Site Database(s) EPA ID Number

JOHN STEPHENSON RESIDENCE (Continued)

1015808429

EDR ID Number

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

16 KY SPILLS S117173195
Target N/A

Property BARLOW, KY

SPILLS:

Name: Not reported

Actual: Address: Not reported

349 ft. City,State,Zip: BARLOW, KY

Focus Map: Facility Status: Env. Closed

11 Incident Type: OPEN BURNING

Program Code: 01

Received By Staff: Whybark, Kristine Received Date: 01/28/2011

Report Date: 2011-01-28 12:47:20

Dispatch Description: NARRATIVE Complainant reported that there was a fire on Holloway

Landing Road. Complainant stated that the fire department responded, and found tires to be burning, Complainant stated that the fire department failed to take any action with the EPA to report the illegal actions. Complainant stated the fire was actually to burn the tires off of rims to scrap the rims. I contacted Ballard Dispatch and they stated that the occurrence was on 01/25, and the CAD states that the fire department signed it off as a controlled burn of a brush

the fire department signed it off as a controlled burn of a brush pile. The Fire chief of the local rural fire department is David Douglas. The physical address of the fire was at 4943 Holloway Landing

Road, Barlow, KY. I contacted the Kentucky Department for Environmental Protection and forwarded this report to them for due

diligence. FAX #270.898.8640 See Attachment:

Source Name: Knight Property (Al ID: 110520)

Source Address: 4973 Holloway Landing Road, Barlow, KY 42024-9687 Substances: PM2.5 (Particulate Matter - 2.5 Microns Or Less):

Other Substances Desc: Not reported

Media Impacted: Air

Inc ID:2323468Lead Invest Person ID:52078Compliance:YesNotification:NoPriority:RoutineIncident End Date:Not reportedFollow Up Priority Desc:Routine

Most Recent Comp Eval Activity: Al: 110520 CIV20110002

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Mitigated

Waterbody: Not reported Latitude: 89.07083 Longitude: -37.05261

Direction Distance

Elevation Site Database(s) EPA ID Number

F17 ALLREDS SERVICE STATION KY UST U003415205
Target 808 BROADWAY N/A

Target 808 BROADWAY Property BARLOW, KY 42024

Site 1 of 4 in cluster F

Actual: UST: 389 ft. Na

Name: ALLREDS SERVICE STATION

Focus Map:

Address: 808 BROADWAY
City,State,Zip: BARLOW, KY 42024

 Sequence Id:
 1010004

 Facility ID:
 57245

Owner Name: Magdalean Allred
Owner Address: PO Box 35
Owner Address2: Not reported
Owner Address3: Not reported
Owner City,St,Zip: Barlow, KY 42024

Internal Document ID: 0

Latitude: 37.052432 Longitude: -89.039093

Inert Material Code: Not reported Removed Date: 11/08/2005 Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: UNK Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported NON Pipe Release Detection: Pipe Rel Detect Suc Code: NON

Pipe Leak Detect Code:
Last Contained Date:
Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None Decode For Treldetcod: None

Decode For Tintprotcd:
Decode For Tsplprevcd:
Decode For Tovflprvcd:
Decode For Pmatcode:

Not Applicable
Unknown
Unknown
Single Wall Steel

Decode For Pextcoprcd: None Decode For Ptypecode: Suction Decode For Preldetcod: None Decode For Preldetsuc: None Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: 1
Tank Status: TRM
Installation Date: 01/01/1954

Map ID MAP FINDINGS
Direction

Distance Elevation

Site Database(s) EPA ID Number

ALLREDS SERVICE STATION (Continued)

EDR ID Number

U003415205

Closed In Place Date: 03/09/1998 Capacity in Gallons: 5169 Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
Change in Service Date:
Tank Pit Num:
Not reported
UNK

Last Tank Test Date:

Relined Date:

Lining Insp Date:

Pipe Release Detection:

Not reported
Not reported
Not reported
Not reported
Non
Non
Non
Non

Pipe Leak Detect Code:

Last Contained Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None Decode For Treldetcod: None

Decode For Pextcoprcd:

Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Unknown
Decode For Tovflprvcd: Unknown

Decode For Pmatcode: Single Wall Steel

None

Decode For Ptypecode:
Decode For Preldetcod:
Decode For Preldetsuc:
Decode For Plekdetcod:
Decode For Tsubcd:
Decode For Tmancd:
Decode For Pmancd:
Not reported
Not reported
Not reported
Not reported

Subject Item ID: 2
Tank Status: TRM
Installation Date: 01/01/1954
Closed In Place Date: 03/09/1998
Capacity in Gallons: 5169
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code: Not reported Removed Date: 11/08/2005
Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: UNK

Last Tank Test Date: Not reported

Direction Distance Elevation

ation Site Database(s) EPA ID Number

ALLREDS SERVICE STATION (Continued)

U003415205

EDR ID Number

Relined Date:

Lining Insp Date:

Pipe Release Detection:

Pipe Rel Detect Suc Code:

Pipe Leak Detect Code:

Not reported

NON

NON

Not reported

NON

Not reported

Pipe Leak Detect Code:

Last Contained Date:

Pipe Mfg Code:

Last Pipe Test Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None
Decode For Treldetcod: None

Decode For Tintprotcd:

Decode For Tsplprevcd:

Decode For Tovflprvcd:

Decode For Pmatcode:

Not Applicable

Unknown

Unknown

Single Wall Steel

Decode For Pextcoprcd:
Decode For Ptypecode:
Decode For Preldetcod:
Decode For Preldetsuc:
Decode For Plekdetcod:
Decode For Tsubcd:
Decode For Tmancd:
None
Not reported
Not reported

Subject Item ID: 3
Tank Status: TRM
Installation Date: 01/01/1954
Closed In Place Date: 03/09/1998
Capacity in Gallons: 648
Compartment Number: 1

Not reported

Decode For Pmancd:

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
Change in Service Date:
Tank Pit Num:
Tank Mfg Code:
Not reported

Tank Overfill Protection: UNK Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported Pipe Release Detection: NON Pipe Rel Detect Suc Code: NON Pipe Leak Detect Code: Not reported Not reported Last Contained Date:

Pipe Mfg Code:
Last Pipe Test Date:
Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

ALLREDS SERVICE STATION (Continued)

U003415205

Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None Decode For Treldetcod: None

Decode For Tintprotcd: Not Applicable Decode For Tsplprevcd: Unknown Decode For Tovflprvcd: Unknown Decode For Pmatcode: Single Wall Steel

Decode For Pextcoprcd: None Decode For Ptypecode: Suction Decode For Preldetcod: None Decode For Preldetsuc: None Decode For Plekdetcod: Not reported Decode For Tsubcd: Kerosene Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: Tank Status: TRM 01/01/1954 Installation Date: Closed In Place Date: 03/09/1998 Capacity in Gallons: 648 Compartment Number:

Piping Installation Date: Not reported Added To Tank Date: Not reported

18 KY SPILLS S117090922 **Target** N/A

BARLOW, KY **Property**

SPILLS:

Not reported Name: Actual: Address: Not reported 372 ft. City, State, Zip: BARLOW, KY Facility Status: Env. Closed Focus Map: Incident Type: **OPEN BURNING** Program Code: 01

> Received By Staff: Not reported Received Date: 06/24/2005

Report Date: 2005-06-24 15:20:00

Dispatch Description: Report of old house being burned.

Source Name: Not reported Source Address: 231 Lake Drive Substances: Not reported Other Substances Desc: old house Media Impacted: Air 196288 Inc ID: Lead Invest Person ID: Not reported

Compliance: Yes Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Not reported Most Recent ENF Activity: Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Managed

Direction Distance

Distance Elevation Site EDR ID Number

EDR ID Number

EPA ID Number

(Continued) S117090922

Waterbody: Not reported Latitude: Not reported Longitude: Not reported

E19 KY SPILLS S125869662

Target N/A

Not reported

Property BARLOW, KY

Site 2 of 2 in cluster E

Actual: SPILLS:

382 ft. Name:
Focus Map: Address:

Focus Map:
Address:
Not reported
BARLOW, KY
Facility Status:
Incident Type:
OPEN BURNING

Program Code: 01

Received By Staff: Evans, Mary Received Date: 08/11/2018

Report Date: 2018-08-13 09:19:00

Dispatch Description: Caller reported subject have been burning a residential structure. The

local fire department has responded several times and they kept

burning the home.

Source Name: Danny Cooper

Source Address: 506 Monroe Drive Barlow, KY

Substances: Not reported
Other Substances Desc: Not reported
Media Impacted: Air

2443246 Inc ID: Lead Invest Person ID: 49159 Compliance: Yes Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Not reported Begin Emergency Date: End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Mitigated

Waterbody: Not reported Latitude: 37.05250 Longitude: -89.04556

20 BARLOW WTP KY PFAS S127318992
Target N/A

Property , KY

Actual:

PFAS:

Name: BARLOW WTP
Address: Not reported
City,State,Zip: KY

 376 ft.
 City,State,Zip:
 KY

 Focus Map:
 Sample:
 AQ04041

 11
 Collected Date:
 08/27/2019

Direction Distance

Elevation Site Database(s) EPA ID Number

BARLOW WTP (Continued) S127318992

Received Date: 08/28/2019 Type: GW PFBS: 0.000 HFPO DA: 0.000 PFHPA: 0.000 PFHXS: 1.620 ADONA: 0.000 PFOA: 0.000 PFOS: 0.000 PFNA: 0.000 Units: ng/L Aquifer Source: Claiborne River Basin: Not reported

Aquifer General: Mississippi Embayment

Land Use: rural
AI ID: Not reported
Facility Group: Not reported
Not/Com Number: Not reported
SI Description: Not reported
Regulatory Description: Not reported
Site Status: Not reported

 Acreage:
 Not reported

 Latitude:
 37.05247092310

 Longitude:
 -89.04769268410

21 KY SPILLS S117205110
Target N/A

Property BARLOW, KY

SPILLS:

Name: Not reported

Actual: Address: Not reported

346 ft. City,State,Zip: BARLOW, KY

Focus Map:

Facility Status: Forwarded to Outside Agency

Incident Type: OPEN DUMPING

Program Code: 0

Received By Staff: Williams, Margie
Received Date: Not reported
Report Date: 2013-04-15 07:31:15

Dispatch Description: Open dump Source Name: Unknown

Source Address: 37.02.5974 N 89.04.1485W

Substances: Not reported Other Substances Desc: Not reported Solid Waste Media Impacted: Inc ID: 2360549 Lead Invest Person ID: 9498 Yes Compliance: Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported

Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: No

Map ID MAP FINDINGS
Direction

Distance

Elevation Site Database(s) EPA ID Number

(Continued) S117205110

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported Latitude: 37.05243 Longitude: 89.069479

F22 KY NPDES S125936510

Target 817 BROADWAY STREET Property BARLOW, KY 42024

Site 2 of 4 in cluster F

Actual: NPDES: 390 ft. Name:

390 ft. Name: Not reported

Focus Map: Address: 817 BROADWAY STREET
11 City,State,Zip: BARLOW, KY 42024

Federal Facility ID: Not reported Facility Status: Not reported KY DES #: KYD000021 Total App# Design Flow (MGD): Not reported Horizontal Collect Method Desc: Not reported Facility Addr 2: Not reported Inactive Date: Not reported Design Capacity: Not reported Not reported Fee Category: SIC Code: Not reported

Lat/Long: 37.052564 / -89.03875

Lat/Long Method: Not reported USGS Hydrologic Basin Code: Not reported Facility Stream Segment: Not reported Facility Mileage Indicator: Not reported Basin Code: Not reported Basin Code Description: Not reported **DMR Contact:** Not reported Contact Telephone: Not reported Mailing Address: Not reported Not reported Mailing Address 2: Mailing City, St, Zip: Not reported Permit Issued: Not reported Permit Expires: Not reported SIC Code Description: Not reported **Reveiving Waters:** Not reported Major/Minor: Not reported Effective Date: Not reported Affiliation Type Desc: Not reported Organization Formal Name: Not reported Facility Type Desc: Not reported State Facility ID: Not reported Original Issue Date: Not reported

Approved For Electronic DMR Submission:

EDR ID Number

N/A

Direction Distance

EDR ID Number Elevation Site **EPA ID Number** Database(s)

F23 HANEY ENTERPRISES, LLC **FINDS** 1023636239 **Target 817 BROADWAY STREET ECHO** N/A **BARLOW, KY 42024 Property**

Site 3 of 4 in cluster F

Actual: FINDS:

390 ft. Registry ID: 110070044955

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the

discharge does not adversely affect water quality.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

1023636239 Envid: Registry ID: 110070044955

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110070044955

Name: HANEY ENTERPRISES, LLC 817 BROADWAY STREET Address: City, State, Zip: BARLOW, KY 42024

KY NPDES S125936509 F24

817 BROADWAY STREET Target Property BARLOW, KY 42024

Site 4 of 4 in cluster F

Actual: NPDES:

390 ft. Name: Not reported

817 BROADWAY STREET Address: Focus Map:

BARLOW, KY 42024 City,State,Zip:

Federal Facility ID: Not reported Facility Status: Not reported KY DES #: KYD000020 Total App# Design Flow (MGD): Not reported Horizontal Collect Method Desc: Not reported N/A

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S125936509

Facility Addr 2: Not reported Inactive Date: Not reported Design Capacity: Not reported Fee Category: Not reported SIC Code: Not reported

Lat/Long: 37.052564 / -89.03875

Lat/Long Method: Not reported USGS Hydrologic Basin Code: Not reported Facility Stream Segment: Not reported Facility Mileage Indicator: Not reported Basin Code: Not reported Basin Code Description: Not reported DMR Contact: Not reported Contact Telephone: Not reported Mailing Address: Not reported Mailing Address 2: Not reported Mailing City, St, Zip: Not reported Permit Issued: Not reported Permit Expires: Not reported SIC Code Description: Not reported Reveiving Waters: Not reported Major/Minor: Not reported Effective Date: Not reported Affiliation Type Desc: Not reported Organization Formal Name: Not reported Facility Type Desc: Not reported State Facility ID: Not reported Original Issue Date: Not reported Approved For Electronic DMR Submission:

G25 KY SPILLS S125870186 Target N/A

Property BARLOW, KY

Site 1 of 9 in cluster G

Actual: SPILLS:
371 ft. Name: Not reported

Focus Map: Address: Not reported

City,State,Zip: BARLOW, KY
Facility Status: Env. Closed

Incident Type: DW-CONSTRUCTION-MAINTENANCE

Program Code: 03

Received By Staff: McLeary, Shannon
Received Date: 08/28/2018
Report Date: 2018-08-28 15:06:25

Dispatch Description: BWA due to maintenance. 20 affected customers notified door to door.

Source Name: Barlow Water System (Al ID: 45)

Source Address: Liberty Street
Substances: Not reported
Other Substances Desc: Not reported
Media Impacted: Drinking Water
Inc ID: 2443819

Lead Invest Person ID:6181Compliance:NoNotification:YesPriority:Routine

Incident End Date: 2018-09-12 00:00:00

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S125870186

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Restored Waterbody: Not reported

Latitude: 37.05222 Longitude: -89.04917

G26 KY SPILLS S117214797
Target N/A

Property BARLOW, KY

Site 2 of 9 in cluster G

Actual: SPILLS:

371 ft.Name:Not reportedFocus Map:Address:Not reported11City,State,Zip:BARLOW, KYFacility Status:Env. Closed

Incident Type: DW-LINE BREAK/LEAK

Program Code: 03

Received By Staff: Evans, Mary Received Date: 01/05/2014

Report Date: 2014-01-06 12:43:48

Dispatch Description: boil water due to vehicle hit fire hydrant Source Name: Barlow Water System (Al ID: 45)
Source Address: South 6th Street

Substances: Population Affected:10
Other Substances Desc: Not reported
Media Impacted: Drinking Water
Inc ID: 2371700
Lead Invest Person ID: 49159
Compliance: No
Notification: Yes

Priority: Routine Incident End Date: 2014-01-16 00:00:00 Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported Latitude: 37.05222 Longitude: -89.04916

Direction Distance

Elevation Site Database(s) EPA ID Number

G27 KY SPILLS S117183532
Target N/A

Property BARLOW, KY

Site 3 of 9 in cluster G

Actual: SPILLS: 371 ft. Name:

Focus Map:

Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Env. Closed

Incident Type: DW-LINE BREAK/LEAK

Program Code: 03

Received By Staff: Topolski, Rob Received Date: 07/18/2011

Report Date: 2011-07-18 09:05:00

Dispatch Description: BWA due to 1.5 inch line break. 400 ft, 4 houses affected.

Source Name: Barlow Water System (Al ID: 45)

Source Address: South 6th Street, Barlow 400 feet of line affecting 4 houses. Substances: Not reported

Other Substances Desc:

Media Impacted:
Inc ID:
2335252
Lead Invest Person ID:
33632
Compliance:
No
Notification:
Yes

Priority: Routine
Incident End Date: 2011-07-22 00:00:00
Follow Up Priority Desc: Not reported
Most Recent Comp Eval Activity: Not reported
Most Recent ENF Activity: Not reported
Begin Emergency Date: Not reported
End Emergency Date: Not reported

Locked: Yes

MARS Function Code:

Closure Type Desc: Env. Closed-No Action Necessary

Not reported

Waterbody: Not reported Latitude: 37.05222 Longitude: -89.04916

G28 KY SPILLS S117191704
Target N/A

Property BARLOW, KY

Site 4 of 9 in cluster G

Actual: SPILLS: 371 ft. Name:

Focus Map: 11

Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Env. Closed

Incident Type: DW-LINE BREAK/LEAK

Program Code: 03

Received By Staff: Topolski, Rob Received Date: 03/20/2012

Report Date: 2012-03-20 17:14:14
Dispatch Description: boil water due to main break
Source Name: Barlow Water System (AI ID: 45)
Source Address: Liberty to College Terrace, 9th Street

Substances: Population Affected:35

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S117191704

Other Substances Desc:

Media Impacted:
Inc ID:
Lead Invest Person ID:
Ombiguates

Compliance:
Priority:

Not reported
Drinking Water
2344791
33632
No
No
Notification:
Yes
Priority:
Routine

Incident End Date: 2012-03-28 00:00:00
Follow Up Priority Desc: Not reported
Most Recent Comp Eval Activity: Not reported
Most Recent ENF Activity: Not reported
Begin Emergency Date: Not reported
End Emergency Date: Not reported
MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported Latitude: 37.05222 Longitude: -89.04916

G29 KY SPILLS S117175915 Target N/A

Property BARLOW, KY

Site 5 of 9 in cluster G

 Actual:
 SPILLS:

 371 ft.
 Name:
 Not reported

 Focus Map:
 Address:
 Not reported

 11
 City,State,Zip:
 BARLOW, KY

 Facility Status:
 Env. Closed

Incident Type: DW-LINE BREAK/LEAK

Program Code: 03

Received By Staff: Topolski, Rob
Received Date: 03/22/2011
Report Date: 2011-03-22 10:00:00

Dispatch Description: BWA Issued. Repair to 6" cast iron line. For installation of new

forced main (WW), they had to replace and raise a section of water

main.

Source Name: Barlow Water System (Al ID: 45)

Source Address: Hwy 60 and 6th Street Substances: Population Affected:15

Other Substances Desc:

Media Impacted:
Inc ID:

Lead Invest Person ID:

Compliance:

Priority:

Not reported
Drinking Water
2326555
33632
No
No
Notification:
Yes
Prority:

Routine

Incident End Date: 2011-03-31 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Mitigated

Direction Distance

Elevation Site Database(s) **EPA ID Number**

(Continued) S117175915

Waterbody: Not reported 37.05222 Latitude: Longitude: -89.04916

G30 KY SPILLS S118102409

Target N/A

Not reported

BARLOW, KY **Property**

Site 6 of 9 in cluster G

Actual: SPILLS:

371 ft. Name: Address: Focus Map:

Not reported BARLOW, KY City,State,Zip: 11 Facility Status: Env. Closed

DW-LINE BREAK/LEAK Incident Type:

Program Code:

Received By Staff: Evans, Mary 09/04/2014 Received Date:

Report Date: 2014-09-05 08:32:48

Dispatch Description: BWA affecting 11 houses. 6 inch main break at Monroe & 5th. Will

sample on Monday (9/8/14)

Barlow Water System (AI ID: 45) Source Name:

5th & Monroe. Everything west of 6th Street. Source Address: Substances:

Not reported Other Substances Desc: Not reported Media Impacted: **Drinking Water** Inc ID: 2383799 Lead Invest Person ID: 49159 Compliance: No

Notification: Yes Priority: Routine

2014-09-10 00:00:00 Incident End Date:

Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked:

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported Latitude: 37.05222 Longitude: -89.04916

KY SPILLS S118106525 G31 **Target** N/A

Property BARLOW, KY

Site 7 of 9 in cluster G

SPILLS: Actual:

371 ft. Name: Not reported Address: Not reported Focus Map: BARLOW, KY City,State,Zip:

Facility Status: Env. Closed

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S118106525

Incident Type: DW-LINE BREAK/LEAK

Program Code: 03

Received By Staff: Evans, Mary Received Date: 01/09/2015

Report Date: 2015-01-09 13:45:28

Dispatch Description: 1.5" main break due to repair.Water off 12:40 pm Water on Customer

notified by phone.

Source Name: Barlow Water System (AI ID: 45)

Source Address: South 6th Street
Substances: Population Affected:3
Other Substances Desc: Not reported
Media Impacted: Drinking Water
Inc ID: 2388388

Lead Invest Person ID: 49159
Compliance: No
Notification: Yes
Priority: Routine

Incident End Date: 2015-01-16 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported Latitude: 37.05222 Longitude: -89.04916

G32 KY SPILLS S118104365
Target N/A

Property BARLOW, KY

Site 8 of 9 in cluster G

 Actual:
 SPILLS:

 371 ft.
 Name:
 Not reported

 Focus Map:
 Address:
 Not reported

 11
 City,State,Zip:
 BARLOW, KY

Facility Status: Env. Closed Incident Type: DW-LINE BREAK/LEAK

Program Code: 03

 Received By Staff:
 Evans, Mary

 Received Date:
 10/30/2014

 Report Date:
 2014-10-30 10:32:21

Dispatch Description: Mainbreak. Contractor hit a 2" PVC line.

Source Name: Barlow Water System (Al ID: 45)

Source Address: South 6th and Short Street Barlow, KY

Substances: Population Affected:5
Other Substances Desc: Not reported
Media Impacted: Drinking Water

Inc ID:2385979Lead Invest Person ID:49159Compliance:NoNotification:YesPriority:Routine

Incident End Date: 2014-11-04 00:00:00

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S118104365

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported Latitude: 37.05222 Longitude: -89.04916

G33 KY SPILLS S118375258 Target N/A

Property BARLOW, KY

Site 9 of 9 in cluster G

Actual: SPILLS:

371 ft.Name:Not reportedFocus Map:Address:Not reported11City,State,Zip:BARLOW, KYFacility Status:Env. Closed

Incident Type: DW-LINE BREAK/LEAK

Program Code: 03

Received By Staff: Cash, Nicholas Received Date: 08/11/2015

Report Date: 2015-08-11 09:51:53

Dispatch Description: BWA due to small line fracture. 14 affected customers notified door to

door.

Source Name: Barlow Water System (AI ID: 45)

Source Address: North 1st Street, North 2nd Street, Lake Street, and Farmer Street

Substances: Population Affected:14

Other Substances Desc:

Media Impacted:
Inc ID:
Lead Invest Person ID:
Ombiguity
Drinking Water
2400294
Lead Invest Person ID:
Ombiguity
Priority:
No
Notification:
Yes
Priority:
Routine

Incident End Date: 2015-08-14 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported Latitude: 37.05222 Longitude: -89.04916

Direction Distance

Elevation Site Database(s) EPA ID Number

H34 KY SPILLS S117199991
Target N/A

Property BARLOW, KY

Site 1 of 3 in cluster H

Actual: SPILLS: Name:

Focus Map: 11 Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Env. Closed

Incident Type: ASBESTOS-RENOVATION

Program Code: 01

Received By Staff: Stangle, Charles Received Date: 12/25/2012

Report Date: 2012-12-07 15:26:30
Dispatch Description: Demolition Auto Parts
Source Name: City of Barlow
Source Address: 1445 4th Street
Substances: Not reported
Other Substances Desc: Not reported

Media Impacted: Air
Inc ID: 2354643
Lead Invest Person ID: 37396
Compliance: No
Notification: Yes

Priority: Routine

Incident End Date: 2013-01-15 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Routine

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Mitigated

Waterbody: Not reported Latitude: Not reported Longitude: Not reported Not reported

135 AA INVESTMENTS & HOLDING

Target 799 BROADWAY ST Property BARLOW, KY 42024

Site 1 of 2 in cluster I

Actual: AST:

390 ft. Permit Number: PAG0003750

Focus Map:Name:AA INVESTMENTS & HOLDING11Address:799 BROADWAY ST

Telephone: (618) 748-9245
City, State, Zip: BARLOW, KY 42024-9782

Permit Type: Commercial
Category: Other
Permit Status: Cancelled
Issue Date: 06/17/2010
Last Inspection: Not reported

Installer: Neumayer Equipment

TC7268867.5s Page 79

KY AST A100450469

N/A

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

136 **CUTMART #5** KY UST U003415665 **Target** 799 BROADWAY ST N/A

BARLOW, KY 42024 **Property**

Site 2 of 2 in cluster I

Actual: 390 ft. Focus Map: UST:

CUTMART #5 Name: 799 BROADWAY ST Address: City,State,Zip: BARLOW, KY 42024

Sequence Id: 169004 Facility ID: 57251 Owner Name: Ali Abukhdair Owner Address: 4708 Scottish Dr Owner Address2: Not reported Owner Address3: Not reported

Owner City, St, Zip: Murfreesboro, TN 37128

Internal Document ID: 37.05201 Latitude: -89.038907 Longitude:

Inert Material Code: Not reported Removed Date: 04/01/2019 Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: STU Tank Overfill Protection: ASD Last Tank Test Date: 02/28/2011 Relined Date: 08/27/1998 Lining Insp Date: Not reported Pipe Release Detection: CKV Pipe Rel Detect Suc Code: CKV Pipe Leak Detect Code: Not reported Last Contained Date: Not reported

Pipe Mfg Code: **FRP** Last Pipe Test Date: Not reported Last CP Test Date: 01/14/2011 Not reported Added To Flex Date: Added To Piping Date: Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported Decode For Tmatcode: Single Wall Steel Not Applicable Decode For Textcrprcd:

Automatic Tank Gauging Decode For Treldetcod:

Decode For Tintprotcd: Interior Lining

Decode For Tsplprevcd: Double Wall Spill Bucket Decode For Tovflprvcd: Automatic Shutoff Device Decode For Pmatcode: Fiberglass Reinforced Plastic

Decode For Pextcoprcd: Not Applicable Decode For Ptypecode: Suction Decode For Preldetcod: Check Valve Decode For Preldetsuc: Check Valve Decode For Plekdetcod: Not reported

Decode For Tsubcd: GAS-UNL-Reg Unl Gas Decode For Tmancd: Steel Manufacturer Unknown Decode For Pmancd: Fiberglass Manufacturer Unknown

Subject Item ID: Tank Status: TRM Installation Date: 01/01/1983

Direction Distance Elevation

tance EDR ID Number vation Site Database(s) EPA ID Number

CUTMART #5 (Continued)

Closed In Place Date: 12/21/2017
Capacity in Gallons: 8000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code: Not reported Removed Date: 04/01/2019 Not reported Change in Service Date: Tank Pit Num: Not reported Tank Mfg Code: STU Tank Overfill Protection: ASD Last Tank Test Date: 02/28/2011 Relined Date: 08/27/1998 Lining Insp Date: Not reported Pipe Release Detection: CKV CKV Pipe Rel Detect Suc Code:

Pipe Leak Detect Code: Not reported Last Contained Date: Not reported

Pipe Mfg Code: FRP

Last Pipe Test Date: Not reported
Last CP Test Date: 01/14/2011
Added To Flex Date: Not reported
Added To Piping Date: Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd:
Decode For Tmatcode:
Decode For Textcrprcd:
Not reported
Single Wall Steel
Not Applicable

Decode For Treldetcod: Automatic Tank Gauging

Decode For Tintprotcd: Interior Lining

Decode For Tsplprevcd: Single Wall Spill Bucket
Decode For Tovflprvcd: Automatic Shutoff Device
Decode For Pmatcode: Fiberglass Reinforced Plastic

Decode For Pextcoprcd:
Decode For Ptypecode:
Decode For Preldetcod:
Decode For Preldetsuc:
Decode For Plekdetcod:
Decode For Plekdetcod:
Not reported

Decode For Tsubcd: GAS-UNL-Reg Unl Gas
Decode For Tmancd: Steel Manufacturer Unknown
Decode For Pmancd: Fiberglass Manufacturer Unknown

Subject Item ID: 2
Tank Status: TRM
Installation Date: 01/01/1983
Closed In Place Date: 12/21/2017
Capacity in Gallons: 8000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
O4/01/2019
Change in Service Date:
Tank Pit Num:
Not reported
Tank Mfg Code:
Tank Overfill Protection:
Last Tank Test Date:
Not reported
STU
ASD
Last Tank Test Date:
O2/28/2011

U003415665

Direction Distance

Elevation Site Database(s) EPA ID Number

CUTMART #5 (Continued) U003415665

Relined Date: 08/27/1998
Lining Insp Date: Not reported
Pipe Release Detection: CKV
Pipe Rel Detect Suc Code: CKV
Pipe Leak Detect Code: Not reported

Last Contained Date:
Pipe Mfg Code:
FRP
Last Pipe Test Date:
Not reported
O1/14/2011
Added To Flex Date:
Not reported
Not reported
Not reported
Not reported
Not reported
Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd:
Decode For Tmatcode:
Decode For Textcrprcd:
Not Applicable

Decode For Treldetcod: Automatic Tank Gauging

Decode For Tintprotcd: Interior Lining

Decode For Tsplprevcd: Single Wall Spill Bucket
Decode For Tovflprvcd: Automatic Shutoff Device
Decode For Pmatcode: Fiberglass Reinforced Plastic

Decode For Pextcoprcd:
Decode For Ptypecode:
Decode For Preldetcod:
Decode For Preldetsuc:
Decode For Plekdetcod:
Decode For Plekdetcod:
Decode For Tsubcd:
Decode For Tsubcd:

Not Applicable
Suction
Check Valve
Not reported
Decode For Tsubcd:
Diesel

Decode For Tmancd: Steel Manufacturer Unknown
Decode For Pmancd: Fiberglass Manufacturer Unknown

Subject Item ID: 3
Tank Status: TRM
Installation Date: 01/01/1983
Closed In Place Date: 12/21/2017
Capacity in Gallons: 2000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

J37 KY SPILLS S118113100
Target N/A

Property BARLOW, KY

Site 1 of 4 in cluster J

SPILLS:

390 ft.

Focus Map:

Actual:

Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Response/Investigate

Incident Type: FACILITY SPILL, ABANDONED TANKS - UNDER GROUND STORAGE TANK

Program Code: 08

Received By Staff: Williams, Margie Received Date: 05/08/2015

Report Date: 2015-05-08 15:26:57

Dispatch Description: Complaint received of an old service station with lift not removed and

has hydraulic oil leaking out. Complainant wants to know if there are

UST's on site.

Source Name: Not reported

Source Address: 756 Broadway Street Storage building (770) nearby Grease trap/grate

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S118113100

exposed. Building demolished. Leaving Paducah, passing Cutmart, make

corner. Site on right of road.

Substances: Not reported Other Substances Desc: Not reported Media Impacted: Solid Waste 2395749 Inc ID: Lead Invest Person ID: 9498 Compliance: Yes Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: No

Closure Type Desc: Not reported Waterbody: Not reported Latitude: 37.05187 Longitude: 89.040319

H38 BETTYS CORNER CAFE
Target BROADWAY ST & 4TH
Property BARLOW, KY 42024

Site 2 of 3 in cluster H

Actual: UST: Na

373 ft.Name:BETTYS CORNER CAFEFocus Map:Address:BROADWAY ST & 4TH11City,State,Zip:BARLOW, KY 42024

Sequence Id: 1004004
Facility ID: 64223
Owner Name: Betty Scott
Owner Address: 592 Wall St
Owner Address2: PO Box 102
Owner Address3: Not reported
Owner City, St, Zip: Barlow, KY 42024

Internal Document ID: 0

Latitude: 37.05191484 Longitude: -89.0471828

Inert Material Code:
Removed Date:
Not reported
Change in Service Date:
Not reported
Tank Pit Num:
Not reported
Tank Mfg Code:
Not reported
Tank Overfill Protection:
UNK
Last Tank Test Date:
Not reported

Relined Date: Not reported
Lining Insp Date: Not reported
Pipe Release Detection: NON
Pipe Rel Detect Suc Code: NON

Pipe Leak Detect Code: Not reported Last Contained Date: Not reported Pipe Mfg Code: Not reported

EDR ID Number

KY UST U003180249

N/A

Direction Distance Elevation

ance EDR ID Number vation Site Database(s) EPA ID Number

BETTYS CORNER CAFE (Continued)

U003180249

Last Pipe Test Date:

Last CP Test Date:

Added To Flex Date:

Added To Piping Date:

Decode For Tstatus:

Not reported

Not reported

Not reported

Closed In Place

Decode For Inertmatcd: Sand

Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None
Decode For Treldetcod: None

Decode For Tintprotcd:
Decode For Tsplprevcd:
Decode For Tovflprvcd:
Decode For Pmatcode:

Not Applicable
Unknown
Unknown
Single Wall Steel

Decode For Pextcoprcd:

Decode For Ptypecode:

Decode For Preldetcod:

Decode For Preldetsuc:

Decode For Plekdetcod:

None

Not reported

Decode For Tsubcd: Gasoline
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported

Subject Item ID: 1
Tank Status: TCP
Installation Date: 01/01/1901
Closed In Place Date: 05/22/1997
Capacity in Gallons: 999
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code: SND

Removed Date: Not reported
Change in Service Date: Not reported
Tank Pit Num: Not reported
Tank Mfg Code: Not reported
Tank Overfill Protection: UNK

Last Tank Test Date: Not reported Relined Date: Not reported

Lining Insp Date:

Pipe Release Detection:

Pipe Rel Detect Suc Code:

NON

Pipe Leak Detect Code:

Not reported

Not reported

Last Contained Date:

Pipe Mfg Code:

Last Pipe Test Date:

Last CP Test Date:

Added To Flex Date:

Added To Piping Date:

Decode For Tstatus:

Not reported

Not reported

Not reported

Not reported

Not reported

Closed In Place

Decode For Inertmatcd: Sand

Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None
Decode For Treldetcod: None

Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Unknown
Decode For Tovflprvcd: Unknown

Decode For Pmatcode: Single Wall Steel

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

BETTYS CORNER CAFE (Continued)

U003180249

Decode For Pextcoprcd: None Decode For Ptypecode: Suction Decode For Preldetcod: None Decode For Preldetsuc: None Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: 2 Tank Status: **TCP** 01/01/1950 Installation Date: 11/25/1996 Closed In Place Date: Capacity in Gallons: 560 Compartment Number:

Piping Installation Date: Not reported Added To Tank Date: Not reported

FINDS 1014888265 H39 64223 - BETTYS CORNER CAFE N/A

Target BROADWAY ST & 4TH Property BARLOW, KY 42024

Site 3 of 3 in cluster H

FINDS: Actual:

373 ft. Registry ID: 110043838853

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

LEAKING UNDERGROUND STORAGE TANK - ARRA

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

J40 J & J SERVICE **EDR Hist Auto** 1021886278

Target 756 BROADWAY BARLOW, KY 42024 **Property**

Site 2 of 4 in cluster J

Actual: **EDR Hist Auto**

389 ft.

Year: Name: Type:

Focus Map: 2000 J & J SERVICE Gasoline Service Stations

J41 KY SPILLS S117206442

Target N/A

Property BARLOW, KY

Site 3 of 4 in cluster J

SPILLS: Actual:

389 ft. Name: Not reported Address: Not reported Focus Map:

BARLOW, KY City,State,Zip: Facility Status: Env. Closed

N/A

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S117206442

Incident Type: ASBESTOS-DEMOLITION

Program Code: 01

Received By Staff: Stangle, Charles Received Date: 05/07/2013 Report Date: 2013-05-14 11:38:55 Dispatch Description: ER-Demo-Garage Source Name: City of Barlow Source Address: 756 Broadway Substances: Not reported Other Substances Desc: Not reported

Media Impacted:AirInc ID:2362112Lead Invest Person ID:37396Compliance:NoNotification:YesPriority:Routine

Incident End Date: 2013-05-31 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:
End Emergency Date:
MARS Function Code:

Routine

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Mitigated

Waterbody: Not reported Latitude: Not reported Longitude: Not reported

J42 J AND J AUTO SERVICEQ KY Financial Assurance S108015950
Target 756 BROADWAY N/A

Property BARLOW, KY 42002

Site 4 of 4 in cluster J

 Actual:
 KY Financial Assurance 2:

 389 ft.
 Region:
 2

 Focus Map:
 Account:
 PST

 11
 Al:
 57255

cause: 103048 Approval Date: 03/25/1999 NFA Date: 10/06/2011

Coverage Amount: Up to 1 million dollar limit coverage

Effective Period: Would be from the time of the release to the end of the clean up

43 KY SPILLS S121274565 Target N/A

Property BARLOW, KY

SPILLS:

 Actual:
 Address:
 Not reported

 369 ft.
 City,State,Zip:
 BARLOW, KY

 Focus Map:
 Facility Status:
 Env. Closed

11 Incident Type: ILLEGAL DISPOSAL (NOT OPEN DUMP)

Program Code: 08

EDR ID Number

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S121274565

Received By Staff: Williams, Margie Received Date: 06/22/2017

Report Date: 2017-06-22 14:20:54

Dispatch Description: Complaint received that torn down houses have been buried on site.

Complainant states one house was torn down and buried last year and

the other was torn down several weeks ago and buried this week. Complainant states the houses were next to each other and the area now looks like it has been plowed. Complainant believes some asbestos

materials were buried along with the rest of the structures.

Source Name: Unknown

Source Address: 200 block of Broadway Substances: Not reported

Other Substances Desc: Not reported Media Impacted: Solid Waste Inc ID: 2427064 Lead Invest Person ID: 9498 Yes Compliance: Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Not reported Most Recent ENF Activity: Begin Emergency Date: Not reported Not reported End Emergency Date: MARS Function Code: Not reported

Locked: No

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported Latitude: 37.05171 Longitude: 89.049840

K44 J & J AUTO SERVICE KY UST U003180551
Target 556 BROADWAY N/A

Property BARLOW, KY 42024

Site 1 of 4 in cluster K

Actual: UST: 375 ft. Na Focus Map: Ad

Name: J & J AUTO SERVICE Address: 556 BROADWAY City,State,Zip: BARLOW, KY 42024

Sequence Id: 1007004
Facility ID: 57255
Owner Name: NONE
Owner Address: Not reported
Owner Address2: Not reported
Owner Address3: Not reported

Owner City, St, Zip: NONE, NONE NONE

Internal Document ID: 0

Latitude: 37.05162371 Longitude: -89.03993547

Inert Material Code:
Removed Date:
Change in Service Date:
Not reported

EDR ID Number

Direction Distance Elevation

Site Database(s) EPA ID Number

U003180551

EDR ID Number

J & J AUTO SERVICE (Continued)

Tank Overfill Protection:

Last Tank Test Date:

Relined Date:

Lining Insp Date:

Pipe Release Detection:

Pipe Rel Detect Suc Code:

VNK

Not reported

Not reported

CKV

CKV

Pipe Leak Detect Code:

Last Contained Date:

Pipe Mfg Code:

Last Pipe Test Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None

Decode For Treldetcod: Manual Tank Gauging

Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Unknown
Decode For Tovflprvcd: Unknown

Decode For Pmatcode: Single Wall Steel

Decode For Pextcoprcd: None Decode For Ptypecode: Suction Decode For Preldetcod: Check Valve Decode For Preldetsuc: Check Valve Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: 1
Tank Status: TRM
Installation Date: 01/01/1951
Closed In Place Date: 06/06/1997
Capacity in Gallons: 1000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
O3/17/1998
Change in Service Date:
Not reported
Not reported
Tank Pit Num:
Not reported
Not reported
Not reported
Vision of the ported
Not reported
Not reported
Vision of the ported
Not reported
UNK

Last Tank Test Date: Not reported

Relined Date: Not reported Lining Insp Date: Not reported Pipe Release Detection: CKV

Pipe Rel Detect Suc Code: CKV

Pipe Leak Detect Code:
Last Contained Date:
Not reported

Direction
Distance
Elevation

n Site Database(s) EPA ID Number

J & J AUTO SERVICE (Continued)

U003180551

EDR ID Number

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None

Decode For Treldetcod: Manual Tank Gauging

Decode For Tintprotcd:
Decode For Tsplprevcd:
Decode For Tovflprvcd:
Decode For Pmatcode:
Unknown
Unknown
Unknown
Single Wall Steel

Decode For Pextcoprcd: None Decode For Ptypecode: Suction Decode For Preldetcod: Check Valve Decode For Preldetsuc: Check Valve Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Not reported Decode For Pmancd:

Subject Item ID: 2
Tank Status: TRM
Installation Date: 01/01/1951
Closed In Place Date: 06/06/1997
Capacity in Gallons: 1000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
Change in Service Date:
Not reported
Not reported
Not reported
Tank Pit Num:
Not reported
Tank Mfg Code:
Not reported
Volume Not reported
Not reported
UNK

Last Tank Test Date:

Relined Date:

Not reported

Not reported

Not reported

Not reported

Not reported

CKV

Pipe Release Detection:

CKV

Pipe Leak Detect Code:

Last Contained Date:

Pipe Mfg Code:

Last Pipe Test Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None

Decode For Treldetcod: Manual Tank Gauging

Decode For Tintprotcd:
Decode For Tsplprevcd:
Decode For Tovflprvcd:
Decode For Pmatcode:

Not Applicable
Unknown
Unknown
Single Wall Steel

Decode For Pextcopred: None
Decode For Ptypecode: Suction
Decode For Preldetcod: Check Valve
Decode For Preldetsuc: Check Valve

Distance Elevation

on Site Database(s) EPA ID Number

J & J AUTO SERVICE (Continued)

U003180551

EDR ID Number

Decode For Plekdetcod: Not reported
Decode For Tsubcd: Diesel
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported

Subject Item ID: 3
Tank Status: TRM
Installation Date: 01/01/1951
Closed In Place Date: 06/06/1997
Capacity in Gallons: 560
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
Change in Service Date:
Not reported
Not reported
Not reported
Not reported
Not reported
Not reported
Tank Mfg Code:
Not reported
Not reported
UNK

Last Tank Test Date:

Relined Date:

Lining Insp Date:

Pipe Release Detection:

Not reported
Not reported
UNK

VNK

Pipe Leak Detect Code:
Last Contained Date:
Not reported
Pipe Mfg Code:
Not reported
Last Pipe Test Date:
Not reported

Decode For Tstatus: Duplicate Tank To Another Site

Decode For Inertmatcd:
Decode For Tmatcode:
Decode For Textcrprcd:
Decode For Treldetcod:
Decode For Tintprotcd:
Unknown
Decode For Tintprotcd:
Unknown
Decode For Textproyed:
Unknown

Decode For Tsplprevcd: Unknown Decode For Tovflprvcd: Unknown Decode For Pmatcode: Unknown Decode For Pextcoprcd: Unknown Decode For Ptypecode: Unknown Decode For Preldetcod: Unknown Decode For Preldetsuc: Unknown Decode For Plekdetcod: Not reported

Decode For Tsubcd: Oil

Decode For Tmancd:
Decode For Pmancd:
Subject Item ID:
Tank Status:
Installation Date:
Closed In Place Date:

Not reported
4
DUP
1/01/1954
Not reported

Capacity in Gallons: 550 Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Direction Distance Elevation

Site Database(s) **EPA ID Number**

J & J AUTO SERVICE (Continued)

U003180551

EDR ID Number

Inert Material Code: Not reported Removed Date: Not reported Not reported Change in Service Date: Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: UNK

Last Tank Test Date: Not reported Relined Date: Not reported Not reported Lining Insp Date: Pipe Release Detection: UNK Pipe Rel Detect Suc Code: UNK

Pipe Leak Detect Code: Not reported Last Contained Date: Not reported Pipe Mfg Code: Not reported Last Pipe Test Date: Not reported Last CP Test Date: Not reported Not reported Added To Flex Date: Added To Piping Date: Not reported

Decode For Tstatus: Duplicate Tank To Another Site

Decode For Inertmatcd: Not reported Single Wall Steel Decode For Tmatcode:

Decode For Textcrprcd: Unknown Decode For Treldetcod: None Decode For Tintprotcd: Unknown Decode For Tsplprevcd: Unknown Decode For Tovflprvcd: Unknown Decode For Pmatcode: Unknown Decode For Pextcoprcd: Unknown Decode For Ptypecode: Unknown Decode For Preldetcod: Unknown Decode For Preldetsuc: Unknown Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: DUP Tank Status: Installation Date: 01/01/1954 Closed In Place Date: Not reported Capacity in Gallons: 1000 Compartment Number:

Piping Installation Date: Not reported Added To Tank Date: Not reported

1

Inert Material Code: Not reported Removed Date: Not reported Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: UNK Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported Pipe Release Detection: UNK Pipe Rel Detect Suc Code: UNK Not reported Pipe Leak Detect Code: Last Contained Date: Not reported

Direction Distance

Elevation Site Database(s) **EPA ID Number**

J & J AUTO SERVICE (Continued)

U003180551

EDR ID Number

Pipe Mfg Code: Not reported Last Pipe Test Date: Not reported Last CP Test Date: Not reported Added To Flex Date: Not reported Added To Piping Date: Not reported

Duplicate Tank To Another Site Decode For Tstatus:

Not reported Decode For Inertmatcd: Decode For Tmatcode: Single Wall Steel Decode For Textcrprcd: Unknown Decode For Treldetcod: None Decode For Tintprotcd: Unknown Decode For Tsplprevcd: Unknown Decode For Tovflprvcd: Unknown Decode For Pmatcode: Unknown Decode For Pextcoprcd: Unknown Decode For Ptypecode: Unknown Decode For Preldetcod: Unknown Decode For Preldetsuc: Unknown Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Decode For Pmancd: Not reported Subject Item ID: DUP Tank Status: 01/01/1954

Installation Date: Closed In Place Date: Not reported Capacity in Gallons: 1000 Compartment Number:

Piping Installation Date: Not reported Added To Tank Date: Not reported

S105701249 K45 J AND J AUTO SERVICE **KY SB193**

Target 556 BROADWAY N/A

BARLOW, KY **Property**

Site 2 of 4 in cluster K

KY SENATE BILL 193 INVENTORY: Actual: 375 ft. KY SENATE BILL 193 INVENTORY: SIW Facility ID: 1007004 Focus Map: Soil / Groundwater: Soil 11

Agency Interest Number: 57255

K46 J & J AUTO SERVICE RCRA NonGen / NLR 1001219663 **556 BROADWAY FINDS** KYR000015727 **Target**

ECHO Property BARLOW, KY 42024

Site 3 of 4 in cluster K

Actual: RCRA Listings:

375 ft. Date Form Received by Agency: 19980609

J & J AUTO SERVICE Handler Name: Focus Map:

Handler Address:

556 BROADWAY Handler City, State, Zip: BARLOW, KY 42024 EPA ID: KYR000015727 **DAVID HARTMAN** Contact Name:

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

J & J AUTO SERVICE (Continued)

1001219663

Contact Address: P.O. BOX 413 Contact City, State, Zip: BARLOW, KY 42024 502-334-3728 Contact Telephone: Contact Fax: Not reported Contact Email: Not reported Contact Title: Not reported EPA Region: 04 Land Type: Private

Federal Waste Generator Description: Not a generator, verified

Non-Notifier: Not reported Biennial Report Cycle: Not reported Accessibility: Not reported Active Site Indicator: Not reported State District Owner: State District: 0999

Mailing Address: P.O. BOX 413 Mailing City, State, Zip: BARLOW, KY 42024

Private

Owner Name: **DAVID HARTMAN**

Owner Type:

Operator Name: Not reported

Operator Type: Not reported Short-Term Generator Activity: No Importer Activity: No Mixed Waste Generator: No Transporter Activity: No Transfer Facility Activity: Nο Recycler Activity with Storage: Nο Small Quantity On-Site Burner Exemption: No Smelting Melting and Refining Furnace Exemption: No **Underground Injection Control:** No Off-Site Waste Receipt: Nο

Universal Waste Indicator: No Universal Waste Destination Facility: No Federal Universal Waste: No

Active Site Fed-Reg Treatment Storage and Disposal Facility: Not reported Active Site Converter Treatment storage and Disposal Facility: Not reported Active Site State-Reg Treatment Storage and Disposal Facility: Not reported

Active Site State-Reg Handler:

Federal Facility Indicator: Not reported

Hazardous Secondary Material Indicator: NN Sub-Part K Indicator: Not reported

Commercial TSD Indicator: No

Treatment Storage and Disposal Type: Not reported 2018 GPRA Permit Baseline: Not on the Baseline 2018 GPRA Renewals Baseline: Not on the Baseline Not reported

Permit Renewals Workload Universe: Permit Workload Universe: Not reported Permit Progress Universe: Not reported Post-Closure Workload Universe: Not reported Closure Workload Universe: Not reported 202 GPRA Corrective Action Baseline: No

Corrective Action Workload Universe: No Subject to Corrective Action Universe: No Non-TSDFs Where RCRA CA has Been Imposed Universe: No TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: No TSDFs Only Subject to CA under Discretionary Auth Universe: No

Corrective Action Priority Ranking: No NCAPS ranking

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

J & J AUTO SERVICE (Continued)

1001219663

Environmental Control Indicator: No Institutional Control Indicator: No Human Exposure Controls Indicator: N/A Groundwater Controls Indicator: N/A

Operating TSDF Universe: Not reported Full Enforcement Universe: Not reported

Significant Non-Complier Universe: No Unaddressed Significant Non-Complier Universe: No Addressed Significant Non-Complier Universe: No Significant Non-Complier With a Compliance Schedule Universe: No

Financial Assurance Required: Not reported Handler Date of Last Change:

20150414 Recognized Trader-Importer: No Recognized Trader-Exporter: No Importer of Spent Lead Acid Batteries: No Exporter of Spent Lead Acid Batteries: No

Recycler Activity Without Storage: Not reported Manifest Broker: Not reported

Sub-Part P Indicator: No

Hazardous Waste Summary:

Waste Code: NONE Waste Description: Not Defined

Handler - Owner Operator:

Owner/Operator Indicator: Owner

Owner/Operator Name: DAVID HARTMAN

Legal Status: Private Date Became Current: Not reported Date Ended Current: Not reported Owner/Operator Address: P.O. BOX 413 Owner/Operator City, State, Zip: BARLOW, KY 42024 502-334-3728 Owner/Operator Telephone: Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Historic Generators:

19980609 Receive Date:

Handler Name: J & J AUTO SERVICE

Federal Waste Generator Description: Not a generator, verified

State District Owner: KY Large Quantity Handler of Universal Waste: No Recognized Trader Importer: No Recognized Trader Exporter: No Spent Lead Acid Battery Importer: No Spent Lead Acid Battery Exporter: No Current Record: Yes

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Code:

NAICS Description: **GASOLINE STATIONS**

Direction Distance

Elevation Site Database(s) EPA ID Number

J & J AUTO SERVICE (Continued)

1001219663

EDR ID Number

Facility Has Received Notices of Violations:

Violations: No Violations Found

Evaluation Action Summary:

Evaluations: No Evaluations Found

FINDS:

Registry ID: 110003252532

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

•

<u>Click this hyperlink</u> while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1001219663 Registry ID: 110003252532

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110003252532

Name:J & J AUTO SERVICEAddress:556 BROADWAYCity,State,Zip:BARLOW, KY 42024

Not reported

K47 KY SPILLS S117089210
Target N/A

Property BARLOW, KY

Site 4 of 4 in cluster K

Actual: SPILLS: 378 ft. Name:

Focus Map:
11 Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Env. Closed

Incident Type: LEAKING TANK
Program Code: 10
Received By Staff: Frees, Lori

Received Date: 04/06/2004

Report Date: 2005-05-02 14:34:00

Dispatch Description: UST release.

Source Name: Hagood Oil Co Inc (AI ID: 57252)

Source Address: 102 Broadway
Substances: Diesel:, Gasoline:
Other Substances Desc: Kerosene

 Media Impacted:
 UST

 Inc ID:
 194212

 Lead Invest Person ID:
 25584

 Compliance:
 Yes

 Notification:
 No

Direction Distance

Elevation Site Database(s) **EPA ID Number**

(Continued) S117089210

Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported Not reported MARS Function Code:

Locked: Yes

Closure Type Desc: Env. Closed-No Action/Restored

Not reported Waterbody: 37.05166 Latitude: -89.04500 Longitude:

IL SPILLS \$109167292 48

N/A

N/A

EDR ID Number

Target 14930 STATE HWY 37 **Property** CAIRO, IL

SPILLS:

Name: Not reported

Actual: CAIRO, IL City,State,Zip: 20080906 310 ft. Incident ID: Incident Date: Not reported Focus Map: 6/24/2008 Date Received:

Lust Ind: No

Facility Address: 14930 STATE HWY 37

Facility City: **CAIRO** PRP Name: JD STREET INC AC: Not reported

Source Table: dbo_OCIN_INCIDENTCUR

49 **DENNIS BROWN PROPERTY** FINDS 1016363980

705 BROADWAY Target Property BARLOW, KY 42024

FINDS:

Registry ID: 110045091404

Actual:

383 ft. Click Here for FRS Facility Detail Report: Focus Map: Environmental Interest/Information System: 11 STATE MASTER

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

KY SPILLS \$117218276 50

Target N/A

Property BARLOW, KY

SPILLS:

Name: Not reported Actual: Address: Not reported 385 ft. City, State, Zip: BARLOW, KY Facility Status: Env. Closed Focus Map: Incident Type: **OPEN BURNING**

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S117218276

Program Code: 01

Received By Staff: Allen, Benjamin Received Date: 03/15/2014 Report Date:

2014-03-17 08:25:49

Dispatch Description: Anonymous caller reported subjects burning wood or trash.

Source Name: **IMonica Dowdy**

Source Address: 753 Ballard Terrace Barlow, KY

PM2.5 (Particulate Matter - 2.5 Microns Or Less): Substances:

Other Substances Desc: Not reported Media Impacted: Air Inc ID: 2375528 Lead Invest Person ID: 56214 Compliance: Yes Notification: No Priority: Routine Not reported Incident End Date: Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported

Locked:

End Emergency Date:

MARS Function Code:

Not reported Yes

Not reported

Closure Type Desc: Env. Closed-Mitigated

Waterbody: Not reported 89.03957 Latitude: Longitude: 37.051237

L51 **BLUEGRASS RECYCLING & TRANSFER CO**

Target 105 S 7TH ST **Property BARLOW, KY 42024**

Site 1 of 5 in cluster L

Actual: FINDS:

110045059351 373 ft. Registry ID:

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

STATE MASTER

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

BLUEGRASS RECYCLING & TRANSFER CO L52 KY RGA LF S115705811 N/A

Target 105 S 7TH ST

BARLOW, KY **Property**

Site 2 of 5 in cluster L

Actual: RGA LF:

373 ft. **BLUEGRASS RECYCLING & TRANSFER CO** 2012 105 S 7TH ST 2011 BLUEGRASS RECYCLING & TRANSFER CO 105 S 7TH ST Focus Map: 2010 **BLUEGRASS RECYCLING & TRANSFER CO** 105 S 7TH ST 11 2009 BLUEGRASS RECYCLING & TRANSFER CO 105 S 7TH ST BLUEGRASS RECYCLING & TRANSFER CO 2007 105 S 7TH ST

2006 BLUEGRASS RECYCLING & TRANSFER CO 105 S 7TH ST **FINDS**

1015813664

N/A

Direction Distance

Distance Elevation Site EDR ID Number

Database(s) EPA ID Number

L53 BLUEGRASS RECYCLING AND TRANSFER COMPANY KY RGA LF S115705812
Target 105 S 7TH ST N/A

Target 105 S 7TH ST Property BARLOW, KY

Site 3 of 5 in cluster L

Actual: RGA LF:

373 ft.2003BLUEGRASS RECYCLING AND TRANSFER COMPANY105 S 7TH STFocus Map:2002BLUEGRASS RECYCLING AND TRANSFER COMPANY105 S 7TH ST112001BLUEGRASS RECYCLING AND TRANSFER COMPANY105 S 7TH ST

L54 COMMERCIAL WASTE INC KY AST A100448286
Target 105 N 7TH ST N/A

Target 105 N 7TH ST Property BARLOW, KY 42024

Site 4 of 5 in cluster L

Actual: AST:

373 ft. Permit Number: PAG0001524

Focus Map: COMMERCIAL WASTE INC

1 Address: 105 N 7TH ST Telephone: (270) 247-7735

City,State,Zip: BARLOW, KY 42024-9585

Permit Type: Private Use
Category: Other
Permit Status: Completed
Issue Date: 05/03/2001
Last Inspection: Not reported

Installer: Barrett Maintenance Inc

L55 BLUEGRASS RECYCLING & TRANSFER CO KY SWF/LF S104904976

Target 105 S 7TH ST Property BARLOW, KY 42024

Site 5 of 5 in cluster L

Actual: LF:

373 ft. Name: BLUEGRASS RECYCLING & TRANSFER CO

Focus Map: Address: 105 S 7TH ST 11 City, State, Zip: BARLOW, KY 42024

 Facility ID:
 37043

 Status:
 Terminated

 Permit Number:
 00400007

 SI ID:
 ACTV0000000001

 SI Designation:
 0040007-1

Al Name: Bluegrass Recycling & Transfer Co

Rel Entity ID: Not reported

Facility Type: Transfer Station Solid Waste-SW-RPBR

Latitude: 37.05111100
Longitude: -89.04138900
Permittee city/state/zip: BARLOW, KY 42024
Permit expired date: Not reported

Permit expired date: Not reported Related Entity Name: Not reported Related Entity Address1: Not reported

KY HIST LF

N/A

Direction Distance

Elevation Site Database(s) EPA ID Number

BLUEGRASS RECYCLING & TRANSFER CO (Continued)

S104904976

EDR ID Number

Related Entity Address2: Not reported Related Entity Municipality: Not reported Related Entity State: Not reported Related Entity Zip: Not reported Related Entity Type: Not reported

SI Description: TRANSFER STATION-APPLICATION terminated

Date Last Site Insp.: 02/28/2011
Last Inspector: Marjorie Williams
Related Entity Specific Type: Not reported

HIST LF:

Facility ID: 004-00007
Facility Address 2: Not reported OPERATING

Facility Type: TRANSFER STATION

Owner: BLUEGRASS RECYCLING AND TRANSFER COMPANY

Owner Address1: PO BOX 250
Owner Address2: Not reported

Owner City,St,Zip: BARLOW, KY 42024-0250

Owner Phone: (270)334-3151
Activity Type: TRANSFER STATION
Activity Status: APPLICATION APPROVED

Contact First Name: RANDY
Contact Last Name: THOMPSON
Contact Phone: (270)334-3216

Facility ID: 004-00007
Facility Address 2: Not reported
Status: OPERATING

Facility Type: TRANSFER STATION

Owner: REPUBLIC SERVICES OF KENTUCKY, LLC
Owner Address1: 2343 ALEXANDRIA DRIVE, SUITE 400

Owner Address2: Not reported

Owner City,St,Zip: LEXINGTON, KY 40504-3276

Owner Phone: (859)223-3824

Activity Type: TRANSFER STATION
Activity Status: APPLICATION APPROVED

Contact First Name: RANDY
Contact Last Name: THOMPSON
Contact Phone: (270)334-3216

M56 VEACH OIL & GAS KY SB193 U003555005

Target HWY 60 KY UST N/A

Property BARLOW, KY 42024 KY Financial Assurance

Site 1 of 2 in cluster M

Actual: KY SENATE BILL 193 INVENTORY:
369 ft. KY SENATE BILL 193 INVENTORY: SIW
Focus Map: Facility ID: 1005004
11 Soil / Groundwater: Soil

Agency Interest Number: 57225

UST:

Name: VEACH OIL & GAS Address: HWY 60

City, State, Zip: BARLOW, KY 42024

Direction Distance Elevation

tion Site Database(s) EPA ID Number

VEACH OIL & GAS (Continued)

U003555005

EDR ID Number

 Sequence Id:
 1005004

 Facility ID:
 57225

Owner Name: Randall Mcquaidy
Owner Address: PO Box 459
Owner Address2: Not reported
Owner Address3: Not reported
Owner City,St,Zip: Barlow, KY 42024

Internal Document ID: 0

Latitude: 37.050833 Longitude: -89.047222

Inert Material Code:
Removed Date:
Change in Service Date:
Not reported
UNK

Last Tank Test Date:
Relined Date:
Lining Insp Date:
Pipe Release Detection:
Pipe Rel Detect Suc Code:
Not reported
Not reported
UNK
UNK

Pipe Leak Detect Code:

Last Contained Date:

Pipe Mfg Code:

Last Pipe Test Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported Decode For Tmatcode: Unknown Decode For Textcrprcd: Unknown Decode For Treldetcod: None Decode For Tintprotcd: Unknown Decode For Tsplprevcd: Unknown Decode For Tovflprvcd: Unknown Decode For Pmatcode: Single Wall Steel

Decode For Pextcoprcd: Unknown Decode For Ptypecode: Unknown Decode For Preldetcod: Unknown Decode For Preldetsuc: Unknown Decode For Plekdetcod: Not reported Gasoline Decode For Tsubcd: Decode For Tmancd: Not reported Decode For Pmancd: Not reported Subject Item ID:

Subject Item ID: 1
Tank Status: TRM
Installation Date: 01/01/1901
Closed In Place Date: Not reported
Capacity in Gallons: 8000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code: Not reported Removed Date: 04/11/1997

Map ID MAP FINDINGS
Direction

Distance Elevation Site

ation Site Database(s) EPA ID Number

VEACH OIL & GAS (Continued)

U003555005

EDR ID Number

Change in Service Date:

Tank Pit Num:

Tank Mfg Code:

Tank Overfill Protection:

Not reported

Not reported

UNK

Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported Pipe Release Detection: UNK
Pipe Rel Detect Suc Code: UNK

Pipe Leak Detect Code:
Last Contained Date:
Pipe Mfg Code:
Last Pipe Test Date:
Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd:
Decode For Tmatcode:
Unknown
Decode For Textcrprcd:
Unknown
Decode For Treldetcod:
Decode For Tintprotcd:
Unknown
Unknown
Unknown
Unknown
Unknown
Unknown
Unknown

Decode For Pmatcode: Single Wall Steel

Decode For Pextcoprcd: Unknown Decode For Ptypecode: Unknown Decode For Preldetcod: Unknown Decode For Preldetsuc: Unknown Decode For Plekdetcod: Not reported Gasoline Decode For Tsubcd: Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: 2
Tank Status: TRM
Installation Date: 01/01/1901
Closed In Place Date: Not reported
Capacity in Gallons: 8000

Piping Installation Date: Not reported Added To Tank Date: Not reported

Compartment Number:

Inert Material Code:
Removed Date:
Change in Service Date:
Not reported
UNK
Last Tank Test Date:
Not reported

Relined Date: Not reported
Lining Insp Date: Not reported
Pipe Release Detection: UNK
Pipe Rel Detect Suc Code: UNK

Pipe Leak Detect Code:
Last Contained Date:
Not reported

Direction Distance Elevation

ce EDR ID Number on Site Database(s) EPA ID Number

VEACH OIL & GAS (Continued)

U003555005

Last CP Test Date: Not reported
Added To Flex Date: Not reported
Added To Piping Date: Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported Decode For Tmatcode: Unknown Decode For Textcrprcd: Unknown Decode For Treldetcod: None Decode For Tintprotcd: Unknown Decode For Tsplprevcd: Unknown Unknown Decode For Tovflprvcd: Decode For Pmatcode: Single Wall Steel

Decode For Pextcoprcd: Unknown Decode For Ptypecode: Unknown Decode For Preldetcod: Unknown Decode For Preldetsuc: Unknown Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: 3
Tank Status: TRM
Installation Date: 01/01/1901
Closed In Place Date: Not reported

Capacity in Gallons: 560 Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
O4/11/1997
Change in Service Date:
Not reported
UNK

Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported Pipe Release Detection: NON Pipe Rel Detect Suc Code: NON Pipe Leak Detect Code: Not reported

Pipe Leak Detect Code:
Last Contained Date:
Pipe Mfg Code:
Last Pipe Test Date:
Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None Decode For Treldetcod: None

Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Unknown
Decode For Tovflprvcd: Unknown

Decode For Pmatcode: Single Wall Steel

Decode For Pextcoprcd: None

Direction Distance Elevation

nce EDR ID Number tition Site Database(s) EPA ID Number

VEACH OIL & GAS (Continued)

U003555005

Decode For Ptypecode:
Decode For Preldetcod:
Decode For Preldetsuc:
Decode For Plekdetcod:
Decode For Tsubcd:
Decode For Tmancd:
Decode For Pmancd:
Not reported
Not reported
Not reported

Subject Item ID: 4
Tank Status: TRM
Installation Date: 01/01/1947
Closed In Place Date: 12/04/1996
Capacity in Gallons: 560
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code: Not reported Removed Date: 04/11/1997 Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: UNK Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported NON Pipe Release Detection: Pipe Rel Detect Suc Code: NON

Pipe Leak Detect Code:

Last Contained Date:

Pipe Mfg Code:

Last Pipe Test Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None
Decode For Treldetcod: None

Decode For Pextcoprcd:

Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Unknown
Decode For Tovflprvcd: Unknown

Decode For Pmatcode: Single Wall Steel

None

Decode For Ptypecode:
Decode For Preldetcod:
Decode For Preldetsuc:
Decode For Plekdetcod:
Decode For Tsubcd:
Decode For Tmancd:
Decode For Pmancd:
Not reported
Not reported
Not reported

Subject Item ID: 5
Tank Status: TRM
Installation Date: 01/01/1947
Closed In Place Date: 12/04/1996
Capacity in Gallons: 560
Compartment Number: 1

Direction Distance

Elevation Site Database(s) **EPA ID Number**

VEACH OIL & GAS (Continued)

U003555005

EDR ID Number

Piping Installation Date: Not reported Added To Tank Date: Not reported

KY Financial Assurance 2: Region: PST Account: 57225 AI: 102285 cause: Approval Date: 12/30/1999 NFA Date: 03/26/2013

Coverage Amount: Up to 1 million dollar limit coverage

Effective Period: Would be from the time of the release to the end of the clean up

N57 KY SPILLS \$117156953 N/A

Target

Property BARLOW, KY

Site 1 of 2 in cluster N

Actual: SPILLS:

376 ft. Not reported Name: Address: Not reported Focus Map: City,State,Zip: BARLOW, KY 11 Facility Status: Env. Closed

Incident Type: OPEN BURNING; AIR RELEASE, FUGITIVE EMISSIONS

Program Code:

Received By Staff: Danks, Elizabeth Received Date: 12/21/2009

Report Date: 2009-12-21 10:36:11 Dispatch Description: Debris pile smoldering.

Source Name: Dennis Brown Property (AI ID: 106724)

Source Address: Dead end at Mills Street

PM2.5 (Particulate Matter - 2.5 Microns Or Less): Substances:

Other Substances Desc: Not reported Media Impacted: Air 2305691 Inc ID: Lead Invest Person ID: 46063 Compliance: Yes Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine

Most Recent Comp Eval Activity: AI: 106724 CIV20100001 Most Recent ENF Activity: AI: 106724 ENV20100001

Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Env. Closed-Unfounded Closure Type Desc:

Waterbody: Not reported 37.05077 Latitude: Longitude: -89.04133

Direction Distance

Elevation Site Database(s) EPA ID Number

N58 KY SPILLS S117143365
Target N/A

Property BARLOW, KY

Site 2 of 2 in cluster N

Actual: SPILLS: 375 ft. Name:

Focus Map:

Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Env. Closed
Incident Type: OPEN BURNING

Program Code: 01

Received By Staff: Taber, Betsy Received Date: 02/06/2009

Report Date: 2009-02-04 15:38:15

Dispatch Description: City of Barlow has requested a storm debris collection area with the

intent to burn the debris in the future.

Source Name: City of Barlow Property (Al ID: 103290)

Source Address: South 7th St., Barlow, KY 42024--at the end of the alley in a bean

field behind the old CWI building.

Substances: Not reported Other Substances Desc: Not reported Media Impacted: Air Inc ID: 2290577 Lead Invest Person ID: 9681 Compliance: No Notification: Yes Priority: High

Incident End Date: 2009-02-06 00:00:00

Follow Up Priority Desc: High
Most Recent Comp Eval Activity: Not reported
Most Recent ENF Activity: Not reported
Begin Emergency Date: Not reported
End Emergency Date: Not reported
MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Mitigated

Waterbody: Not reported Latitude: 37.05075 Longitude: -89.04158

59 KY SPILLS S117091568
Target N/A

Property BARLOW, KY

SPILLS:

Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Env. Closed

Focus Map: 11

Actual:

365 ft.

Incident Type: SOIL CONTAMINATION

Program Code: ##

Received By Staff: Williams, Margie Received Date: 07/20/2005

Report Date: 2005-07-20 15:50:39

Dispatch Description: Complainant has stated that he has notified the gas company

(Commonwealth Gas, Wickliffe) 3-4 weeks ago to come out and fix a gas leak on his rental property. The lines along the street are on the

leak on his rental property. The lines along the street are on the Right-a-way. Complainant says the gas leak has killed the grass and

EDR ID Number

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S117091568

continues to seep through the ground. Gas smell comes and goes. Gas company has responded and has marked the gas lines with paint . However they have yet to fix the problem. Complainant is concerned because there are children that ride their bikes in the general area,

and that a match or other source of flame might ignite.

Source Name: Phillip Johnson

Source Address: 234 Wall Street, Barlow

Substances: Not reported Other Substances Desc: Not reported Media Impacted: General Inc ID: 197036 Lead Invest Person ID: 9498 Compliance: Yes Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked:

Closure Type Desc: Env. Closed-Contained or Managed

Yes

Waterbody: Not reported Latitude: Not reported Longitude: Not reported

MAC & MAC EQUIP CO

MAC & MAC EQUIP CO
KY UST U003555012
HWY 60
N/A

Target HWY 60 Property BARLOW, KY 42024

M60

Site 2 of 2 in cluster M

Actual: UST: 368 ft. Name:

Focus Map: Address: HWY 60

1 City,State,Zip: BARLOW, KY 42024 Sequence Id: 1006004

Facility ID: 1006004

Owner Name: Mac & Mac Equip Co

Owner Address: PO Box 459
Owner Address2: Not reported
Owner Address3: Not reported
Owner City,St,Zip: Barlow, KY 42024

Internal Document ID: 0

Latitude: 37.050549 Longitude: -89.047397

Inert Material Code:
Removed Date:
O4/08/1997
Change in Service Date:
Not reported
Tank Pit Num:
Not reported
Tank Mfg Code:
Not reported
Not reported
UNK

Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported

EDR ID Number

Direction Distance Elevation

Site Database(s) **EPA ID Number**

MAC & MAC EQUIP CO (Continued)

U003555012

EDR ID Number

Pipe Release Detection: NON Pipe Rel Detect Suc Code: NON Pipe Leak Detect Code: Not reported Not reported Last Contained Date: Pipe Mfg Code: Not reported Last Pipe Test Date: Not reported Last CP Test Date: Not reported Added To Flex Date: Not reported Added To Piping Date: Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported Single Wall Steel Decode For Tmatcode:

Decode For Textcrprcd: None Decode For Treldetcod: None

Decode For Tintprotcd: Not Applicable Decode For Tsplprevcd: Unknown Unknown Decode For Tovflprvcd: Decode For Pmatcode: Single Wall Steel

Decode For Pextcoprcd: None Decode For Ptypecode: Suction Decode For Preldetcod: None Decode For Preldetsuc: None

Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: Tank Status: TRM Installation Date: 01/01/1940 12/04/1996 Closed In Place Date: Capacity in Gallons: 560 Compartment Number:

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code: Not reported 04/08/1997 Removed Date: Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: UNK

Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported NON Pipe Release Detection:

Pipe Rel Detect Suc Code: Pipe Leak Detect Code: Not reported Last Contained Date: Not reported Pipe Mfg Code: Not reported Last Pipe Test Date: Not reported Last CP Test Date: Not reported Added To Flex Date: Not reported

Added To Piping Date: Not reported Decode For Tstatus: Removed Tank Verified

NON

Decode For Inertmatcd: Not reported Single Wall Steel Decode For Tmatcode:

Decode For Textcrprcd: None

Direction Distance Elevation

Site Database(s) EPA ID Number

MAC & MAC EQUIP CO (Continued)

U003555012

EDR ID Number

Decode For Treldetcod: None

Decode For Tintprotcd:
Decode For Tsplprevcd:
Decode For Tovflprvcd:
Decode For Pmatcode:

Not Applicable
Unknown
Unknown
Single Wall Steel

Decode For Pextcoprcd: None Decode For Ptypecode: Suction Decode For Preldetcod: None Decode For Preldetsuc: None Decode For Plekdetcod: Not reported Gasoline Decode For Tsubcd: Not reported Decode For Tmancd: Decode For Pmancd: Not reported

Subject Item ID: 2
Tank Status: TRM
Installation Date: 01/01/1940
Closed In Place Date: 12/04/1996
Capacity in Gallons: 560
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
O4/01/1997
Change in Service Date:
Not reported
Tank Pit Num:
Not reported
Tank Mfg Code:
Not reported
Tank Overfill Protection:
UNK

Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported Pipe Release Detection: NON

Pipe Rel Detect Suc Code: NON Pipe Leak Detect Code: Not reported Last Contained Date: Not reported Not reported Pipe Mfg Code: Last Pipe Test Date: Not reported Last CP Test Date: Not reported Added To Flex Date: Not reported Added To Piping Date: Not reported Exempt Decode For Tstatus:

Not reported

Single Wall Steel

Decode For Textcrprcd: None
Decode For Treldetcod: None

Decode For Inertmatcd: Decode For Tmatcode:

Decode For Tintprotcd:
Decode For Tsplprevcd:
Decode For Tovflprvcd:
Decode For Pmatcode:

Not Applicable
Unknown
Unknown
Single Wall Steel

Decode For Pextcoprcd: None
Decode For Ptypecode: Suction
Decode For Preldetcod: None
Decode For Preldetsuc: None
Decode For Plekdetcod: Not reported
Decode For Tsubcd: Gasoline

Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Direction Distance Elevation

on Site Database(s) EPA ID Number

MAC & MAC EQUIP CO (Continued)

Subject Item ID: 3
Tank Status: TEX
Installation Date: 01/01/1940
Closed In Place Date: 12/04/1996
Capacity in Gallons: 1000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
O4/01/1997
Change in Service Date:
Not reported
Tank Pit Num:
Not reported
Tank Mfg Code:
Not reported
Not reported
UNK

Last Tank Test Date: Not reported Relined Date: Not reported

Lining Insp Date: Not reported Pipe Release Detection: NON Pipe Rel Detect Suc Code: NON

Pipe Leak Detect Code: Not reported Last Contained Date: Not reported Pipe Mfg Code: Not reported Last Pipe Test Date: Not reported Last CP Test Date: Not reported Not reported Added To Flex Date: Not reported Added To Piping Date: Decode For Tstatus: Exempt Decode For Inertmatcd: Not reported Single Wall Steel Decode For Tmatcode:

Decode For Textcrprcd: None
Decode For Treldetcod: None

Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Unknown
Decode For Tovflprvcd: Unknown
Decode For Protected: Single Well Ste

Decode For Pmatcode: Single Wall Steel
Decode For Pextcoprcd: None
Decode For Ptypecode: Suction

Decode For Preldetcod:
Decode For Preldetsuc:
Decode For Plekdetcod:
Decode For Tsubcd:
Decode For Tmancd:
Decode For Pmancd:
Not reported
Not reported
Not reported

Subject Item ID: 4
Tank Status: TEX
Installation Date: 01/01/1972
Closed In Place Date: 12/04/1996
Capacity in Gallons: 8000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
O4/01/1997
Change in Service Date:
Tank Pit Num:
Not reported
Not reported

U003555012

EDR ID Number

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

MAC & MAC EQUIP CO (Continued)

U003555012

Tank Mfg Code: Not reported Tank Overfill Protection: UNK Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported Pipe Release Detection: NON Pipe Rel Detect Suc Code: NON Pipe Leak Detect Code: Not reported

Last Contained Date: Not reported Pipe Mfg Code: Not reported Last Pipe Test Date: Not reported Not reported Last CP Test Date: Added To Flex Date: Not reported Added To Piping Date: Not reported Decode For Tstatus: Exempt Decode For Inertmatcd: Not reported Single Wall Steel Decode For Tmatcode:

Decode For Textcrprcd: None Decode For Treldetcod: None

Decode For Tintprotcd: Not Applicable Decode For Tsplprevcd: Unknown Unknown Decode For Tovflprvcd: Single Wall Steel Decode For Pmatcode:

Decode For Pextcoprcd: None Decode For Ptypecode: Suction Decode For Preldetcod: None Decode For Preldetsuc: None Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Not reported Decode For Tmancd: Not reported

Subject Item ID: 5 Tank Status: TEX Installation Date: 01/01/1972 12/04/1996 Closed In Place Date: 8000 Capacity in Gallons: Compartment Number:

Decode For Pmancd:

Piping Installation Date: Not reported Added To Tank Date: Not reported

O61

Target BARLOW, KY **Property**

Site 1 of 2 in cluster O

Actual: SPILLS:

379 ft. Name:

Not reported Address: Focus Map: City,State,Zip: BARLOW, KY 11 Facility Status: Env. Closed

NATURAL DISASTER - TORNADO Incident Type:

Not reported

Program Code:

Received By Staff: Stangle, Charles Received Date: 04/27/2011 Report Date: 2011-04-27 14:43:11

Dispatch Description: Storm debris burn site for Barlow, KY.

Source Name: City of Barlow S117178086

N/A

KY SPILLS

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S117178086

Source Address: Under water tower in Barlow

PM10 (Particulate Matter - 10 Microns Or Less): Substances:

Other Substances Desc: Not reported

Media Impacted: Air 2328989 Inc ID: Lead Invest Person ID: 37396 Compliance: No Notification: Yes Priority: Routine

Incident End Date: 2011-04-27 00:00:00

Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported Locked:

Closure Type Desc: Env. Closed-Mitigated

Waterbody: Not reported 37.05047 Latitude: Longitude: -89.03822

AMERICAN COMMERCIAL LINES - 500 GAL AST 62

Target 14614 OHIO RIVER LEVEE ROAD

Property CAIRO, IL 62914

AST:

Name: AMERICAN COMMERCIAL LINES - 500 GAL AST

Yes

14614 OHIO RIVER LEVEE ROAD Actual: Address:

330 ft. City,State,Zip: CAIRO, IL 62914 Occupancy Number: 003-055-AB Focus Map:

Occupant Type: 055 - ABOVE GROUND DISPENSING

> Section Number: AB Property Owner Name: AMERICAN COMMERCIAL LINES

> TANK - ABOVE GROUND DIS Type:

O63 KY SPILLS S117161426 **Target** N/A

Property BARLOW, KY

Site 2 of 2 in cluster O

Actual: SPILLS:

379 ft. Name: Not reported Address: Not reported Focus Map: BARLOW, KY City,State,Zip: Facility Status: Env. Closed

> Incident Type: ILLEGAL DISPOSAL (NOT OPEN DUMP); OPEN BURNING

Program Code:

Received By Staff: Jewell, Laura Received Date: 04/21/2010 Report Date: 2010-04-21 01:18:00

Dispatch Description: Someone piled up several tractor tires at Jim Wilson Equipment and set

them on fire.

Jim Wilson Equipment Inc (AI ID: 107887) Source Name:

132 South 8th Street Source Address:

IL AST A100388209

N/A

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S117161426

Substances: PM2.5 (Particulate Matter - 2.5 Microns Or Less):, Tires:50

Other Substances Desc: Not reported Media Impacted: **Env Protection** Inc ID: 2310546 Lead Invest Person ID: 45875 Compliance: Yes Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Not reported

AI: 107887 CIV20100003 Most Recent Comp Eval Activity: Most Recent ENF Activity: AI: 107887 ENV20100001

Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes Closure Type Desc: Env. Closed-Mitigated

Waterbody: Not reported Latitude: 37.05038 -89.03808 Longitude:

P64 **VEACH OIL & GAS Target** HWY 60 & WALL ST BARLOW, KY 42024 **Property**

RCRA NonGen / NLR 1001214180

KYR000012500

Site 1 of 6 in cluster P

Actual: RCRA Listings:

370 ft. Date Form Received by Agency: 19971124

Handler Name: **VEACH OIL & GAS** Focus Map:

Handler Address: HWY 60 & WALL ST 11

> Handler City, State, Zip: BARLOW, KY 42024 EPA ID: KYR000012500 Contact Name: RANDALL MCQUAIDY Contact Address: P.O. BOX 459 Contact City, State, Zip: BARLOW, KY 42024 Contact Telephone: 502-334-3982 Contact Fax: Not reported Contact Email: Not reported Contact Title: Not reported

EPA Region: 04 Land Type: Private

Federal Waste Generator Description: Not a generator, verified

Non-Notifier: Not reported Biennial Report Cycle: Not reported Accessibility: Not reported Not reported Active Site Indicator: State District Owner: KY

State District: 0999 Mailing Address: P.O. BOX 459 Mailing City, State, Zip: BARLOW, KY 42024

Owner Name: RANDALL MCQUAIDY

Owner Type: Private

Operator Name: Not reported

Operator Type: Not reported

Short-Term Generator Activity: No Importer Activity: No Mixed Waste Generator: No

Map ID MAP FINDINGS
Direction

Distance
Elevation Site

VEACH OIL & GAS (Continued) 1001214180

Transporter Activity: No Transfer Facility Activity: No Recycler Activity with Storage: Nο Small Quantity On-Site Burner Exemption: No Smelting Melting and Refining Furnace Exemption: No **Underground Injection Control:** No Off-Site Waste Receipt: No Universal Waste Indicator: No Universal Waste Destination Facility: No Federal Universal Waste: No

Active Site Fed-Reg Treatment Storage and Disposal Facility:
Active Site Converter Treatment storage and Disposal Facility:
Not reported
Not reported
Not reported
Not reported

Active Site State-Reg Handler: -

Federal Facility Indicator: Not reported

Hazardous Secondary Material Indicator: NN

Sub-Part K Indicator: Not reported

Commercial TSD Indicator: No

Treatment Storage and Disposal Type: Not reported 2018 GPRA Permit Baseline: Not on the Baseline 2018 GPRA Renewals Baseline: Not on the Baseline Permit Renewals Workload Universe: Not reported Permit Workload Universe: Not reported Permit Progress Universe: Not reported Post-Closure Workload Universe: Not reported Closure Workload Universe: Not reported

202 GPRA Corrective Action Baseline:

Corrective Action Workload Universe:

No Subject to Corrective Action Universe:

Non-TSDFs Where RCRA CA has Been Imposed Universe:

TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:

TSDFs Only Subject to CA under Discretionary Auth Universe:

No

Corrective Action Priority Ranking: No NCAPS ranking

Full Enforcement Universe:

Significant Non-Complier Universe:

Not reported

No

Unaddressed Significant Non-Complier Universe:

No
Addressed Significant Non-Complier Universe:

No
Significant Non-Complier Universe:

No
Significant Non-Complier With a Compliance Schedule Universe:

No

Financial Assurance Required: Not reported

Handler Date of Last Change:

Recognized Trader-Importer:

No
Recognized Trader-Exporter:

No
Importer of Spent Lead Acid Batteries:

No
Exporter of Spent Lead Acid Batteries:

No

Recycler Activity Without Storage:

Manifest Broker:

Not reported

Not reported

Sub-Part P Indicator: No

Hazardous Waste Summary:

Waste Code: NONE
Waste Description: Not Defined

EDR ID Number

EPA ID Number

Database(s)

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

VEACH OIL & GAS (Continued)

1001214180

Handler - Owner Operator:

Owner/Operator Indicator: Owner

Owner/Operator Name: RANDALL MCQUAIDY

Legal Status: Private Date Became Current: Not reported **Date Ended Current:** Not reported P.O. BOX 459 Owner/Operator Address: Owner/Operator City, State, Zip: BARLOW, KY 42024 Owner/Operator Telephone: 502-334-3982 Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 19971124

Handler Name: **VEACH OIL & GAS**

Federal Waste Generator Description: Not a generator, verified

State District Owner: Large Quantity Handler of Universal Waste: No Recognized Trader Importer: No Recognized Trader Exporter: No Spent Lead Acid Battery Importer: No Spent Lead Acid Battery Exporter: No Current Record: Yes

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Code: 4471

NAICS Description: **GASOLINE STATIONS**

Facility Has Received Notices of Violations:

No Violations Found Violations:

Evaluation Action Summary:

Evaluations: No Evaluations Found

P65 MAC & MAC EQUIPMENT CO INC **KY SB193** 1001214151 **HWY 60 & WALL ST** KYR000012203 **Target** RCRA NonGen / NLR

BARLOW, KY 42024 Property

Site 2 of 6 in cluster P

Actual: KY SENATE BILL 193 INVENTORY:

370 ft. KY SENATE BILL 193 INVENTORY: CAW Facility ID: 1006004 Focus Map: Soil / Groundwater: Soil Agency Interest Number: 57215

RCRA Listings:

Date Form Received by Agency: 19971118

Handler Name: MAC & MAC EQUIPMENT CO INC

HWY 60 & WALL ST Handler Address: Handler City, State, Zip: BARLOW, KY 42024 Map ID MAP FINDINGS
Direction

Distance Elevation Site

tion Site Database(s) EPA ID Number

MAC & MAC EQUIPMENT CO INC (Continued)

1001214151

EDR ID Number

EPA ID: KYR000012203 Contact Name: RANDALL MCQUAIDY P.O. BOX 459 Contact Address: BARLOW, KY 42024 Contact City, State, Zip: Contact Telephone: 502-334-3982 Contact Fax: Not reported Contact Email: Not reported Contact Title: Not reported

EPA Region: 04
Land Type: Private

Federal Waste Generator Description: Not a generator, verified

Non-Notifier:

Not reported
Biennial Report Cycle:

Accessibility:

Not reported
Active Site Indicator:

State District Owner:

KY

State District:

Not reported
KY

State District:

O999

Mailing Address: P.O. BOX 459
Mailing City,State,Zip: BARLOW, KY 42024

Owner Name: RANDALL MCQUAIDY

Owner Type: Private

Operator Name: Not reported
Operator Type: Not reported

Short-Term Generator Activity: No Importer Activity: No Mixed Waste Generator: Nο Transporter Activity: Nο Transfer Facility Activity: No Recycler Activity with Storage: No Small Quantity On-Site Burner Exemption: No Smelting Melting and Refining Furnace Exemption: Nο **Underground Injection Control:** No Off-Site Waste Receipt: No Universal Waste Indicator: No Universal Waste Destination Facility: No Federal Universal Waste: No

Active Site Fed-Reg Treatment Storage and Disposal Facility:
Active Site Converter Treatment storage and Disposal Facility:
Active Site State-Reg Treatment Storage and Disposal Facility:
Active Site State-Reg Handler:

Not reported
Not reported

Federal Facility Indicator: Not reported

Hazardous Secondary Material Indicator: NN

Sub-Part K Indicator: Not reported

Commercial TSD Indicator: No

Treatment Storage and Disposal Type:

2018 GPRA Permit Baseline:

2018 GPRA Renewals Baseline:

Not on the Baseline

Not on the Baseline

Permit Renewals Workload Universe:

Permit Workload Universe:

Not reported
Permit Progress Universe:

Not reported
Post-Closure Workload Universe:

Not reported
Not reported
Not reported
Not reported

202 GPRA Corrective Action Baseline:

Corrective Action Workload Universe:

No Subject to Corrective Action Universe:

No Non-TSDFs Where RCRA CA has Been Imposed Universe:

No TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:

No

Map ID MAP FINDINGS
Direction

Distance

Elevation Site Database(s) EPA ID Number

MAC & MAC EQUIPMENT CO INC (Continued)

1001214151

EDR ID Number

TSDFs Only Subject to CA under Discretionary Auth Universe: No

Corrective Action Priority Ranking: No NCAPS ranking

Environmental Control Indicator:

Institutional Control Indicator:

No
Human Exposure Controls Indicator:

N/A
Groundwater Controls Indicator:

N/A

Operating TSDF Universe:

Full Enforcement Universe:

Not reported

Not reported

Significant Non-Complier Universe: No Unaddressed Significant Non-Complier Universe: No Addressed Significant Non-Complier Universe: No Significant Non-Complier With a Compliance Schedule Universe: No

Financial Assurance Required: Not reported

Handler Date of Last Change: 20150414

Recognized Trader-Importer: No

Recognized Trader-Exporter: No

Importer of Spent Lead Acid Batteries:

No
Exporter of Spent Lead Acid Batteries:

No

Recycler Activity Without Storage: Not reported Manifest Broker: Not reported

Sub-Part P Indicator: No

Hazardous Waste Summary:

Waste Code: NONE
Waste Description: Not Defined

Handler - Owner Operator:

Owner/Operator Indicator: Owner

Owner/Operator Name: RANDALL MCQUAIDY

Legal Status: Private Date Became Current: Not reported Date Ended Current: Not reported P.O. BOX 459 Owner/Operator Address: Owner/Operator City, State, Zip: BARLOW, KY 42024 Owner/Operator Telephone: 502-334-3982 Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 19971118 Handler Name: MAC & MAC EQUIPMENT CO INC

Federal Waste Generator Description: Not a generator, verified

State District Owner: KY
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes

Non Storage Recycler Activity:

Electronic Manifest Broker:

Not reported

Not reported

List of NAICS Codes and Descriptions:

Direction Distance

Elevation Site Database(s) EPA ID Number

MAC & MAC EQUIPMENT CO INC (Continued)

NAICS Code: 4471

NAICS Description: GASOLINE STATIONS

Facility Has Received Notices of Violations:

Violations: No Violations Found

Evaluation Action Summary:

Evaluations: No Evaluations Found

 P66
 MAC & MAC EQUIPMENT CO INC
 FINDS
 1016270064

 Target
 HWY 60 & WALL ST
 ECHO
 N/A

Property BARLOW, KY 42024

Site 3 of 6 in cluster P

Actual: FINDS:

368 ft. Registry ID: 110008371154

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA

program staff to track the notification, permit, compliance, and

corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1016270064 Registry ID: 110008371154

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110008371154

Name: MAC & MAC EQUIPMENT CO INC

Address: HWY 60 & WALL ST City, State, Zip: BARLOW, KY 42024

P67 JOHN SULLIVAN PROPERTY FINDS 1015808260
Target HWY 60 & WALLL ST N/A

Property BALLARD, KY 42024

Site 4 of 6 in cluster P

Actual: FINDS:

368 ft. Registry ID: 110045105658

Focus Map:

11

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

STATE MASTER

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

EDR ID Number

1001214151

Direction Distance

Elevation Site Database(s) **EPA ID Number**

P68 **VEACH OIL & GAS FINDS** 1016270082 **Target HWY 60 & WALL ST ECHO** N/A

BARLOW, KY 42024 Property

Site 5 of 6 in cluster P

Actual: FINDS:

368 ft. Registry ID: 110008371332

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA

program staff to track the notification, permit, compliance, and

corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1016270082 Registry ID: 110008371332

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110008371332

Name: **VEACH OIL & GAS** Address: HWY 60 & WALL ST City,State,Zip: BARLOW, KY 42024

P69 JOHN SULLIVAN PROPERTY **JCT OF US 60 & WALL ST Target**

Property BALLARD, KY 42024

Site 6 of 6 in cluster P

Actual: UST:

368 ft. JOHN SULLIVAN PROPERTY Name: Address: JCT OF US 60 & WALL ST Focus Map: 11

City, State, Zip: BALLARD, KY 42024 1001004 Sequence Id:

Facility ID: 57223 Owner Name: John Sullivan Owner Address: PO Box 396 Owner Address2: Not reported Owner Address3: Not reported Owner City, St, Zip: Barlow, KY 42024

Internal Document ID:

Latitude: 37.049166 Longitude: -89.047777

Inert Material Code: Not reported Removed Date: 12/16/1996 Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported Tank Overfill Protection: UNK

Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported Pipe Release Detection: NON

KY UST

U003991357

N/A

EDR ID Number

Direction Distance Elevation

Site Database(s) EPA ID Number

JOHN SULLIVAN PROPERTY (Continued)

U003991357

EDR ID Number

Pipe Rel Detect Suc Code: NON Pipe Leak Detect Code: Not reported Not reported Last Contained Date: Not reported Pipe Mfg Code: Last Pipe Test Date: Not reported Last CP Test Date: Not reported Added To Flex Date: Not reported Added To Piping Date: Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: None Decode For Treldetcod: None

Decode For Tintprotcd:
Decode For Tsplprevcd:
Decode For Tovflprvcd:
Decode For Pmatcode:

Not Applicable
Unknown
Unknown
Single Wall Steel

Decode For Pextcoprcd: None
Decode For Ptypecode: Suction
Decode For Preldetcod: None
Decode For Preldetsuc: None

Decode For Plekdetcod:
Decode For Tsubcd:
Decode For Tmancd:
Decode For Pmancd:
Not reported
Not reported
Not reported
Subject Item ID:

Tank Status: TRM
Installation Date: 01/01/1901
Closed In Place Date: Not reported

Capacity in Gallons: 560 Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
Change in Service Date:
Not reported
Not reported
Not reported
Tank Pit Num:
Not reported
Tank Mfg Code:
Not reported
Volume Not reported
Not reported
Volume Not reported

Last Tank Test Date: Not reported Relined Date: Not reported Lining Insp Date: Not reported Pipe Release Detection: NON Pipe Rel Detect Suc Code: NON

Pipe Leak Detect Code:

Last Contained Date:

Pipe Mfg Code:

Last Pipe Test Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel
Decode For Textcrprcd: Unknown

Decode For Treldetcod: Manual Tank Gauging

Direction
Distance
Elevation

Site Database(s) EPA ID Number

JOHN SULLIVAN PROPERTY (Continued)

U003991357

EDR ID Number

Decode For Tintprotcd: Unknown

Decode For Tsplprevcd: Single Wall Spill Bucket

Decode For Tovflprvcd: Unknown Decode For Pmatcode: Single Wall Steel Decode For Pextcoprcd: Unknown Decode For Ptypecode: Pressurized Decode For Preldetcod: None Decode For Preldetsuc: None Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Not reported Decode For Tmancd: Not reported Decode For Pmancd:

Subject Item ID: 2
Tank Status: TRM
Installation Date: 01/01/1901
Closed In Place Date: Not reported
Capacity in Gallons: 1000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code: Not reported Removed Date: 12/16/1996
Change in Service Date: Not reported Tank Pit Num: Not reported Tank Mfg Code: Not reported

Tank Overfill Protection: UNK

Last Tank Test Date: Not reported
Relined Date: Not reported
Lining Insp Date: Not reported
Pipe Release Detection: NON
Pipe Rel Detect Suc Code: NON

Pipe Leak Detect Code:
Last Contained Date:
Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel

Decode For Textcrprcd: Unknown

Decode For Treldetcod: Manual Tank Gauging

Decode For Tintprotcd: Unknown

Decode For Tsplprevcd: Single Wall Spill Bucket

Not reported

Decode For Tovflprvcd: Unknown Decode For Pmatcode: Single Wall Steel Decode For Pextcoprcd: Unknown Decode For Ptypecode: Pressurized Decode For Preldetcod: None Decode For Preldetsuc: None Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported

Subject Item ID: 3

Decode For Pmancd:

Direction Distance Elevation

vation Site Database(s) EPA ID Number

JOHN SULLIVAN PROPERTY (Continued)

U003991357

EDR ID Number

Tank Status: TRM
Installation Date: 01/01/1901
Closed In Place Date: Not reported
Capacity in Gallons: 1000
Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
Change in Service Date:
Not reported
UNK

Last Tank Test Date:
Relined Date:
Lining Insp Date:
Pipe Release Detection:
Not reported
Not reported
Not reported
Not reported
Non
Non
Non

Pipe Leak Detect Code:

Last Contained Date:

Pipe Mfg Code:

Last Pipe Test Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd:
Decode For Tmatcode:
Decode For Textcrprcd:

Not reported
Single Wall Steel
Unknown

Decode For Treldetcod: Manual Tank Gauging

Decode For Tintprotcd: Unknown

Decode For Tovflprvcd:

Decode For Tsplprevcd: Single Wall Spill Bucket

Unknown

Single Wall Steel Decode For Pmatcode: Decode For Pextcoprcd: Unknown Decode For Ptypecode: Pressurized Decode For Preldetcod: None Decode For Preldetsuc: None Not reported Decode For Plekdetcod: Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Decode For Pmancd: Not reported

Subject Item ID: 4
Tank Status: TRM
Installation Date: 01/01/1901
Closed In Place Date: Not reported
Capacity in Gallons: 1000

Compartment Number: 1
Piping Installation Date: Not reported
Added To Tank Date: Not reported

Inert Material Code:
Removed Date:
Change in Service Date:
Tank Pit Num:
Not reported
Not reported
Not reported
Not reported
Not reported
Not reported

Map ID MAP FINDINGS
Direction

Distance Elevation Site

Site Database(s) EPA ID Number

JOHN SULLIVAN PROPERTY (Continued)

U003991357

EDR ID Number

Tank Overfill Protection: UNK Last Tank Test Date: Not reported Not reported Relined Date: Not reported Lining Insp Date: Pipe Release Detection: NON Pipe Rel Detect Suc Code: NON Pipe Leak Detect Code: Not reported Last Contained Date: Not reported

Last Contained Date:

Pipe Mfg Code:

Last Pipe Test Date:

Not reported

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported
Decode For Tmatcode: Single Wall Steel
Decode For Textcrprcd: Unknown

Decode For Treldetcod: Manual Tank Gauging

Decode For Tintprotcd: Unknown

Decode For Tsplprevcd: Single Wall Spill Bucket

Decode For Tovflprvcd:
Decode For Pmatcode:
Decode For Pextcoprcd:
Decode For Ptypecode:
Decode For Preldetcod:
Decode For Preldetsuc:
Decode For Plekdetcod:
Decode For Pubbed:
Decode For Toubod:
Decode For Pextcopred
Deco

Decode For Tsubcd: Gasoline
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported
October 182

Subject Item ID: 5
Tank Status: TRM
Installation Date: 01/01/1901
Closed In Place Date: Not reported
Capacity in Gallons: 560

Compartment Number: 1

Piping Installation Date: Not reported Added To Tank Date: Not reported

Inert Material Code:

Removed Date:

Change in Service Date:

Tank Pit Num:

Tank Mfg Code:

Not reported

Not reported

Not reported

Not reported

Tank Overfill Protection: UNK

Last Tank Test Date: Not reported
Relined Date: Not reported
Lining Insp Date: Not reported
Pipe Release Detection: NON
Pipe Rel Detect Suc Code: NON

Pipe Leak Detect Code:
Last Contained Date:
Not reported

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

JOHN SULLIVAN PROPERTY (Continued)

U003991357

Decode For Tstatus: Removed Tank Verified

Decode For Inertmatcd: Not reported Single Wall Steel Decode For Tmatcode: Unknown Decode For Textcrprcd:

Decode For Treldetcod: Manual Tank Gauging

Decode For Tintprotcd: Unknown

Single Wall Spill Bucket Decode For Tsplprevcd:

Decode For Tovflprvcd: Unknown Decode For Pmatcode: Single Wall Steel Decode For Pextcoprcd: Unknown Decode For Ptypecode: Pressurized Decode For Preldetcod: None Decode For Preldetsuc: None Decode For Plekdetcod: Not reported Decode For Tsubcd: Gasoline Decode For Tmancd: Not reported Decode For Pmancd: Not reported Subject Item ID:

Tank Status: TRM 01/01/1901 Installation Date: Closed In Place Date: Not reported

Capacity in Gallons: 560

Compartment Number:

Piping Installation Date: Not reported Added To Tank Date: Not reported

DOLLAR GENERAL - BARLOW

KY NPDES \$126982505

N/A

US 60 Target BARLOW, KY 42024 **Property**

NPDES:

Name: **DOLLAR GENERAL - BARLOW**

Actual: **US 60** Address:

361 ft. City,State,Zip: BARLOW, KY 42024

Focus Map:

70

Federal Facility ID: Not reported Facility Status: Terminated KY DES #: KYR10O401

Total App# Design Flow (MGD): Not reported Horizontal Collect Method Desc: Not reported Facility Addr 2: Not reported Inactive Date: 04/13/2021 Design Capacity: Not reported Not reported Fee Category: SIC Code: 1611

37.048095 / -89.048959 Lat/Long:

Lat/Long Method: Not reported

USGS Hydrologic Basin Code: 027

Facility Stream Segment: Not reported Facility Mileage Indicator: Not reported Not reported Basin Code: Basin Code Description: Not reported Not reported **DMR Contact:** Not reported Contact Telephone: Mailing Address: PO Box 1338 Mailing Address 2: Not reported

Mailing City, St, Zip: Bowling Green, KY 42102

Permit Issued: 05/12/2020 Permit Expires: 11/30/2024

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

DOLLAR GENERAL - BARLOW (Continued)

S126982505

SIC Code Description: Highway And Street Construction

Shawnee Creek Reveiving Waters:

Major/Minor: Minor Effective Date: 05/12/2020 Affiliation Type Desc: **PMA**

Dollar General - Barlow Organization Formal Name:

Facility Type Desc: Not reported State Facility ID: 165559 Original Issue Date: 05/12/2020 Approved For Electronic DMR Submission:

Not reported

Not reported

CAIRO, IL

IL SPILLS \$111913773

Target N/A

Property CAIRO, IL

Site 1 of 5 in cluster Q

SPILLS: Actual:

286 ft. Focus Map:

Q71

Name: City,State,Zip: Incident ID:

20030672 Incident Date: Not reported Not reported Date Received:

Lust Ind: No

Facility Address: Not reported Facility City: CAIRO PRP Name: unknown AC:

SR

Source Table: dbo_tbl_CONSTRUCTION101

Q72 IL SPILLS \$111913570 **Target** N/A

CAIRO, IL **Property**

Site 2 of 5 in cluster Q

Actual: SPILLS: 286 ft. Name:

Focus Map: 8

City,State,Zip: CAIRO, IL 20030551 Incident ID: Not reported Incident Date: Date Received: Not reported Lust Ind: No

Facility Address: Not reported Facility City: CAIRO PRP Name: American Barge

AC:

Source Table: dbo_tbl_CONSTRUCTION101

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

Q73 IL SPILLS S111916005 N/A

Target

CAIRO, IL **Property**

Site 3 of 5 in cluster Q

SPILLS: Actual: 286 ft. Name:

Focus Map:

Not reported CAIRO, IL City,State,Zip: Incident ID: 20040418 Incident Date: Not reported Date Received: Not reported Lust Ind:

No Facility Address: Not reported Facility City: CAIRÓ

PRP Name: American Commercial Bargelines

AC:

Source Table: dbo_tbl_CONSTRUCTION101

Not reported

Q74 IL SPILLS \$111926934 **Target OHIO RIVER MILE 976** N/A

Property CAIRO, IL

Site 4 of 5 in cluster Q

Actual: SPILLS:

286 ft. Name:

Focus Map:

City, State, Zip: CAIRO, IL Incident ID: 20110397 Incident Date: 04/24/2011 Date Received: 6/21/2011

Lust Ind: No Facility Address: OHIO RIVER MILE 976

Facility City: CAIRO

PRP Name: American Commercial Lines

AC:

Source Table: dbo_tbl_CONSTRUCTION101

Q75 IL SPILLS S111914624 **Target** N/A

Property CAIRO, IL

Site 5 of 5 in cluster Q

Actual: SPILLS:

286 ft. Name:

Focus Map:

Not reported CAIRO, IL City, State, Zip: Incident ID: 20031191 Incident Date: Not reported Date Received: Not reported Lust Ind: No

Facility Address: Not reported Facility City: CAIRO

PRP Name: American Commercial Barge Lines

AC:

Source Table: dbo_tbl_CONSTRUCTION101

Direction Distance

Distance Elevation Site EDR ID Number

EDR ID Number

EPA ID Number

R76 BARLOW STP KY NPDES S107863943

Target END OF SOUTH 6TH ST
Property BARLOW, KY 42024

Site 1 of 37 in cluster R

SIC Code:

Actual: NPDES: 348 ft. Name:

348 ft. Name: BARLOW STP

Focus Map:

Address: END OF SOUTH 6TH ST City,State,Zip: BARLOW, KY 42024

Federal Facility ID: Not reported Facility Status: **ACTIVE** KY DES #: KY0025747 Total App# Design Flow (MGD): Not reported Horizontal Collect Method Desc: Not reported Facility Addr 2: Not reported Inactive Date: Not reported Design Capacity: 00000.1250 Fee Category: MUN

Lat/Long: +3702460 / -08902420

4952

Lat/Long Method:

USGS Hydrologic Basin Code:

Facility Stream Segment:

Facility Mileage Indicator:

Basin Code:

08010100

00260

3800

0521

Basin Code Description: OR/OHIO R-MAIN STEM DMR Contact: JOHN WOOD, MAYOR

Contact Telephone: 2703343500
Mailing Address: CITY OF BARLOW
Mailing Address 2: 139 N 4TH ST
Mailing City,St,Zip: BARLOW, KY 42024

Permit Issued: 11/23/2009
Permit Expires: 12/31/2014

SIC Code Description: SEWERAGE SYSTEMS

Reveiving Waters: SHAWNEE CRK

Major/Minor: MINOR
Effective Date: Not reported
Affiliation Type Desc: Not reported
Organization Formal Name: Not reported
Facility Type Desc: Not reported
State Facility ID: Not reported
Original Issue Date: Not reported

Approved For Electronic DMR Submission: Not reported

R77 KY SPILLS S117103160
Target N/A

Property BARLOW, KY

Site 2 of 37 in cluster R

Actual: SPILLS:

349 ft. Name: Not reported

Focus Map: Address: Not reported

City State Zip: BARLOW K

City,State,Zip: BARLOW, KY
Facility Status: Env. Closed

Incident Type: Overflow-Lift Station- wet weather

Program Code: 11

Received By Staff: Priddle, Vince Received Date: 07/11/2006

TC7268867.5s Page 126

N/A

Direction Distance

Elevation Site Database(s) **EPA ID Number**

(Continued) S117103160

Report Date: 2006-07-11 15:27:02

Dispatch Description: Overflow of Lift Stations and Sewer Plant. Bypass to So 6th St Sewer

Plant will be opened to control overflow. Quanity est to be in 1000's

of gallons.

Source Name: Barlow WWTP (AI ID: 44)

So 6th Sewer Plant, North & South Lift Stations Source Address: Not reported

Other Substances Desc: Not reported Media Impacted: Wastewater Inc ID: 210519 6178 Lead Invest Person ID: Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

R78 KY SPILLS S117105902 **Target** N/A

Not reported

Property BARLOW, KY

Site 3 of 37 in cluster R

Substances:

Actual: SPILLS:

349 ft. Name:

Address: Not reported Focus Map: City, State, Zip: BARLOW, KY Facility Status: Env. Closed

Incident Type: OVERFLOW - COMBINED SEWER OVERFLOW WET WEATHER

Program Code:

Received By Staff: Brewer, Gaye Received Date: 09/22/2006

2006-09-22 15:34:06 Report Date: Dispatch Description: Sewer plant overflow Source Name: Barlow WWTP (AI ID: 44) Source Address: City of Barlow WWTP

Not reported Substances: Other Substances Desc: Not reported Media Impacted: Wastewater Inc ID: 213739 Lead Invest Person ID: 18736 Compliance: No Notification: Yes

Priority: Not reported Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported

Direction Distance

Elevation Site Database(s) **EPA ID Number**

(Continued) S117105902

Begin Emergency Date: Not reported Not reported End Emergency Date: MARS Function Code: Not reported

Locked: Yes

Env. Closed-Managed Closure Type Desc:

Waterbody: Not reported 37.04611 Latitude: -89.04477 Longitude:

R79 KY SPILLS S117096749

Property BARLOW, KY

Target

Site 4 of 37 in cluster R

Actual: SPILLS:

349 ft. Name: Not reported Address: Not reported Focus Map: City,State,Zip: BARLOW, KY Facility Status: Env. Closed

Incident Type: **BYPASS - WET WEATHER**

Program Code:

Received By Staff: Brewer, Gaye Received Date: 01/10/2006

Report Date: 2006-01-10 13:20:03

Dispatch Description: Bypass due to rain. Still clorinating.

Source Name: Barlow WWTP (AI ID: 44) Source Address: Sewer Plant

Not reported Substances: Other Substances Desc: Not reported Media Impacted: Wastewater 203048 Inc ID: Lead Invest Person ID: 18736 Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Not reported Follow Up Priority Desc: Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported Locked: Yes

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported 37.04611 Latitude: Longitude: -89.04477

EDR ID Number

N/A

Direction Distance

Elevation Site Database(s) **EPA ID Number**

R80 KY SPILLS S117102129 **Target** N/A

Approve Environmental Close

BARLOW, KY **Property**

Site 5 of 37 in cluster R

SPILLS: Actual: 349 ft. Name:

Focus Map:

Address: City,State,Zip: Facility Status:

Incident Type:

BYPASS - WET WEATHER Program Code: 11 Received By Staff:

Priddle, Vince 04/25/2003 Received Date:

Report Date: 2003-04-25 11:35:49

Bypass at Barlow Sewage Treatment Plant Dispatch Description:

Not reported

Not reported

BARLOW, KY

Source Name: Barlow WWTP (AI ID: 44) Source Address: Barlow Sewage Treatment Plan Substances: Not reported

Other Substances Desc: Not reported Media Impacted: Wastewater Inc ID: 2093 Lead Invest Person ID: 6178 Compliance: No Notification: Yes Priority: Routine Not reported Incident End Date: Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported Not reported End Emergency Date:

Not reported Locked: No

MARS Function Code:

Closure Type Desc: Not reported Not reported Waterbody: 37.04611 Latitude: -89.04477 Longitude:

R81 KY SPILLS S117109023 N/A **Target**

Property BARLOW, KY

Site 6 of 37 in cluster R

Actual: SPILLS: 349 ft. Name:

Focus Map:

Not reported Not reported Address: BARLOW, KY City,State,Zip: Facility Status: Env. Closed

Incident Type: **BYPASS - WET WEATHER**

Program Code:

Received By Staff: Not reported Received Date: 11/30/2006

Report Date: 2006-11-30 15:24:32 Dispatch Description: bypass due to rain Barlow WWTP (AI ID: 44) Source Name:

sewer plant Source Address: Substances: Not reported

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S117109023

Other Substances Desc: Not reported Media Impacted: Wastewater Inc ID: 2251669
Lead Invest Person ID: Not reported

Compliance: No Notification: Yes Routine Priority: Incident End Date: Not reported Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Not reported Begin Emergency Date: End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

R82 KY SPILLS S117125387
Target N/A

Property BARLOW, KY

Site 7 of 37 in cluster R

Actual:SPILLS:349 ft.Name:Not reportedFocus Map:Address:Not reported11City,State,Zip:BARLOW, KYFacility Status:Env. Closed

Incident Type: Overflow-Lift Station- wet weather

Program Code: 11

Received By Staff: Not reported Received Date: 01/08/2008

Report Date: 2008-01-09 09:12:45

Dispatch Description: overflow due to excessive rain - amount not known

Not reported

Source Name: Barlow WWTP (AI ID: 44)
Source Address: 6th Street Sewer Plant

Substances: Not reported
Other Substances Desc: Not reported
Media Impacted: Wastewater
Inc ID: 2270354
Lead Invest Person ID: Not reported

Compliance: No
Notification: Yes
Priority: Routine
Incident End Date: 2008-01-08 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

Not reported

Not reported

Not reported

Not reported

Locked: Yes

MARS Function Code:

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported Latitude: 37.04611

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S117125387

Longitude: -89.04477

R83 **KY SPILLS** S117127155

Target N/A

Property BARLOW, KY

Site 8 of 37 in cluster R

Actual: SPILLS:

349 ft. Name: Not reported Not reported Address: Focus Map: City,State,Zip: BARLOW, KY 11 Facility Status: Env. Closed

BYPASS - WET WEATHER Incident Type:

Program Code:

Received By Staff: Not reported Received Date: 02/12/2008 Report Date: 2008-02-12 12:45:01 Dispatch Description: bypass due to rain Source Name: Barlow WWTP (AI ID: 44)

Sewer Plant Source Address: Substances: Not reported Not reported Other Substances Desc: Media Impacted: Wastewater Inc ID: 2272312 Lead Invest Person ID: Not reported

Compliance: No Notification: Yes Routine Priority: Incident End Date: Not reported Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Not reported Begin Emergency Date: End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported 37.04611 Latitude: Longitude: -89.04477

R84 **KY SPILLS** S117125382 **Target** N/A

Property BARDWELL, KY

Site 9 of 37 in cluster R

SPILLS: Actual:

349 ft. Name: Not reported Address: Not reported Focus Map: BARDWELL, KY City, State, Zip: Facility Status: Env. Closed

> Incident Type: Overflow-Lift Station- wet weather

Program Code: 11

Received By Staff: Brewer, Gaye

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S117125382

Received Date: 01/08/2007

Report Date: 2008-01-09 08:59:35

Dispatch Description: overflow due to excessive rain. approx 3000 gallons

Source Name: Barlow WWTP (AI ID: 44)
Source Address: Bardwell Station A Hwy 62

Substances: Sewage: Other Substances Desc: Not reported Wastewater Media Impacted: Inc ID: 2270349 Lead Invest Person ID: 18736 Compliance: No Notification: Yes Priority: Routine

Incident End Date: 2007-01-08 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action/Managed

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

R85 KY SPILLS S117125385

Target Property BARLOW, KY

Site 10 of 37 in cluster R

Actual: SPILLS:

349 ft.Name:Not reportedFocus Map:Address:Not reported11City,State,Zip:BARLOW, KYFacility Status:Env. Closed

Incident Type: Overflow-Lift Station- wet weather

Program Code: 11

Received By Staff: Not reported Received Date: 01/08/2007

Report Date: 2008-01-09 09:04:27

Dispatch Description: overflow due to excessive rain - approx 3000 gallons

Source Name: Barlow WWTP (AI ID: 44)
Source Address: Station A Hwy 62
Substances: Not reported
Other Substances Desc: Not reported
Media Impacted: Wastewater
Inc ID: 2270352
Lead Invest Person ID: Not reported

Compliance: No Notification: Yes Priority: Routine

Incident End Date: 2007-01-08 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

Not reported

Not reported

Not reported

N/A

Direction Distance

Elevation Site Database(s) **EPA ID Number**

(Continued) S117125385

End Emergency Date: Not reported Not reported MARS Function Code:

Locked: Yes

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported 37.04611 Latitude: -89.04477 Longitude:

R86 KY SPILLS \$117077145 N/A

Target

BARLOW, KY **Property**

Site 11 of 37 in cluster R

Source Address:

SPILLS: Actual: 349 ft. Name:

Focus Map:

Not reported Address: Not reported BARLOW, KY City, State, Zip: Facility Status: Env. Closed

Incident Type: OVERFLOW - COMBINED SEWER OVERFLOW DRY WEATHER

Program Code:

Received By Staff: Devers, Joseph Received Date: 05/05/2004

2004-05-05 08:48:13 Report Date:

Dispatch Description: City of Barlow has a power failure. Both pump stations are down.

City of Barlow

Expect to have some overflow. Will lime the ditches.

Source Name: Barlow WWTP (AI ID: 44)

Substances: Not reported Other Substances Desc: Not reported Media Impacted: Wastewater 180385 Inc ID: Lead Invest Person ID: 6180 Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: No

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported 37.04611 Latitude: -89.04477 Longitude:

Direction Distance

Elevation Site Database(s) EPA ID Number

R87 KY SPILLS S117069286
Target N/A

Property BARLOW, KY

Site 12 of 37 in cluster R

Actual: SPILLS: 349 ft. Name:

Focus Map:

Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Env. Closed
Incident Type: BYPASS - OTHER

Program Code: 11

Received By Staff: Priddle, Vince Received Date: 03/03/2003

Report Date: 2003-03-06 16:03:02

Dispatch Description: CONTRACTORS SEALED OFF MANHOLE, PULLED 8" MAIN APART. SEWAGE BACKED UP

IN MANHOLE AND RAN OUT INTO NEIGHBORS YARD. HAVE SPREAD LIME. LOST

SEVERAL 1000 GAL.

Source Name: Barlow WWTP (AI ID: 44)

Source Address: **BARLOW** Substances: Not reported Other Substances Desc: Not reported Media Impacted: Wastewater Inc ID: 1425 Lead Invest Person ID: 6178 Compliance: No Notification: Yes

Incident End Date: 2003-03-03 00:00:00

Follow Up Priority Desc: Routine
Most Recent Comp Eval Activity: Not reported
Most Recent ENF Activity: Not reported
Begin Emergency Date: Not reported
End Emergency Date: Not reported
MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

Routine

R88 KY SPILLS S117087968
Target N/A

Property BARLOW, KY

Site 13 of 37 in cluster R

Priority:

Actual: SPILLS: 349 ft. Name:

Focus Map: 11

Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Env. Closed

Incident Type: BYPASS - WET WEATHER

Program Code: 11

Received By Staff: Priddle, Vince Received Date: 03/28/2005

Report Date: 2005-03-28 11:01:48

Dispatch Description: bypass

Source Name: Barlow WWTP (AI ID: 44)

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S117087968

Source Address: sewer plant Not reported Substances: Not reported Other Substances Desc: Media Impacted: Wastewater Inc ID: 192780 Lead Invest Person ID: 6178 Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine

Most Recent Comp Eval Activity: AI: 44 CIN20110003

Most Recent ENF Activity: Not reported
Begin Emergency Date: Not reported
End Emergency Date: Not reported
MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action/Managed

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

R89 KY SPILLS S117130347
Target N/A

Property BARLOW, KY

Site 14 of 37 in cluster R

 Actual:
 SPILLS:

 349 ft.
 Name:
 Not reported

 Focus Map:
 Address:
 Not reported

 11
 City,State,Zip:
 BARLOW, KY

 Facility Status:
 Env. Closed

Incident Type: BYPASS - WET WEATHER

Program Code: 11

Received By Staff: Brewer, Gaye
Received Date: 04/03/2008

Report Date: 2008-04-04 09:35:47

Dispatch Description: Sewer plant

Source Name: Barlow WWTP (AI ID: 44)
Source Address: City of Barlow Sewer Plant
Substances: Not reported

Other Substances Desc: Not reported Media Impacted: Wastewater Inc ID: 2275833 Lead Invest Person ID: 18736 Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Not reported Most Recent ENF Activity: Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Managed

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S117130347

Waterbody: Not reported 37.04611 Latitude: Longitude: -89.04477

R90 KY SPILLS \$117129150

Target N/A

Not reported

Not reported

BARLOW, KY

BARLOW, KY **Property**

Site 15 of 37 in cluster R

Actual: SPILLS: 349 ft. Name:

Focus Map:

11

Address: City,State,Zip:

Facility Status: Incident Type:

Env. Closed **BYPASS - WET WEATHER**

Program Code:

Received By Staff: Brewer, Gaye 03/19/2008 Received Date:

Report Date: 2008-03-19 10:05:23 Sewer plant City of Barlow Dispatch Description: Barlow WWTP (AI ID: 44) Source Name: Sewer plant City of Barlow Source Address: Substances: Not reported

Other Substances Desc: Not reported Wastewater Media Impacted: Inc ID: 2274504 Lead Invest Person ID: 18736 Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported

Locked: Yes

End Emergency Date:

MARS Function Code:

Env. Closed-Managed Closure Type Desc:

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

R91 **BARLOW WWTP** KY SHWS \$110169593 N/A **Target END OF 6TH STREET**

Not reported Not reported

Property BARLOW, KY 42024

Site 16 of 37 in cluster R

SHWS: Actual: 349 ft. Name:

BARLOW WWTP Address: **END OF 6TH STREET** Focus Map: City, State, Zip: BARLOW, KY 42024

Facility Id: 44 Status: Closed

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

BARLOW WWTP (Continued)

S110169593

Description: Barlow WWTP (Closed: referred to Div of Water 7-22-2010)

Closure Date: 07/22/2010 Longitude: -89.044778 Latitude: 37.046111 Subject Item County: Ballard Sub Item Longitude: -89.044777 Sub Item Latitude: 37.046111 Subject Item Address: S 6th St Subject Item Address2: Not reported Subject Item City, St, Zip: Barlow, KY 42024 State Superfund Regulatory Desc: Closure Option: Referred

Side SG: wastewater treatment

Acreage: Not reported

R92 **KY SPILLS** S117095152 **Target** N/A

Property BARLOW, KY

Site 17 of 37 in cluster R

SPILLS: Actual:

349 ft. Focus Map:

Name: Not reported Not reported Address: BARLOW, KY City, State, Zip: Facility Status: Env. Closed

Incident Type: **BYPASS - WET WEATHER**

Program Code: 11

Received By Staff: Not reported Received Date: 10/15/2005

Report Date: 2005-11-15 14:34:17

Dispatch Description: bypass

Barlow WWTP (AI ID: 44) Source Name:

Source Address: Barlow Substances: Not reported Other Substances Desc: Not reported Media Impacted: Wastewater 201163 Inc ID: Lead Invest Person ID: Not reported

Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported Locked: Yes

Env. Closed-Managed Closure Type Desc:

Waterbody: Not reported 37.04611 Latitude: Longitude: -89.04477

Direction Distance

Elevation Site Database(s) EPA ID Number

R93 KY SPILLS S117128235
Target N/A

Property BARLOW, KY

Site 18 of 37 in cluster R

Actual: SPILLS: 349 ft. Name:

Focus Map:

Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Env. Closed

Incident Type: BYPASS - WET WEATHER

Program Code: 11

Received By Staff: Brewer, Gaye Received Date: 03/03/2008

Report Date: 2008-03-04 08:59:57
Dispatch Description: Sewer Plant bypass
Source Name: Barlow WWTP (AI ID: 44)
Source Address: Barlow Sewer Plant

Substances: Not reported
Other Substances Desc: Not reported
Media Impacted: Wastewater
Inc ID: 2273517
Lead Invest Person ID: 18736

Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

R94 KY SPILLS S117091326
Target N/A

Property BARLOW, KY

Site 19 of 37 in cluster R

Actual: SPILLS: 349 ft. Name:

Focus Map: 11

Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Env. Closed

Incident Type: BYPASS - WET WEATHER

Program Code: 11

Received By Staff: Priddle, Vince Received Date: 07/12/2005

Report Date: 2005-07-12 11:20:33

Dispatch Description: bypassing sewer plant due to excessive rains.

Source Name: Barlow WWTP (AI ID: 44)

Source Address: Barlow WWTP Substances: Sewage:

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S117091326

Other Substances Desc: Not reported Wastewater Media Impacted: Inc ID: 196766 Lead Invest Person ID: 6178 Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked:

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported 37.04611 Latitude: Longitude: -89.04477

R95 KY SPILLS S117178425 **Target** N/A

Property BARLOW, KY

Site 20 of 37 in cluster R

Actual: SPILLS: 349 ft. Name: Not reported Not reported Address: Focus Map: City,State,Zip: BARLOW, KY 11 Facility Status: Env. Closed

> Incident Type: BYPASS - WET WEATHER; NATURAL DISASTER - FLOODING

Program Code:

Received By Staff: Burnett, Jennifer Received Date: 05/01/2011 2011-05-02 10:17:43 Report Date:

Dispatch Description: bypass

Barlow WWTP (AI ID: 44) Source Name: Around trickling filter Source Address: Substances: Not reported Other Substances Desc: Not reported Media Impacted: Wastewater

Inc ID: 2329363 Lead Invest Person ID: 9501 Compliance: No Notification: Yes Priority: Routine

2011-05-04 00:00:00 Incident End Date:

Follow Up Priority Desc: Not reported Not reported Most Recent Comp Eval Activity: Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked:

Env. Closed-No Action Necessary Closure Type Desc:

Waterbody: Not reported 37.04611 Latitude:

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S117178425

Longitude: -89.04477

KY SPILLS S117175463 **R96**

Target N/A

Property BARLOW, KY

Site 21 of 37 in cluster R

SPILLS:

Actual: 349 ft. Not reported Name: Not reported Address: Focus Map: City,State,Zip: BARLOW, KY 11 Facility Status: Env. Closed

> Incident Type: Overflow-Lift Station- wet weather

Program Code:

Burnett, Jennifer Received By Staff: Received Date: 03/14/2011

Report Date: 2011-03-14 14:27:59 whole plant overflow Dispatch Description: Source Name: Barlow WWTP (AI ID: 44)

Barlow Plant Source Address: Substances: Not reported Not reported Other Substances Desc: Media Impacted: Wastewater Inc ID: 2326038 Lead Invest Person ID: 9501 Compliance: No Notification: Yes Routine Priority:

Incident End Date: 2011-03-15 00:00:00

Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported 37.04611 Latitude: Longitude: -89.04477

R97 **KY SPILLS** S117194843 **Target** N/A

Property BARLOW, KY

Site 22 of 37 in cluster R

SPILLS: Actual:

349 ft. Not reported Name: Address: Not reported Focus Map: BARLOW, KY City, State, Zip: Facility Status: Env. Closed

> Incident Type: DW-LINE BREAK/LEAK

Program Code: 03

Received By Staff: Topolski, Rob

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S117194843

Received Date: 06/29/2012

Report Date: 2012-06-29 10:49:43

Dispatch Description: boil water due to semi hiting a fire hydrant

Source Name: Barlow WWTP (AI ID: 44)

Source Address: nursing home and 8 other homes (didn't get exact address)

Substances: Population Affected:9 Other Substances Desc: Not reported **Drinking Water** Media Impacted: Inc ID: 2348579 Lead Invest Person ID: 33632 Compliance: No Notification: Yes Priority: Routine

Incident End Date: 2012-07-03 00:00:00

Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Not reported Waterbody: Latitude: 37.04611 Longitude: -89.04477

R98 KY SPILLS \$119012036 N/A

Target

BARLOW, KY **Property**

Site 23 of 37 in cluster R

Actual: SPILLS: 349 ft. Name:

Address: Focus Map:

Not reported City, State, Zip: BARLOW, KY Facility Status: Env. Closed

Overflow-Lift Station- wet weather Incident Type:

Program Code:

Received By Staff: McLeary, Shannon Received Date: 08/17/2016

Report Date: 2016-08-17 16:08:02

Head works overflow and lift station Nth. 4th Dispatch Description:

Not reported

Source Name: Barlow WWTP (AI ID: 44)

Source Address: City of Barlow Substances: Sewage: Other Substances Desc: Not reported Media Impacted: Wastewater Inc ID: 2415606 Lead Invest Person ID: 6181 Compliance: No Notification: Yes

Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported

Direction Distance

Elevation Site Database(s) **EPA ID Number**

(Continued) S119012036

End Emergency Date: Not reported MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action/Managed

Waterbody: Not reported 37.04611 Latitude: -89.04477 Longitude:

R99 KY SPILLS S117202699 N/A

Target

BARLOW, KY **Property**

Site 24 of 37 in cluster R

SPILLS: Actual:

349 ft. Name: Not reported Address: Not reported Focus Map: BARLOW, KY City, State, Zip: Facility Status: Env. Closed

Incident Type: DW-LINE BREAK/LEAK

Program Code:

Received By Staff: Topolski, Rob Received Date: 02/14/2013

2013-02-15 08:14:55 Report Date:

Dispatch Description: Line break

Source Name: Barlow WWTP (AI ID: 44)

Source Address: Hwy 60, 7 cust-Post office Electric company - no Kitchen.

Substances: Population Affected: Not reported Other Substances Desc: Media Impacted: **Drinking Water** Inc ID: 2357737 33632 Lead Invest Person ID: Compliance: No

Notification: Yes Priority: Routine Incident End Date:

2013-02-22 00:00:00 Follow Up Priority Desc: Not reported Not reported Most Recent Comp Eval Activity: Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked:

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

R100 **KY SPILLS** S117187642 **Target** N/A

BARLOW, KY **Property**

Site 25 of 37 in cluster R

SPILLS: Actual: 349 ft. Name:

Focus Map:

Not reported Not reported Address: BARLOW, KY City,State,Zip: Facility Status: Env. Closed

Incident Type: Overflow-Lift Station- wet weather

Program Code: 11

Received By Staff: Burnett, Jennifer Received Date: 12/04/2011

Report Date: 2011-12-05 10:20:00 Dispatch Description: Overflow. Influent Lift station Barlow WWTP (AI ID: 44) Source Name: Source Address: 6th St. Lift station

Substances: Not reported Other Substances Desc: Not reported Media Impacted: Wastewater Inc ID: 2340025 Lead Invest Person ID: 9501

Compliance: No Notification: Yes Priority: Routine

Incident End Date: 2011-12-06 00:00:00

Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported Not reported End Emergency Date: MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported 37.04611 Latitude: Longitude: -89.04477

R101 KY SPILLS S118108475 N/A **Target**

Property BARLOW, KY

Site 26 of 37 in cluster R

Actual: SPILLS: 349 ft.

Focus Map:

Name: Not reported Not reported Address: City, State, Zip: BARLOW, KY Facility Status: Env. Closed

Incident Type: OVERFLOW - COMBINED SEWER OVERFLOW WET WEATHER

Program Code:

Received By Staff: Priddle, Vince Received Date: 03/04/2015 Report Date:

2015-03-04 12:37:24

Dispatch Description: Head works Overflow S. 6th st N. Lift station, N. 4th st

Barlow WWTP (AI ID: 44) Source Name:

Source Address: City of Barlow Substances: Not reported

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S118108475

Other Substances Desc: Not reported Wastewater Media Impacted: Inc ID: 2390640 Lead Invest Person ID: 6178 Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked:

Closure Type Desc: Env. Closed-No Action/Managed

Waterbody: Not reported 37.04611 Latitude: Longitude: -89.04477

R102 KY SPILLS S118108140

> Not reported Not reported

Target Property BARLOW, KY

Site 27 of 37 in cluster R

Actual: SPILLS:

349 ft. Name: Address: Focus Map: 11

City,State,Zip: BARLOW, KY Facility Status: Env. Closed

Overflow-Manhole- wet weather Incident Type:

Program Code: 11

Received By Staff: Evans, Mary Received Date: 02/21/2015

Report Date: 2015-02-25 10:54:42

Dispatch Description: Wet weather manhole overflow Barlow WWTP (AI ID: 44) Source Name: **Ballard Terrace**

Source Address: Substances: Not reported Other Substances Desc: Not reported Media Impacted: Wastewater Inc ID: 2390248 Lead Invest Person ID: 49159 Compliance: No Notification: Yes Routine Priority:

2015-02-21 00:00:00 Incident End Date:

Follow Up Priority Desc: Not reported Not reported Most Recent Comp Eval Activity: Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked:

Env. Closed-No Action Necessary Closure Type Desc:

Waterbody: Not reported 37.04611 Latitude:

N/A

Direction Distance

Distance Elevation Site EDR ID Number

EDR ID Number

EPA ID Number

(Continued) S118108140

Longitude: -89.04477

R103 KY SPILLS S117184162

Target N/A

Property BARLOW, KY

Site 28 of 37 in cluster R

Actual: SPILLS:

349 ft.Name:Not reportedFocus Map:Address:Not reported11City,State,Zip:BARLOW, KYFacility Status:Env. Closed

Incident Type: Overflow-Lift Station- dry weather

Program Code: 1

Received By Staff: Burnett, Jennifer Received Date: 09/07/2011

Report Date: 2011-09-07 09:03:08

Dispatch Description: Overflow - corrective measures taken

Source Name: Barlow WWTP (AI ID: 44)

Source Address: Barlow LS
Substances: Not reported
Other Substances Desc: Not reported
Media Impacted: Wastewater
Inc ID: 2335998

Inc ID: 2335998
Lead Invest Person ID: 9501
Compliance: No
Notification: Yes
Priority: Routine

Incident End Date: 2011-09-07 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

R104 KY SPILLS S117224902
Target N/A

Property BARLOW, KY

Site 29 of 37 in cluster R

Actual: SPILLS:

349 ft.Name:Not reportedFocus Map:Address:Not reported11City,State,Zip:BARLOW, KY

Facility Status: Approve Environmental Close Incident Type: BYPASS - WET WEATHER

Program Code: 11

Received By Staff: Priddle, Vince

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S117224902

Received Date: 12/19/2002

Report Date: 2002-12-19 09:38:00 Dispatch Description: Sewer bypass

Source Name: BARLOW WWTP (AI ID: 44)

Source Address: Sewer Plant
Substances: Not reported
Other Substances Desc: Not reported
Media Impacted: Wastewater
Inc ID: 260

Lead Invest Person ID: 6178 Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported Locked: Yes

Closure Type Desc: Not reported Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

Property BALLARD, KY

Site 30 of 37 in cluster R

Actual: SPILLS:
349 ft. Name:
Focus Map: Address:

Focus Map: Address: Not reported

11 City,State,Zip: BALLARD, KY
Facility Status: Env. Closed

Incident Type: BYPASS - WET WEATHER

Program Code: 11

Received By Staff: Burnett, Jennifer Received Date: 06/26/2011

Report Date: 2011-06-27 14:05:02

Dispatch Description: bypass thru chorine chamber around tricking filter due to excessive

rain event -

Not reported

Source Name: Barlow WWTP (AI ID: 44)

Source Address: sewer plant
Substances: Not reported
Other Substances Desc: Not reported
Media Impacted: Wastewater
Inc ID: 2332934
Lead Invest Person ID: 9501
Compliance: No

No Notification: Yes Priority: Routine

Incident End Date: 2011-06-29 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Not reported

Not reported

Direction Distance

Elevation Site Database(s) **EPA ID Number**

(Continued) S117181589

Begin Emergency Date: Not reported Not reported End Emergency Date: MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported 37.04611 Latitude: -89.04477 Longitude:

R106 KY SPILLS \$118103103 N/A

Target

Property BARLOW, KY

Site 31 of 37 in cluster R

Actual: SPILLS: 349 ft. Name:

Focus Map:

Not reported Address: Not reported City,State,Zip: BARLOW, KY Facility Status: Env. Closed

Incident Type: **DW-LINE BREAK/LEAK**

Program Code:

Received By Staff: Evans, Mary Received Date: 09/23/2014

2014-09-23 16:00:00 Report Date:

Dispatch Description: 6 inch main break affecting approximately 18 customers.

Source Name: Barlow WWTP (AI ID: 44)

Source Address: Wall Street West of HWY 60. 1st Street south of Broadway Substances: Not reported

Other Substances Desc: Not reported Media Impacted: **Drinking Water** 2384567 Inc ID: Lead Invest Person ID: 49159 Compliance: No Notification: Yes Priority: Routine

Incident End Date: 2014-09-30 00:00:00 Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked: No

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported 37.04611 Latitude: -89.04477 Longitude:

Direction Distance

Elevation Site Database(s) EPA ID Number

R107 KY SPILLS S117226448
Target N/A

Not reported

Not reported

Property BARLOW, KY

Site 32 of 37 in cluster R

Actual: SPILLS: Name:

Focus Map:

Address:
City,State,Zip:
Facility Status:

City,State,Zip: BARLOW, KY
Facility Status: Approve Environmental Close
Incident Type: BYPASS - WET WEATHER

Program Code: 11

Received By Staff: Priddle, Vince Received Date: 02/19/2003

Report Date: 2003-02-19 11:17:13

Dispatch Description: Bypass lift station and sewer plant

Source Name: Barlow WWTP (AI ID: 44)

Source Address: City of Barlow
Substances: Not reported
Other Substances Desc: Not reported
Media Impacted: Wastewater
Inc ID: 958
Lead Invest Person ID: 6178
Compliance: No

Compliance: No Notification: Yes Priority: Routine Not reported Incident End Date: Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported Not reported End Emergency Date: MARS Function Code: Not reported

Locked: No

Closure Type Desc: Not reported Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

R108 KY SPILLS S117225158
Target N/A

Property BARLOW, KY

Site 33 of 37 in cluster R

Actual: SPILLS: 349 ft. Name

Focus Map:

Name: Not reported
Address: Not reported
City,State,Zip: BARLOW, KY
Facility Status: Initiated

Incident Type: Overflow-Manhole- wet weather

Program Code: 11

Received By Staff: Devers, Joseph Received Date: 06/11/2003

Report Date: 2003-06-11 10:39:40
Dispatch Description: Overflow of sewer plant
Source Name: Barlow WWTP (Al ID: 44)
Source Address: Barlow Sewer Plant
Substances: Not reported

Direction Distance

Elevation Site Database(s) **EPA ID Number**

(Continued) S117225158

Other Substances Desc: Not reported Wastewater Media Impacted: Inc ID: 2847 Lead Invest Person ID: 6180 Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported

Locked:

Closure Type Desc: Not reported Not reported Waterbody: 37.04611 Latitude: Longitude: -89.04477

R109 KY SPILLS S117147476 **Target**

Not reported

Property BARLOW, KY

Site 34 of 37 in cluster R

Actual: SPILLS: 349 ft. Name: Address: Focus Map: 11

Not reported City,State,Zip: BARLOW, KY Facility Status: Env. Closed

BYPASS - WET WEATHER Incident Type:

Program Code:

Received By Staff: McLeary, Shannon Received Date: 05/08/2009 Report Date: 2009-05-08 14:32:58

Dispatch Description: Opened bypass at sewer plant. Barlow WWTP (AI ID: 44) Source Name: City of barlow sewer plant Source Address: Substances: Not reported

Other Substances Desc: Not reported Media Impacted: Wastewater Inc ID: 2295256 Lead Invest Person ID: 6181 Compliance: No Notification: Yes Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Not reported Begin Emergency Date: End Emergency Date: Not reported MARS Function Code: Not reported

Locked:

Env. Closed-No Action Necessary Closure Type Desc:

Waterbody: Not reported 37.04611 Latitude:

EDR ID Number

N/A

Direction Distance

Distance EDR ID Number Elevation Site EDR ID Number Database(s) EPA ID Number

(Continued) S117147476

Longitude: -89.04477

R110 KY SPILLS S117144008

Target N/A

Property BARLOW, KY

Site 35 of 37 in cluster R

Actual: SPILLS:

349 ft.Name:Not reportedFocus Map:Address:Not reported11City,State,Zip:BARLOW, KYFacility Status:Env. Closed

Incident Type: BYPASS - WET WEATHER

Program Code: 1

Received By Staff: McLeary, Shannon Received Date: 02/11/2009

Report Date: 2009-02-13 10:38:26

Dispatch Description: bypass - approx 600,000 gallons

Source Name: Barlow WWTP (AI ID: 44)

Source Address: Plant
Substances: Not reported
Other Substances Desc: Not reported
Media Impacted: Wastewater
Inc ID: 2291340

Lead Invest Person ID:6181Compliance:NoNotification:YesPriority:Routine

Incident End Date: 2009-02-12 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action/Managed

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

R111 KY SPILLS S117163392
Target N/A

Property BARLOW, KY

Site 36 of 37 in cluster R

Actual: SPILLS:

349 ft.Name:Not reportedFocus Map:Address:Not reported11City,State,Zip:BARLOW, KYFacility Status:Env. Closed

Incident Type: BYPASS - WET WEATHER

Program Code: 11

Received By Staff: Burnett, Jennifer

Direction Distance

Elevation Site Database(s) EPA ID Number

(Continued) S117163392

Received Date: 05/20/2010

Report Date: 2010-05-20 09:21:50

Dispatch Description: opened bypass due to heavy rain, still dechloring

Source Name: Barlow WWTP (AI ID: 44)

Source Address: Barlow Substances: Not reported Not reported Other Substances Desc: Media Impacted: Wastewater Inc ID: 2312681 Lead Invest Person ID: 9501 Compliance: No Notification: Yes Priority: Routine

Incident End Date: 2010-05-21 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Begin Emergency Date:

End Emergency Date:

MARS Function Code:

Not reported

Not reported

Not reported

Locked: Yes

Closure Type Desc: Env. Closed-No Action Necessary

Waterbody: Not reported Latitude: 37.04611 Longitude: -89.04477

R112 KY SPILLS S117160179

Target

Property BARLOW, KY

Site 37 of 37 in cluster R

Priority:

Actual: SPILLS: 349 ft. Name:

Focus Map:

Name: Not reported
Address: Not reported
City, State, Zip: BARLOW, KY
Facility Status: Env. Closed

Incident Type: DW-LINE BREAK/LEAK

Program Code: 03

Received By Staff: Burnett, Jennifer Received Date: 03/17/2010

Report Date: 2010-03-17 15:14:00

Dispatch Description: PVC line running into the meter, busted.

Routine

Source Name: Barlow WWTP (AI ID: 44)

Source Address: City of Barlow. 6th street there is an appartment complex. Only 48

residents were affected. Notices were given.

Substances:

Other Substances Desc:

Media Impacted:
Inc ID:
Lead Invest Person ID:
Compliance:
Not reported
Drinking Water
2309173
Lead Invest Person ID:
Ompliance:
No
Notification:
Yes

Incident End Date: 2010-03-23 00:00:00

Follow Up Priority Desc:

Most Recent Comp Eval Activity:

Most Recent ENF Activity:

Not reported

Not reported

N/A

Direction Distance

Elevation Site Database(s) **EPA ID Number**

(Continued) S117160179

Begin Emergency Date: Not reported Not reported End Emergency Date: MARS Function Code: Not reported

Locked: Yes

Closure Type Desc: Env. Closed-Mitigated

Waterbody: Not reported 37.04611 Latitude: Longitude: -89.04477

CAIRO DRY KILNS INC 1016220194 113 **FINDS** HWY. 51, 2 MILES N OF CAIRO **Target ECHO** N/A

Property CAIRO, IL 62914

FINDS:

110007279435 Registry ID:

Actual:

310 ft. Click Here for FRS Facility Detail Report: Focus Map: Environmental Interest/Information System:

AFS (Aerometric Information Retrieval System (AIRS) Facility

Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V

of the Clean Air Act.

ACES (Illinois - Agency Compliance And Enforcement System) is the

Illinois EPA Project to facilitate the permitting operations AIR EMISSIONS CLASSIFICATION UNKNOWN

AIR MINOR

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

1016220194 Envid: 110007279435 Registry ID:

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110007279435

Name: CAIRO DRY KILNS INC

Address: HWY. 51, 2 MILES N OF CAIRO

CAIRO, IL 62914 City, State, Zip:

S117090918 **KY SPILLS** 114 **Target** N/A

Property BARLOW, KY

> SPILLS: Name:

Not reported Actual: Address: Not reported 343 ft. City.State.Zip: BARLOW, KY Facility Status: Env. Closed Focus Map: Incident Type: **STORMWATER**

Program Code: 11

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S117090918

Received By Staff: Brewer, Gaye Not reported Received Date: Report Date: 2005-06-28 15:48:23

Dispatch Description: drainage from farm is washing out yard and chemicals applied to farm

are hurting her pecan trees.

Source Name: Not reported 6023 Barlow Road Source Address: Substances: Not reported Not reported Other Substances Desc: Media Impacted: Wastewater Inc ID: 196284 Lead Invest Person ID: 18736 Compliance: Yes Notification: No Priority: Routine

2005-06-29 00:00:00 Incident End Date:

Follow Up Priority Desc: Not reported Most Recent Comp Eval Activity: Not reported Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported Yes

Locked:

Closure Type Desc: Env. Closed-Managed

Waterbody: Not reported Not reported Latitude: Longitude: Not reported

115 **VEACH OIL CO FINDS** 1008133100 **Target RTE 3 & RTE 51** N/A

Property CAIRO, IL 62914

FINDS:

Registry ID: 110018297804

Actual:

314 ft. Click Here for FRS Facility Detail Report: Focus Map: Environmental Interest/Information System:

ACES (Illinois - Agency Compliance And Enforcement System) is the

Illinois EPA Project to facilitate the permitting operations

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

116 **READY MIX SOLUTIONS LLC FINDS** 1016220059 **ECHO** N/A

Target ROUTE 1 Property CAIRO, IL 62914

FINDS:

110007263914 Registry ID:

Actual:

310 ft. Click Here for FRS Facility Detail Report: Focus Map: Environmental Interest/Information System:

AFS (Aerometric Information Retrieval System (AIRS) Facility

Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of

Aerometric Data (SAROAD). AIRS is the national repository for

Direction Distance

Elevation Site Database(s) EPA ID Number

READY MIX SOLUTIONS LLC (Continued)

1016220059

FINDS

ECHO

1004510005

N/A

EDR ID Number

information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

ACES (Illinois - Agency Compliance And Enforcement System) is the Illinois EPA Project to facilitate the permitting operations AIR EMISSIONS CLASSIFICATION UNKNOWN AIR MINOR

<u>Click this hyperlink</u> while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1016220059 Registry ID: 110007263914

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110007263914

Name: READY MIX SOLUTIONS LLC

Address: ROUTE 1 City,State,Zip: CAIRO, IL 62914

117 BARLOW STP

Target END OF SOUTH 6TH ST Property BARLOW, KY 42024

FINDS:

Registry ID: 110009938979

Actual:

330 ft. Click Here for FRS Facility Detail Report:
Focus Map: Environmental Interest/Information System:

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the

discharge does not adversely affect water quality.

<u>Click this hyperlink</u> while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1004510005 Registry ID: 110009938979

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110009938979

Name: BARLOW STP
Address: END OF SOUTH 6TH ST
City,State,Zip: BARLOW, KY 42024

Distance EDR ID Number
Elevation Site Database(s) EPA ID Number

S118 DOLLAR GENERAL STORE 7581 RCRA-VSQG 1016956696
Target 14144 TURNER LN ILR000186254

Target 14144 TURNER LN Property CAIRO, IL 62914

Site 1 of 2 in cluster S

Actual: RCRA Listings:

311 ft. Date Form Received by Agency: 20141001

Focus Map: Handler Name: DOLLAR GENERAL STORE 7581

8

Handler Address: 14144 TURNER LN Handler City, State, Zip: CAIRO, IL 62914 EPA ID: ILR000186254 Contact Name: **ERIC VOYLES** Contact Address: Not reported Contact City, State, Zip: Not reported Contact Telephone: 615-855-4000 Contact Fax: Not reported

Contact Email: EVOYLES@DOLLARGENERAL.COM

Contact Title: Not reported EPA Region: 05
Land Type: Private

Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator

Non-Notifier:

Biennial Report Cycle:

Accessibility:

Active Site Indicator:

State District Owner:

State District:

Not reported

Handler Activities

Not reported

MARION

Mailing Address: 100 MISSION RIDGE

Mailing City, State, Zip: GOODLETTS VILLE, TN 37072

Owner Name: DG RETAIL

Owner Type: Private

Operator Name: DOLLAR GENERAL STORE

Operator Type: Private Short-Term Generator Activity: No Importer Activity: No Mixed Waste Generator: No Transporter Activity: No Transfer Facility Activity: No Recycler Activity with Storage: No Small Quantity On-Site Burner Exemption: No Smelting Melting and Refining Furnace Exemption: No **Underground Injection Control:** No Off-Site Waste Receipt: No Universal Waste Indicator: No Universal Waste Destination Facility: No Federal Universal Waste: No

Active Site Fed-Reg Treatment Storage and Disposal Facility:
Active Site Converter Treatment storage and Disposal Facility:
Active Site State-Reg Treatment Storage and Disposal Facility:
Active Site State-Reg Handler:

Not reported
Not reported

Federal Facility Indicator:
Hazardous Secondary Material Indicator:
Sub-Part K Indicator:
Not reported
Not reported

Commercial TSD Indicator: No

Treatment Storage and Disposal Type:

2018 GPRA Permit Baseline:

2018 GPRA Renewals Baseline:

Permit Renewals Workload Universe:

Not reported

Not reported

Not reported

Distance Elevation Site EDR ID Number

Database(s) EPA ID Number

DOLLAR GENERAL STORE 7581 (Continued)

1016956696

Permit Workload Universe:

Permit Progress Universe:

Post-Closure Workload Universe:

Not reported
Not reported
Not reported
Not reported
Not reported

202 GPRA Corrective Action Baseline:

Corrective Action Workload Universe:

No Subject to Corrective Action Universe:

No Non-TSDFs Where RCRA CA has Been Imposed Universe:

TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:

No TSDFs Only Subject to CA under Discretionary Auth Universe:

No

Corrective Action Priority Ranking: No NCAPS ranking

Operating TSDF Universe:

Full Enforcement Universe:

Significant Non-Complier Universe:

Not reported

No
No

Unaddressed Significant Non-Complier Universe: No Addressed Significant Non-Complier Universe: No Significant Non-Complier With a Compliance Schedule Universe: No

Financial Assurance Required: Not reported

Handler Date of Last Change:

Recognized Trader-Importer:

Recognized Trader-Exporter:

No
Importer of Spent Lead Acid Batteries:

No
Exporter of Spent Lead Acid Batteries:

No

Recycler Activity Without Storage:

Manifest Broker:

Not reported

Not reported

Sub-Part P Indicator: No

Hazardous Waste Summary:

Waste Code: D001

Waste Description: IGNITABLE WASTE

Waste Code: D002

Waste Description: CORROSIVE WASTE

Waste Code: D005 Waste Description: BARIUM

Waste Code: D007
Waste Description: CHROMIUM

Waste Code: D008
Waste Description: LEAD

Waste Code: D009
Waste Description: MERCURY

Waste Code: D016

Waste Description: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D018
Waste Description: BENZENE

Direction Distance

Elevation Site Database(s) EPA ID Number

DOLLAR GENERAL STORE 7581 (Continued)

1016956696

EDR ID Number

Waste Code: D035

Waste Description: METHYL ETHYL KETONE

Handler - Owner Operator:

Owner/Operator Indicator: Owner

Owner/Operator Name: DG RETAIL

Legal Status:PrivateDate Became Current:20001121Date Ended Current:Not reported

Owner/Operator Address: 100 MISSION RIDGE

Owner/Operator City, State, Zip: GOODLETTS VILLE, TN 37072

Owner/Operator Telephone: 615-855-4000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator

Owner/Operator Name: DOLLAR GENERAL STORE

Legal Status: Private Date Became Current: 20001121 Date Ended Current: Not reported Owner/Operator Address: Not reported Owner/Operator City, State, Zip: Not reported Owner/Operator Telephone: Not reported Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 20141001 Handler Name: DOLLAR GENERAL STORE 7581

Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Code: 45299

NAICS Description: ALL OTHER GENERAL MERCHANDISE STORES

Facility Has Received Notices of Violations:

Violations: No Violations Found

Evaluation Action Summary:

Evaluations: No Evaluations Found

Direction Distance

Distance Elevation Site EDR ID Number

Database(s) EPA ID Number

 S119
 DOLLAR GENERAL STORE 7581
 FINDS
 1017376575

 Target
 14144 TURNER LN
 ECHO
 N/A

Target 14144 TURNER LN Property CAIRO, IL 62914

Site 2 of 2 in cluster S

Actual: FINDS:

311 ft. Registry ID: 110061094916

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

ACES (Illinois - Agency Compliance And Enforcement System) is the

Illinois EPA Project to facilitate the permitting operations

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA

program staff to track the notification, permit, compliance, and

corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1017376575 Registry ID: 110061094916

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110061094916

Name: DOLLAR GENERAL STORE 7581

Address: 14144 TURNER LN City, State, Zip: CAIRO, IL 62914

T120 TRAVEL HUT I IL UST U000157852
Target I-57 & RT 3 N/A

Property CAIRO, IL 62914

Site 1 of 3 in cluster T

Actual: UST: 315 ft. Name:

 315 ft.
 Name:
 TRAVEL HUT I

 Focus Map:
 Address:
 I-57 & RT 3

 7
 City:
 CAIRO

 7io:
 62014

 City.
 CARO

 Zip:
 62914

 Facility ID:
 7008179

 Facility Status:
 CLOSED

Facility Type: ATTENDED SELF-SERVICE/UNATTENDED SELF-SERVICE

Owner Id: U0029076

Owner Name: Dixieland Inc DBA Travel Hut

Owner Address: Box 464
Owner City,St,Zip: Cairo, IL 62914

Tank Number:

Tank Status: Removed Tank Capacity: 10000 Tank Substance: Gasoline 4/13/1997 Last Used Date: OSFM First Notify Date: 3/18/1986 Red Tag Issue Date: Not reported Install Date: 4/24/1981 **Green Tag Decal:** Not reported **Green Tag Issue Date:** Not reported

Direction Distance Elevation

Site Database(s) EPA ID Number

TRAVEL HUT I (Continued)

U000157852

EDR ID Number

Green Tag Expire Date:

Fee Due:

Motor Fuel Permit Inspection Date:

Motor Fuel Permit Expiration Date:

MOTOR FUEL TYPE:

Pending Nov:

Not reported

Not reported

Not reported

Not reported

Not reported

Not reported

IEMA: 00-0554 ,00-0555
Equipment Type: Not reported
Equipment: Not reported
Last Passing Date: Not reported
Test Expire Date: Not reported
Removed Date: 3/29/2000
Abandoned Date: Not reported

Tank Number: 2

Tank Status: Removed Tank Capacity: 10000 Tank Substance: Gasoline Last Used Date: 4/13/1997 OSFM First Notify Date: 3/18/1986 Red Tag Issue Date: Not reported Install Date: 4/24/1981 **Green Tag Decal:** Not reported Not reported **Green Tag Issue Date: Green Tag Expire Date:** Not reported \$0.00

Motor Fuel Permit Inspection Date:

Motor Fuel Permit Expiration Date:

MOTOR FUEL TYPE:

Not reported

Not reported

Pending Nov:

IEMA: Not reported Equipment Type: Not reported Equipment: Not reported Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 3/29/2000 Abandoned Date: Not reported

Tank Number: 3

Tank Status: Removed Tank Capacity: 4000 Tank Substance: Gasoline Last Used Date: 4/13/1997 **OSFM First Notify Date:** 3/18/1986 Red Tag Issue Date: Not reported Install Date: 4/24/1981 **Green Tag Decal:** Not reported **Green Tag Issue Date:** Not reported Not reported **Green Tag Expire Date:** Fee Due: \$0.00

Motor Fuel Permit Inspection Date:

Motor Fuel Permit Expiration Date:

MOTOR FUEL TYPE:

Not reported

Not reported

Not reported

Pending Nov:

IEMA: Not reported

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

TRAVEL HUT I (Continued) U000157852

Equipment Type: Not reported Not reported Equipment: Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 3/29/2000 Abandoned Date: Not reported

Tank Number: **Tank Status:** Removed 12000 Tank Capacity: Tank Substance: Diesel Fuel 4/13/1997 Last Used Date: **OSFM First Notify Date:** 3/18/1986 Red Tag Issue Date: Not reported Install Date: 6/10/1980 **Green Tag Decal:** Not reported Green Tag Issue Date: Not reported **Green Tag Expire Date:** Not reported

Fee Due: \$0.00

Motor Fuel Permit Inspection Date: Not reported Motor Fuel Permit Expiration Date: Not reported MOTOR FUEL TYPE: Not reported Pending Nov: IEMA: Not reported Equipment Type: Not reported Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported

Removed Date: 3/29/2000 Abandoned Date: Not reported

T121 **CAIRO TRUCK PLAZA** IL UST U000855105 1311 KESSLER RD. **Target** N/A

CAIRO, IL 62914 **Property**

Site 2 of 3 in cluster T

Actual: 315 ft. Focus Map:

UST: Name:

CAIRO TRUCK PLAZA Address: 1311 KESSLER RD. City: **CAIRO**

Zip: 62914 Facility ID: 7006807 Facility Status: CLOSED

ATTENDED SELF-SERVICE STATION Facility Type:

Owner Id: U0035561 Owner Name: Cairo Truck Repair

13107 Kessler Road P.O. Box 464 Owner Address:

Owner City, St, Zip: Cairo, IL 62914

Tank Number:

Tank Status: Removed Tank Capacity: 10000 Tank Substance: Gasoline 3/18/2008 Last Used Date: OSFM First Notify Date: 1/4/1987 Not reported Red Tag Issue Date:

Distance Elevation Site

Site Database(s) EPA ID Number

CAIRO TRUCK PLAZA (Continued)

U000855105

EDR ID Number

Install Date: 1/1/1986 1003263 **Green Tag Decal:** Green Tag Issue Date: 3/8/2007 **Green Tag Expire Date:** 12/31/2009 Fee Due: \$0.00 Motor Fuel Permit Inspection Date: 3/8/2007 Motor Fuel Permit Expiration Date: 12/31/2009 MOTOR FUEL TYPE: SelfSrv Pending Nov: Ν IEMA: 09-1270

Equipment Type: Corrosion Prot - Piping

Equipment: Impressed Current Cathodic Protection

Last Passing Date: Not reported
Test Expire Date: Not reported
Removed Date: 12/17/2009
Abandoned Date: Not reported

Tank Number: 2

Removed Tank Status: Tank Capacity: 10000 Tank Substance: Gasoline 3/18/2008 Last Used Date: **OSFM First Notify Date:** 1/4/1987 Red Tag Issue Date: Not reported Install Date: 1/1/1986 **Green Tag Decal:** 1003263 **Green Tag Issue Date:** 3/8/2007 **Green Tag Expire Date:** 12/31/2009 Fee Due: \$0.00 Motor Fuel Permit Inspection Date: 3/8/2007 Motor Fuel Permit Expiration Date: 12/31/2009 MOTOR FUEL TYPE: SelfSrv

IEMA: Not reported

Equipment Type: Corrosion Prot - Piping

Equipment: Impressed Current Cathodic Protection

Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 12/16/2009 Abandoned Date: Not reported

Tank Number: 3

Pending Nov:

Tank Status: Removed Tank Capacity: 10000 Tank Substance: Diesel Fuel Last Used Date: 3/18/2008 OSFM First Notify Date: 1/4/1987 Red Tag Issue Date: Not reported 1/1/1986 Install Date: **Green Tag Decal:** 1003263 3/8/2007 **Green Tag Issue Date: Green Tag Expire Date:** 12/31/2009 Fee Due: \$0.00 Motor Fuel Permit Inspection Date: 3/8/2007 Motor Fuel Permit Expiration Date: 12/31/2009

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

CAIRO TRUCK PLAZA (Continued)

U000855105

MOTOR FUEL TYPE: SelfSrv Pending Nov: Ν

IEMA: Not reported

Equipment Type: Corrosion Prot - Piping Equipment: Impressed Current Cathodic Protection

Last Passing Date: Not reported Test Expire Date: Not reported 12/16/2009 Removed Date: Abandoned Date: Not reported

Tank Number: 4

Tank Status: Removed Tank Capacity: 10000 Tank Substance: Diesel Fuel Last Used Date: 3/18/2008 **OSFM First Notify Date:** 1/4/1987 Red Tag Issue Date: Not reported Install Date: 1/1/1986 **Green Tag Decal:** 1003263 Green Tag Issue Date: 3/8/2007 **Green Tag Expire Date:** 12/31/2009 Fee Due: \$0.00 Motor Fuel Permit Inspection Date: 3/8/2007 Motor Fuel Permit Expiration Date: 12/31/2009 MOTOR FUEL TYPE: SelfSrv Pending Nov: Ν

IEMA: Not reported

Equipment Type: Corrosion Prot - Piping

Impressed Current Cathodic Protection Equipment:

Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 12/16/2009 Abandoned Date: Not reported

122 KY SPILLS \$117119989 **Target** N/A

BARLOW, KY **Property**

SPILLS:

Name: Not reported Actual: Address: Not reported 339 ft. City, State, Zip: BARLOW, KY

Focus Map:

Facility Status: Issue Notice of Violation Incident Type: WETLAND ALTERATION

Program Code: 13

Received By Staff: Brewer, Gaye Received Date: 09/05/2007

Report Date: 2007-09-05 14:12:09

Dispatch Description: Source is straightening Shawnee creek and making a new channel about 1

city block long.I

Jay Rollins Property (AI ID: 97837) Source Name:

VFW road off Hwy 60, approx 1 mi S.E. of Barlow. You can access the Source Address:

construction of the creek off VFW road.

Substances: Not reported Not reported Other Substances Desc: Media Impacted: Water Resources

Inc ID: 2264056

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S117119989

Lead Invest Person ID: 18736 Compliance: Yes Notification: No Priority: Routine Incident End Date: Not reported Follow Up Priority Desc: Routine

Most Recent Comp Eval Activity: AI: 97837 CIV20070002

Most Recent ENF Activity: Not reported Begin Emergency Date: Not reported End Emergency Date: Not reported MARS Function Code: Not reported Locked: Yes

Closure Type Desc: Not reported Waterbody: Not reported 37.04166 Latitude: Longitude: -89.03733

FINDS T123 TRANSPORT SVC CO

Target I-57 MM 1 **Property CAIRO, IL 62914**

Site 3 of 3 in cluster T

FINDS: Actual:

315 ft. Registry ID: 110018295307

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

ACES (Illinois - Agency Compliance And Enforcement System) is the

Illinois EPA Project to facilitate the permitting operations

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

FINDS 124 **ROADWAY INVESTMENT INC** 1010046870

Target I-57 & RTE 3 NE COR **Property** CAIRO, IL 62914

FINDS:

Registry ID: 110028267621

Actual:

315 ft. Click Here for FRS Facility Detail Report: Focus Map: Environmental Interest/Information System:

ACES (Illinois - Agency Compliance And Enforcement System) is the

Illinois EPA Project to facilitate the permitting operations

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

1008132850

N/A

N/A

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

125 **BIG TONYS LOUNGE FINDS** 1008132855 **Target**

RTE 51 N RR 1 N/A

Property CAIRO, IL 62914

FINDS:

110018295352 Registry ID:

Actual:

310 ft. Click Here for FRS Facility Detail Report: Focus Map: Environmental Interest/Information System:

ACES (Illinois - Agency Compliance And Enforcement System) is the

Illinois EPA Project to facilitate the permitting operations

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

U126 **IDOT CAIRO TEAM SECTION 931C** RCRA-VSQG 1026831333 **12864 PATIERDALE RD** ILR000208645 **Target**

CAIRO, IL 62914 Property

Site 1 of 2 in cluster U

Actual: RCRA Listings:

315 ft. Date Form Received by Agency: 20210719 Handler Name: **IDOT CAIRO TEAM SECTION 931C**

Focus Map: Handler Address: 12864 PATIERDALE RD

Handler City, State, Zip: CAIRO, IL 62914 EPA ID: ILR000208645

Contact Name: DAWN OESTREICHER Contact Address: 2801 W MURPHYSBORO RD Contact City, State, Zip: CARBONDALE, IL 62903

Contact Telephone: 618-351-5243 Contact Fax: Not reported

Contact Email: DAWN.OESTREICHER@ILLINOIS.GOV

Contact Title: Not reported EPA Region: 05 Land Type: State

Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator

Non-Notifier: Not reported Biennial Report Cycle: Not reported Accessibility: Not reported Active Site Indicator: Handler Activities

State District Owner: IL

State District: **MARION**

Mailing Address: 12864 PATIERDALE RD

Mailing City, State, Zip: CAIRO, IL 62914

Owner Name: **IDOT DIST 9**

Owner Type: State

Operator Name: **IDOT CAIRO TEAM SECTION**

Operator Type: State Short-Term Generator Activity: No Importer Activity: Nο Mixed Waste Generator: No Transporter Activity: No Transfer Facility Activity: No Recycler Activity with Storage: No Small Quantity On-Site Burner Exemption: No Smelting Melting and Refining Furnace Exemption: No **Underground Injection Control:** No Off-Site Waste Receipt: No Universal Waste Indicator: Nο

Distance
Elevation Site

Database(s)

IDOT CAIRO TEAM SECTION 931C (Continued)

1026831333

EDR ID Number

EPA ID Number

Universal Waste Destination Facility: No Federal Universal Waste: No

Active Site Fed-Reg Treatment Storage and Disposal Facility:
Active Site Converter Treatment storage and Disposal Facility:
Active Site State-Reg Treatment Storage and Disposal Facility:
Active Site State-Reg Handler:

Not reported
Not reported

Federal Facility Indicator: Not reported

Hazardous Secondary Material Indicator: N

Sub-Part K Indicator: Not reported Commercial TSD Indicator: No

Treatment Storage and Disposal Type:

2018 GPRA Permit Baseline:

2018 GPRA Renewals Baseline:

Permit Renewals Workload Universe:

Permit Workload Universe:

Permit Progress Universe:

Post-Closure Workload Universe:

Not reported

Not reported

Not reported

Not reported

Closure Workload Universe:

202 GPRA Corrective Action Baseline:

No
Corrective Action Workload Universe:

Subject to Corrective Action Universe:

No
Non-TSDFs Where RCRA CA has Been Imposed Universe:

TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:

TSDFs Only Subject to CA under Discretionary Auth Universe:

No

Corrective Action Priority Ranking: No NCAPS ranking

Significant Non-Complier Universe: No Unaddressed Significant Non-Complier Universe: No Addressed Significant Non-Complier Universe: No Significant Non-Complier With a Compliance Schedule Universe: No

Financial Assurance Required: Not reported

Handler Date of Last Change: 20210719 Recognized Trader-Importer: No Recognized Trader-Exporter: No Importer of Spent Lead Acid Batteries: No Exporter of Spent Lead Acid Batteries: No Recycler Activity Without Storage: No Manifest Broker: No Sub-Part P Indicator: Nο

Hazardous Waste Summary:

Waste Code: D001

Waste Description: IGNITABLE WASTE

Waste Code: D039

Waste Description: TETRACHLOROETHYLENE

Waste Code: F001

Waste Description: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING:

TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED

Direction Distance

Elevation Site Database(s) EPA ID Number

IDOT CAIRO TEAM SECTION 931C (Continued)

1026831333

EDR ID Number

FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Handler - Owner Operator:

Owner/Operator Indicator: Operator

Owner/Operator Name: IDOT CAIRO TEAM SECTION Legal Status:

Legal Status:StateDate Became Current:Not reportedDate Ended Current:Not reported

Owner/Operator Address:

Owner/Operator City, State, Zip:

Owner/Operator Telephone:

Owner/Operator Telephone Ext:

Owner/Operator Fax:

Owner/Operator Fax:

Owner/Operator Email:

12864 PATIERDALE RD

CAIRO, IL 62914

Not reported

Not reported

Not reported

Not reported

Owner/Operator Indicator: Owner

Owner/Operator Name: IDOT DIST 9

Legal Status:StateDate Became Current:Not reportedDate Ended Current:Not reported

Owner/Operator Address: 2801 W MURPHYSBORO RD Owner/Operator City, State, Zip: CARBONDALE, IL 62903

Owner/Operator Telephone:

Owner/Operator Telephone Ext:

Owner/Operator Fax:

Owner/Operator Email:

Not reported

Not reported

Not reported

Historic Generators:

Receive Date: 20210719 Handler Name: IDOT CAIRO TEAM SECTION 931C

Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator

State District Owner: Large Quantity Handler of Universal Waste: No Recognized Trader Importer: No Recognized Trader Exporter: No Spent Lead Acid Battery Importer: Nο Spent Lead Acid Battery Exporter: No Current Record: Yes Non Storage Recycler Activity: No Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:

NAICS Code: 488490

NAICS Description: OTHER SUPPORT ACTIVITIES FOR ROAD TRANSPORTATION

Facility Has Received Notices of Violations:

Violations: No Violations Found

Evaluation Action Summary:

Evaluations: No Evaluations Found

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

U127 **IDOT CAIRO TEAM SECTION 931C ECHO** 1026929247

Target 12864 PATIERDALE RD N/A

CAIRO, IL 62914 **Property**

Site 2 of 2 in cluster U

ECHO: Actual: 315 ft.

1026929247 Envid: Registry ID: 110071139357

Focus Map:

DFR URL: Name:

Address:

http://echo.epa.gov/detailed-facility-report?fid=110071139357 **IDOT CAIRO TEAM SECTION 931C**

12864 PATIERDALE RD

CAIRO, IL 62914 City,State,Zip:

CAIRO TRUCK REPAIR 128 **FINDS** 1007057112 **Target** RT 3 & I57 **ECHO** N/A

Property CAIRO, IL 62914

FINDS:

Registry ID: 110015325851

Actual:

316 ft. Click Here for FRS Facility Detail Report: Focus Map: Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and

corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

ECHO:

1007057112 Envid: Registry ID: 110015325851

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110015325851

Name: CAIRO TRUCK REPAIR

Address: RT 3 & I57 City, State, Zip: CAIRO, IL 62914

V129 **CAIRO TRUCK PLAZA & RESTAURANT EDR Hist Auto** 1020890791 13113 KESSLER RD **Target** N/A

Property CAIRO, IL 62914

Site 1 of 4 in cluster V

Actual: 317 ft.

EDR Hist Auto

Name: Year: Focus Map:

Type: 2007 CAIRO TRUCK PLAZA & RESTAURANT

Gasoline Service Stations, NEC

CAIRO TRUCK PLAZA & RESTAURANT Gasoline Service Stations, NEC 2008

Direction Distance

Elevation Site Database(s) EPA ID Number

V130 CAIRO TRUCK PLAZA IL SPILLS S111925585
Target 13107 KESSLER RD N/A

Target 13107 KESSLER RD Property CAIRO, IL 62914

Site 2 of 4 in cluster V

Actual: SPILLS: 317 ft. Name

Focus Map:

Name: Not reported City, State, Zip: CAIRO, IL Incident ID: 20091270 Incident Date: 11/16/2009 Date Received: Not reported

Lust Ind: Yes

Facility Address: 13107 KESSLER RD

Facility City: CAIRO

PRP Name: Cairo Truck Plaza
AC: Not reported

Source Table: dbo_tbl_CONSTRUCTION101

Name: Not reported City,State,Zip: CAIRO, IL Incident ID: 20091270 Incident Date: Not reported Date Received: 11/16/2009

Lust Ind: Yes

Facility Address: 13107 KESSLER RD

Facility City: CAIRO

PRP Name: CAIRO TRUCK PLAZA

AC: Not reported

Source Table: dbo OCIN INCIDENTCUR

V131 IL SPILLS S115771660
Target 13107 KESSLER RD. N/A

Property CAIRO, IL

Site 3 of 4 in cluster V

Actual: IEMA SPILLS: 317 ft. Name:

Focus Map:

Name: Not reported
Address: 13107 KESSLER RD.

City,State,Zip: CAIRO, IL
Incident Number: H-2009-1270
Incident Report Date: 11/16/2009
Street Address Of Incident Location: 13107 Kessler Rd.

Incident Location City:

Incident Location County:

Entered By:

Date Entered:

Data Input Status:

Lisa Jeffers

Not reported

Closed

Leaking Underground Storage Tank (Lust)?:

Yes

JoAnne Williams Caller: Caller Represents: Cairo Truck Plaza Hazmat Incident Type: Leak or Spill Date/Time Occurred: Not reported Mile Post: Not reported Section: Not reported Township: Not reported Range: Not reported Fixed Facility Area Involved: Media/Medium Into Which Release Occurred: Not reported

EDR ID Number

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

(Continued) S115771660

Temp: n/a Wind: n/a

Material Name: Diesel and Gasoline

Type: Liquid Chris Code: no CAS#: no UN/NA #: no 302(A) Extremely Hazardous Substance?: Nο Is This A RCRA Hazardous Waste?: No Is This A RCRA Regulated Facility?: No

Container Type: Under Ground Storage Tank

Container Size: 2-10;000 Gallon Gasoline and 2-10;000 Gallon Diesel Amount Released: Unknown

Rate Of Release/Min: Unknown **Duration Of Release:** Not reported Cause Of Release: Unknown **Estimated Spill Extent:** Unknown Spill Extent Units: Not reported Date/Time Incident Occurred: Not reported Check If Unknown (Occurrence): Not reported

Date/Time Discovered: 2009-11-16 13:20:00

Check If Unknown (Discovered): Not reported Where Taken: n/a

On Scene Contact: JoAnne Williams

Public Health Risks/Precautions Taken: none Number Of People Evacuated: none Assistance Needed From State Agencies: none

Containment/Cleanup Actions And Plans: Hired a contractor/ CW3M

Responsible Name: Cairo Truck Plaza Facility Manager: Not reported Facility Manager Phone #: Not reported Street1: **PO BOX 464** Contacted ESDA?: Not reported ESDA On Scene?: Not reported Specific ESDA Agency Contacted: Not reported Contacted Fire Department?: Not reported Fire Department On Scene?: Not reported Name Of Fire Department Contacted: Not reported Contacted Police Department?: Not reported Police Department On Scene?: Not reported Not reported Name Of Police Department Contacted: Sheriff Police Department?: Not reported Sheriff Department On Scene?: Not reported Not reported Name Of Sheriff Department Contacted: Not reported Was An Agency Other Than ESDA: Fire Police Or Sheriff Contacted?: Emailed

Agency Notified Name: IEPA; NRTP; OSFM and Region 11

Not reported

Not reported

Date/Time Agency Notified: 2009-11-16 15:07:00

Narrative: Not reported Follow Up: Not reported

Was This Other Agency On Scene?:

Name Of Other Agency Contacted:

Direction Distance

Elevation Site Database(s) **EPA ID Number**

V132 **ERNS** 2020294046 N/A

13107 KESSLER ROAD **Target Property** CAIRO, IL 62914

Site 4 of 4 in cluster V

Actual:

Click this hyperlink while viewing on your computer to access 317 ft.

additional ERNS detail in the EDR Site Report. Focus Map:

133 **ILLINOIS BELL - CAIRO** IL ASBESTOS \$110360328 12737 PATIERDALE RD **Target** N/A

CAIRO, IL 62914 **Property**

ASBESTOS:

Site ID: 003005AED

CAIRO IDOT SALT STORAGE Actual: Name: 311 ft. Address: 12737 PATIERDALE RD

City,State,Zip: CAIRO, IL Focus Map:

Notification Type: Sent email to Jim Hepp 6/17 for revision to correct the start date and missing information.

Received Date: 06/10/2022 Postmark Date: 06/08/2022 Start Date: Not reported End Date: Not reported Resubmission Date: Not reported Pipe AMT: Not reported SA AMT: Not reported Not reported OFC AMT: Type: Demolition Fee Amt: \$150.00 Fee Payment Method: **EPAY**

Check # or EPAY code. #: 20006221 Fee Comment: correct-HF Additional Property: Not reported Asbestos Contractor Name: Not reported H & N Construction Demo Contractor Name:

Asbestos Y/N: No Demo Order Gov Y/N: No Emerg. Reno Y/N: No Compliance Review Y/N: Yes Compliance Initials: HF

Compliance Review Comments: 2 WD short. #5 has no info/description, #9 & #10 left blank, cert# and

training info blank. Received revision NFA 6/28/22 HF

Site ID: 003005AED

Name: CAIRO IDOT SALT STORAGE Address: 12737 PATIERDALE RD

City, State, Zip: CAIRO, IL Notification Type: Not reported Received Date: 06/22/2022 Postmark Date: 06/17/2022 Start Date: Not reported End Date: Not reported Resubmission Date: Not reported Pipe AMT: Not reported SA AMT: Not reported **EDR ID Number**

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

ILLINOIS BELL - CAIRO (Continued)

S110360328

OFC AMT: Not reported Type: Demolition Not reported Fee Amt: Fee Payment Method: Not reported Check # or EPAY code. #: Not reported Not reported Fee Comment: Not reported Additional Property: Asbestos Contractor Name: Not reported Demo Contractor Name: H & N Construction

Asbestos Y/N: No Demo Order Gov Y/N: No Emerg. Reno Y/N: No Compliance Review Y/N: Yes Compliance Initials: HF

Compliance Review Comments: NFA. 06/28/22 HF

W134 **ECONO CLEAN INC Target** 17TH ST WEST **CAIRO, IL 62914 Property**

RCRA NonGen / NLR 1000463258

17TH ST WEST

Private

ILD984817270

Site 1 of 3 in cluster W

Land Type:

Actual: RCRA Listings:

318 ft. Date Form Received by Agency: 20060401

Handler Name: **ECONO CLEAN INC** Focus Map: Handler Address:

Handler City, State, Zip: CAIRO, IL 62914 EPA ID: ILD984817270

ENV COORDINATOR Contact Name: Contact Address: Not reported Contact City, State, Zip: Not reported Contact Telephone: 618-734-3646 Contact Fax: Not reported Contact Email: Not reported Contact Title: Not reported EPA Region: 05

Federal Waste Generator Description: Not a generator, verified

Non-Notifier: Not reported 2005 Biennial Report Cycle: Accessibility: Not reported Active Site Indicator: Not reported State District Owner: Not reported State District: **MARION** Mailing Address: 17TH ST WEST Mailing City, State, Zip: CAIRO, IL 62914

Owner Name: **ECONO CLEAN INC**

Owner Type: Private

ECONO CLEAN INC Operator Name:

Operator Type: Private Short-Term Generator Activity: No Importer Activity: No Mixed Waste Generator: No Transporter Activity: No Transfer Facility Activity: No Recycler Activity with Storage: No Small Quantity On-Site Burner Exemption: No Smelting Melting and Refining Furnace Exemption: No

Map ID MAP FINDINGS Direction

Distance

EDR ID Number Elevation Site **EPA ID Number** Database(s)

ECONO CLEAN INC (Continued)

1000463258

Underground Injection Control: No Off-Site Waste Receipt: No Universal Waste Indicator: No Universal Waste Destination Facility: No Federal Universal Waste: No

Active Site Fed-Reg Treatment Storage and Disposal Facility: Not reported Active Site Converter Treatment storage and Disposal Facility: Not reported Active Site State-Reg Treatment Storage and Disposal Facility: Not reported Active Site State-Reg Handler:

Federal Facility Indicator: Not reported

Hazardous Secondary Material Indicator: NN

Sub-Part K Indicator: Not reported

Commercial TSD Indicator: No

Treatment Storage and Disposal Type: Not reported 2018 GPRA Permit Baseline: Not on the Baseline 2018 GPRA Renewals Baseline: Not on the Baseline Permit Renewals Workload Universe: Not reported Permit Workload Universe: Not reported Permit Progress Universe: Not reported

Post-Closure Workload Universe: Not reported Closure Workload Universe: Not reported

202 GPRA Corrective Action Baseline: No Corrective Action Workload Universe: No Subject to Corrective Action Universe: No Non-TSDFs Where RCRA CA has Been Imposed Universe: No TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: Nο TSDFs Only Subject to CA under Discretionary Auth Universe: Nο

Corrective Action Priority Ranking: No NCAPS ranking

Environmental Control Indicator: No Institutional Control Indicator: No Human Exposure Controls Indicator: N/A Groundwater Controls Indicator: N/A Operating TSDF Universe:

Not reported Full Enforcement Universe: Not reported Significant Non-Complier Universe: No

Unaddressed Significant Non-Complier Universe: No Addressed Significant Non-Complier Universe: No Significant Non-Complier With a Compliance Schedule Universe: No

Financial Assurance Required: Not reported

Handler Date of Last Change: 20150414 Recognized Trader-Importer: Nο Recognized Trader-Exporter: No Importer of Spent Lead Acid Batteries: No Exporter of Spent Lead Acid Batteries: No

Recycler Activity Without Storage: Not reported Manifest Broker: Not reported

Sub-Part P Indicator: No

Biennial: List of Years

Year: 2005

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:

D000 Waste Code: Waste Description: Not Defined Map ID MAP FINDINGS
Direction

Distance Elevation Site

ite Database(s) EPA ID Number

ECONO CLEAN INC (Continued)

1000463258

EDR ID Number

Waste Code:

Waste Description: IGNITABLE WASTE

D001

Waste Code: D002

Waste Description: CORROSIVE WASTE

Waste Code: D003

Waste Description: REACTIVE WASTE

Waste Code: D004
Waste Description: ARSENIC

Waste Code: D005
Waste Description: BARIUM

Waste Code: D006
Waste Description: CADMIUM

Waste Code: D007

Waste Description: CHROMIUM

Waste Code: D008
Waste Description: LEAD

Waste Code: D009
Waste Description: MERCURY

Waste Code: D010
Waste Description: SELENIUM

Waste Code: D011
Waste Description: SILVER

Waste Code: D018
Waste Description: BENZENE

Waste Code: D019

Waste Description: CARBON TETRACHLORIDE

Waste Code: D021

Waste Description: CHLOROBENZENE

Waste Code: D022

Waste Description: CHLOROFORM

Waste Code: D023
Waste Description: O-CRESOL

Waste Code: D024
Waste Description: M-CRESOL

Waste Code: D025
Waste Description: P-CRESOL

Waste Code: D026
Waste Description: CRESOL

Map ID MAP FINDINGS
Direction

Distance EDR ID Number Elevation Site EDR ID Number Database(s) EPA ID Number

ECONO CLEAN INC (Continued)

1000463258

Waste Code: D027

Waste Description: 1,4-DICHLOROBENZENE

Waste Code: D028

Waste Description: 1,2-DICHLOROETHANE

Waste Code: D029

Waste Description: 1,1-DICHLOROETHYLENE

Waste Code: D030

Waste Description: 2,4-DINITROTOLUENE

Waste Code: D032

Waste Description: HEXACHLOROBENZENE

Waste Code: D033

Waste Description: HEXACHLOROBUTADIENE

Waste Code: D034

Waste Description: HEXACHLOROETHANE

Waste Code: D035

Waste Description: METHYL ETHYL KETONE

Waste Code: D036

Waste Description: NITROBENZENE

Waste Code: D038
Waste Description: PYRIDINE

Waste Code: D039

Waste Description: TETRACHLOROETHYLENE

Waste Code: D040

Waste Description: TRICHLORETHYLENE

Waste Code: D041

Waste Description: 2,4,5-TRICHLOROPHENOL

Waste Code: D042

Waste Description: 2,4,6-TRICHLOROPHENOL

Waste Code: F001

Waste Description: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING:

TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED

FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED

IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE

SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste Code: F002

Waste Description: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE,

METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE,

CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE,

ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2,

Direction Distance Elevation

on Site Database(s) EPA ID Number

ECONO CLEAN INC (Continued)

1000463258

EDR ID Number

TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste Code: F003

Waste Description: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL

ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL

ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT

MIXTURES.

Waste Code: F004

Waste Description: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID,

AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND

SPENT SOLVENT MIXTURES.

Waste Code: F005

Waste Description: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL

KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE,

2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF

THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste Code: K001

Waste Description: BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATERS FROM WOOD

PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.

Waste Code: K019

Waste Description: HEAVY ENDS FROM THE DISTILLATION OF ETHYLENE DICHLORIDE IN ETHYLENE

DICHLORIDE PRODUCTION.

Waste Code: K022

Waste Description: DISTILLATION BOTTOM TARS FROM THE PRODUCTION OF PHENOL/ACETONE FROM

CUMENE.

Waste Code: K048

Waste Description: DISSOLVED AIR FLOTATION (DAF) FLOAT FROM THE PETROLEUM REFINING

INDUSTRY.

Waste Code: K049

Waste Description: SLOP OIL EMULSION SOLIDS FROM THE PETROLEUM REFINING INDUSTRY.

Waste Code: K050

Waste Description: HEAT EXCHANGER BUNDLE CLEANING SLUDGE FROM THE PETROLEUM REFINING

Direction Distance

Elevation Site Database(s) EPA ID Number

ECONO CLEAN INC (Continued)

1000463258

EDR ID Number

INDUSTRY.

Waste Code: K052

Waste Description: TANK BOTTOMS (LEADED) FROM THE PETROLEUM REFINING INDUSTRY.

Waste Code: K086

Waste Description: SOLVENT WASHES AND SLUDGES, CAUSTIC WASHES AND SLUDGES, OR WATER

WASHES AND SLUDGES FROM CLEANING TUBS AND EQUIPMENT USED IN THE FORMULATION OF INK FROM PIGMENTS, DRIERS, SOAPS, AND STABILIZERS

CONTAINING CHROMIUM AND LEAD.

Waste Code: K094

Waste Description: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM

ORTHO-XYLENE.

Waste Code: U001

Waste Description: ACETALDEHYDE (I) (OR) ETHANAL (I)

Waste Code: U002

Waste Description: 2-PROPANONE (I) (OR) ACETONE (I)

Waste Code: U003

Waste Description: ACETONITRILE (I,T)

Waste Code: U007

Waste Description: 2-PROPENAMIDE (OR) ACRYLAMIDE

Waste Code: U017

Waste Description: BENZAL CHLORIDE (OR) BENZENE, (DICHLOROMETHYL)-

Waste Code: U019

Waste Description: BENZENE (I,T)

Waste Code: U028

Waste Description: 1,2-BENZENEDICARBOXYLIC ACID, BIS(2-ETHYLHEXYL) ESTER (OR)

DIETHYLHEXYL PHTHALATE

Waste Code: U03

Waste Description: 1-BUTANOL (I) (OR) N-BUTYL ALCOHOL (I)

Waste Code: U037

Waste Description: BENZENE, CHLORO- (OR) CHLOROBENZENE

Waste Code: U041

Waste Description: EPICHLOROHYDRIN (OR) OXIRANE, (CHLOROMETHYL)-

Waste Code: U044

Waste Description: CHLOROFORM (OR) METHANE, TRICHLORO-

Waste Code: U051
Waste Description: CREOSOTE

Waste Code: U052

Waste Description: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

Waste Code: U055

Waste Description: BENZENE, (1-METHYLETHYL)- (I) (OR) CUMENE (I)

Direction Distance

EDR ID Number Elevation **EPA ID Number** Site Database(s)

ECONO CLEAN INC (Continued)

1000463258

Waste Code: U056

Waste Description: BENZENE, HEXAHYDRO- (I) (OR) CYCLOHEXANE (I)

Waste Code:

Waste Description: CYCLOHEXANONE (I)

Waste Code:

Waste Description: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER (OR) DIBUTYL PHTHALATE

Waste Code:

Waste Description: BENZENE, 1,2-DICHLORO- (OR) O-DICHLOROBENZENE

Waste Code:

Waste Description: BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE

Waste Code:

ETHANE, 1,1-DICHLORO- (OR) ETHYLIDENE DICHLORIDE Waste Description:

Waste Code:

Waste Description: ETHANE, 1,2-DICHLORO- (OR) ETHYLENE DICHLORIDE

Waste Code: U080

Waste Description: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

Waste Code:

Waste Description: 1,4-DIETHYLENEOXIDE (OR) 1,4-DIOXANE

Waste Code:

Waste Description: ACETIC ACID, ETHYL ESTER (I) (OR) ETHYL ACETATE (I)

Waste Code:

Waste Description: ETHANE, 1,1'-OXYBIS-(I) (OR) ETHYL ETHER (I)

Waste Code:

Waste Description: METHANE, TRICHLOROFLUORO- (OR) TRICHLOROMONOFLUOROMETHANE

Waste Code: U125

Waste Description: 2-FURANCARBOXALDEHYDE (I) (OR) FURFURAL (I)

Waste Code:

Waste Description: BENZENE, HEXACHLORO- (OR) HEXACHLOROBENZENE

Waste Code:

Waste Description: 1,3-BUTADIENE, 1,1,2,3,4,4-HEXACHLORO- (OR) HEXACHLOROBUTADIENE

Waste Code:

Waste Description: ETHANE, HEXACHLORO- (OR) HEXACHLOROETHANE

Waste Code:

Waste Description: 1-PROPANOL, 2-METHYL- (I,T) (OR) ISOBUTYL ALCOHOL (I,T)

Waste Code:

Waste Description: 2,5-FURANDIONE (OR) MALEIC ANHYDRIDE

Waste Code:

Waste Description: METHANOL (I) (OR) METHYL ALCOHOL (I)

Direction Distance Elevation

stance EDR ID Number evation Site Database(s) EPA ID Number

ECONO CLEAN INC (Continued)

1000463258

Waste Code: U159

Waste Description: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

Waste Code: U16

Waste Description: 4-METHYL-2-PENTANONE (I) (OR) METHYL ISOBUTYL KETONE (I) (OR)

PENTANOL, 4-METHYL-

Waste Code: U162

Waste Description: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T) (OR) METHYL

METHACRYLATE (I,T)

Waste Code: U169

Waste Description: BENZENE, NITRO- (OR) NITROBENZENE (I,T)

Waste Code: U187

Waste Description: ACETAMIDE, N-(4-ETHOXYPHENYL)- (OR) PHENACETIN

Waste Code: U188
Waste Description: PHENOL

Waste Code: U190

Waste Description: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

Waste Code: U196 Waste Description: PYRIDINE

Waste Code: U207

Waste Description: 1,2,4,5-TETRACHLOROBENZENE (OR) BENZENE, 1,2,4,5-TETRACHLORO-

Waste Code: U208

Waste Description: 1,1,1,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,1,2-TETRACHLORO-

Waste Code: U209

Waste Description: 1,1,2,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,2,2-TETRACHLORO-

Waste Code: U210

Waste Description: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

Waste Code: U211

Waste Description: CARBON TETRACHLORIDE (OR) METHANE, TETRACHLORO-

Waste Code: U213

Waste Description: FURAN, TETRAHYDRO-(I) (OR) TETRAHYDROFURAN (I)

Waste Code: U220

Waste Description: BENZENE, METHYL- (OR) TOLUENE

Waste Code: U226

Waste Description: ETHANE, 1,1,1-TRICHLORO- (OR) METHYL CHLOROFORM

Waste Code: U227

Waste Description: 1,1,2-TRICHLOROETHANE (OR) ETHANE, 1,1,2-TRICHLORO-

Waste Code: U228

Waste Description: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

Waste Code: U239

Distance Elevation Site EDR ID Number

Database(s) EPA ID Number

ECONO CLEAN INC (Continued)

1000463258

Waste Description: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

Waste Code: U359

Waste Description: ETHANOL, 2-ETHOXY- (OR) ETHYLENE GLYCOL MONOETHYL ETHER

Handler - Owner Operator:

Owner/Operator Indicator: Operator

Owner/Operator Name: ECONO CLEAN INC

Legal Status: Private Date Became Current: 19000101 Date Ended Current: Not reported Owner/Operator Address: Not reported Owner/Operator City, State, Zip: Not reported Owner/Operator Telephone: Not reported Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner

Owner/Operator Name: ECONO CLEAN INC

Legal Status: Private Date Became Current: Not reported Date Ended Current: Not reported 17TH ST W Owner/Operator Address: CAIRO, IL 62914 Owner/Operator City, State, Zip: Owner/Operator Telephone: 618-734-3646 Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner

Owner/Operator Name: ECONO CLEAN INC

Legal Status: Private Date Became Current: 19930301 Date Ended Current: Not reported 17TH ST WEST Owner/Operator Address: CAIRO, IL 62914 Owner/Operator City, State, Zip: Owner/Operator Telephone: 618-734-3646 Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner

Owner/Operator Name: ECONO CLEAN INC

Legal Status: Private Date Became Current: 19930301 Date Ended Current: Not reported Owner/Operator Address: 17TH ST WEST Owner/Operator City, State, Zip: CAIRO, IL 62914 Owner/Operator Telephone: 618-734-3646 Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported

Not reported

Owner/Operator Indicator: Owner

Owner/Operator Name: ECONO CLEAN INC

Owner/Operator Email:

Legal Status: Private

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

ECONO CLEAN INC (Continued)

1000463258

Date Became Current: 19000101 Date Ended Current: Not reported Owner/Operator Address: Not reported Owner/Operator City, State, Zip: Not reported Owner/Operator Telephone: Not reported Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner

Owner/Operator Name: ECONO CLEAN INC

Legal Status: Private Date Became Current: Not reported Date Ended Current: Not reported 17TH ST W Owner/Operator Address: CAIRO, IL 62914 Owner/Operator City, State, Zip: Owner/Operator Telephone: 618-734-3646 Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 20060401

ECONO CLEAN INC Handler Name:

Federal Waste Generator Description: Not a generator, verified

State District Owner: Not reported

Large Quantity Handler of Universal Waste: No Recognized Trader Importer: No Recognized Trader Exporter: No Spent Lead Acid Battery Importer: No Spent Lead Acid Battery Exporter: No Current Record: Yes

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

20040903 Receive Date:

Handler Name: ECONO CLEAN INC

Federal Waste Generator Description: Not a generator, verified

State District Owner: Not reported

Large Quantity Handler of Universal Waste: No Recognized Trader Importer: No Recognized Trader Exporter: No Spent Lead Acid Battery Importer: No Spent Lead Acid Battery Exporter: No Current Record: Nο

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 19981102

Handler Name: ECONO CLEAN INC

Federal Waste Generator Description: Large Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste: No Recognized Trader Importer: No Recognized Trader Exporter: No Spent Lead Acid Battery Importer: No Spent Lead Acid Battery Exporter: No

Direction Distance Elevation

Site Database(s) EPA ID Number

ECONO CLEAN INC (Continued)

1000463258

EDR ID Number

Current Record: No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 20010226

Handler Name: ECONO CLEAN INC

Federal Waste Generator Description: Large Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste: No Recognized Trader Importer: No Recognized Trader Exporter: No Spent Lead Acid Battery Importer: No Spent Lead Acid Battery Exporter: No Current Record: No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 20010726

Handler Name: ECONO CLEAN INC

Federal Waste Generator Description: Large Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 20011219

Handler Name: ECONO CLEAN INC

Federal Waste Generator Description: Large Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity:

Electronic Manifest Broker:

Not reported

Not reported

Receive Date: 20020301

Handler Name: ECONO CLEAN INC

Federal Waste Generator Description: Large Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 19940301

Direction Distance

Elevation Site Database(s) EPA ID Number

ECONO CLEAN INC (Continued)

1000463258

EDR ID Number

Handler Name: ALLWASTE CONTAINER SVS INC

Federal Waste Generator Description: Large Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste: No Recognized Trader Importer: No Recognized Trader Exporter: No Spent Lead Acid Battery Importer: No Spent Lead Acid Battery Exporter: No Current Record: No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 19960301 Handler Name: ALLWASTE CONTAINER SERVICE INC

Federal Waste Generator Description: Large Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 19980301

Handler Name: ECONO CLEAN INC

Federal Waste Generator Description: Large Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Code: 48821

NAICS Description: SUPPORT ACTIVITIES FOR RAIL TRANSPORTATION

NAICS Code: 81149

NAICS Description: OTHER PERSONAL AND HOUSEHOLD GOODS REPAIR AND MAINTENANCE

Facility Has Received Notices of Violation:

Found Violation: No

Agency Which Determined Violation: Not reported Violation Short Description: Not reported Date Violation was Determined: Not reported Actual Return to Compliance Date: Not reported Return to Compliance Qualifier: Not reported Violation Responsible Agency: Not reported Scheduled Compliance Date: Not reported Enforcement Identifier: Not reported Date of Enforcement Action: Not reported

Distance Elevation Site

Site Database(s) EPA ID Number

ECONO CLEAN INC (Continued)

1000463258

EDR ID Number

Enforcement Responsible Agency: Not reported Not reported **Enforcement Docket Number:** Not reported **Enforcement Attorney:** Not reported Corrective Action Component: Appeal Initiated Date: Not reported Not reported Appeal Resolution Date: Disposition Status Date: Not reported Disposition Status: Not reported Disposition Status Description: Not reported

Consent/Final Order Sequence Number:Not reported

Consent/Final Order Respondent Name: Not reported Consent/Final Order Lead Agency: Not reported

Enforcement Type: Not reported

Enforcement Responsible Person:

Enforcement Responsible Sub-Organization:

Not reported

Not reported

SEP Sequence Number: Not reported

SEP Expenditure Amount: Not reported SEP Scheduled Completion Date: Not reported SEP Actual Date: Not reported SEP Defaulted Date: Not reported SEP Type: Not reported SEP Type Description: Not reported Not reported Proposed Amount: Final Monetary Amount: Not reported Paid Amount: Not reported Final Count: Not reported Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State

Violation Short Description: Generators - General

Date Violation was Determined: 20040427 Actual Return to Compliance Date: 20041007 Return to Compliance Qualifier: Not Resolved Violation Responsible Agency: State Scheduled Compliance Date: Not reported Enforcement Identifier: DV1 Date of Enforcement Action: 20040427 Enforcement Responsible Agency: State **Enforcement Docket Number:** Not reported Not reported **Enforcement Attorney:**

Corrective Action Component: No

Appeal Initiated Date:

Appeal Resolution Date:

Disposition Status Date:

Disposition Status:

Not reported

Consent/Final Order Sequence Number:Not reported

Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VIOLATION NOTICE (VN)
Enforcement Responsible Person: HAW
Enforcement Responsible Sub-Organization: R7

SEP Sequence Number: Not reported

SEP Expenditure Amount:

SEP Scheduled Completion Date:

Not reported

Not reported

Not reported

Not reported

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

ECONO CLEAN INC (Continued)

1000463258

SEP Defaulted Date: Not reported Not reported SEP Type: SEP Type Description: Not reported Proposed Amount: Not reported Final Monetary Amount: Not reported Paid Amount: Not reported Final Count: Not reported Final Amount: Not reported

Evaluation Action Summary:

Evaluation Date: 20000111 Evaluation Responsible Agency: State Found Violation: No

COMPLIANCE EVALUATION INSPECTION ON-SITE **Evaluation Type Description:**

Evaluation Responsible Person Identifier: **ILSW** Evaluation Responsible Sub-Organization:

Actual Return to Compliance Date: Not reported Scheduled Compliance Date: Not reported Date of Request: Not reported Date Response Received: Not reported Request Agency: Not reported Former Citation: Not reported

Evaluation Date: 20040427 Evaluation Responsible Agency: State Found Violation: Yes

Evaluation Type Description: NON-FINANCIAL RECORD REVIEW

Evaluation Responsible Person Identifier: HAW Evaluation Responsible Sub-Organization: R7 20041007 Actual Return to Compliance Date: Scheduled Compliance Date: Not reported Date of Request: Not reported Date Response Received: Not reported Request Agency: Not reported Former Citation: Not reported

ILLINOIS POWER CO CAIRO GMS RCRA NonGen / NLR 1000258163 **WASHINGTON AVE AND 1ST ST** ILD982614224

Property CAIRO, IL 62914

W135

Target

Site 2 of 3 in cluster W

Actual: **RCRA Listings:**

318 ft. Date Form Received by Agency: 20081001 ILLINOIS POWER CO CAIRO GMS Handler Name: Focus Map:

Handler Address: WASHINGTON AVE AND 1ST ST

> Handler City, State, Zip: CAIRO, IL 62914 EPA ID: ILD982614224 Contact Name: WARREN M MUELLER Contact Address: 1901 CHOUTEAU AVE **ST LOUIS, MO 63103**

Contact City, State, Zip: Contact Telephone: 314-554-3063 Contact Fax: Not reported Contact Email: Not reported Contact Title: Not reported

05 EPA Region:

MAP FINDINGS Map ID Direction

EDR ID Number Distance Elevation Site Database(s) **EPA ID Number**

ILLINOIS POWER CO CAIRO GMS (Continued)

Federal Universal Waste:

Closure Workload Universe:

1000258163

Land Type: Private

Federal Waste Generator Description: Not a generator, verified

Non-Notifier: Not reported Biennial Report Cycle: Not reported Accessibility: Not reported Active Site Indicator: Not reported Not reported State District Owner: State District: **MARION** Mailing Address: 500 S 27TH ST Mailing City, State, Zip: DECATUR, IL 62525

ILLINOIS POWER CO Owner Name:

Owner Type: Private

NAME NOT REPORTED Operator Name:

Operator Type: Municipal Short-Term Generator Activity: No Importer Activity: No Mixed Waste Generator: Nο Transporter Activity: No Transfer Facility Activity: No Recycler Activity with Storage: No Small Quantity On-Site Burner Exemption: No Smelting Melting and Refining Furnace Exemption: No **Underground Injection Control:** No Off-Site Waste Receipt: No Universal Waste Indicator: No Universal Waste Destination Facility: Nο

Active Site Fed-Reg Treatment Storage and Disposal Facility: Not reported Active Site Converter Treatment storage and Disposal Facility: Not reported Active Site State-Reg Treatment Storage and Disposal Facility: Not reported

Nο

Not reported

Active Site State-Reg Handler:

Federal Facility Indicator: Not reported

Hazardous Secondary Material Indicator: NN

Sub-Part K Indicator: Not reported

Commercial TSD Indicator: No

Treatment Storage and Disposal Type: Not reported 2018 GPRA Permit Baseline: Not on the Baseline 2018 GPRA Renewals Baseline: Not on the Baseline Permit Renewals Workload Universe: Not reported Permit Workload Universe: Not reported Permit Progress Universe: Not reported Post-Closure Workload Universe: Not reported

202 GPRA Corrective Action Baseline: No Corrective Action Workload Universe: No Subject to Corrective Action Universe: No Non-TSDFs Where RCRA CA has Been Imposed Universe: No TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: No TSDFs Only Subject to CA under Discretionary Auth Universe: No

Corrective Action Priority Ranking: No NCAPS ranking

Environmental Control Indicator: No Institutional Control Indicator: No Human Exposure Controls Indicator: N/A Groundwater Controls Indicator: N/A Operating TSDF Universe: Not reported Not reported Full Enforcement Universe: Significant Non-Complier Universe:

Direction Distance

Elevation Site Database(s) EPA ID Number

ILLINOIS POWER CO CAIRO GMS (Continued)

1000258163

EDR ID Number

Unaddressed Significant Non-Complier Universe: No Addressed Significant Non-Complier Universe: No Significant Non-Complier With a Compliance Schedule Universe: No Financial Assurance Required: Not reported

Handler Date of Last Change:

Recognized Trader-Importer:

No
Recognized Trader-Exporter:

No
Importer of Spent Lead Acid Batteries:

No
Exporter of Spent Lead Acid Batteries:

No

Recycler Activity Without Storage:

Manifest Broker:

Not reported

Not reported

Sub-Part P Indicator: No

Hazardous Waste Summary:

Waste Code: D000
Waste Description: Not Defined

Waste Code: D008
Waste Description: LEAD

Handler - Owner Operator:

Owner/Operator Indicator: Owner

Owner/Operator Name: ILLINOIS POWER CO

Legal Status: Private Date Became Current: Not reported Date Ended Current: Not reported Owner/Operator Address: 500 S 27TH ST Owner/Operator City, State, Zip: DECATUR, IL 62525 Owner/Operator Telephone: 217-424-7087 Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner

Owner/Operator Name: ILLINOIS POWER CO

Legal Status: Private Date Became Current: Not reported Date Ended Current: Not reported Owner/Operator Address: 500 S 27TH ST Owner/Operator City, State, Zip: DECATUR, IL 62525 Owner/Operator Telephone: 217-424-7087 Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator

Owner/Operator Name: NAME NOT REPORTED

Legal Status: Municipal
Date Became Current: Not reported
Date Ended Current: Not reported

Owner/Operator Address: ADDRESS NOT REPORTED
Owner/Operator City,State,Zip: CITY NOT REPORTED, AK 99998

Owner/Operator Telephone: 312-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported

Direction Distance Elevation

Site Database(s) EPA ID Number

ILLINOIS POWER CO CAIRO GMS (Continued)

1000258163

EDR ID Number

Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator

Owner/Operator Name: NAME NOT REPORTED

Legal Status:MunicipalDate Became Current:Not reportedDate Ended Current:Not reported

Owner/Operator Address: ADDRESS NOT REPORTED
Owner/Operator City,State,Zip: CITY NOT REPORTED, AK 99998

Owner/Operator Telephone: 312-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator

Owner/Operator Name: NAME NOT REPORTED

Legal Status: Municipal
Date Became Current: Not reported
Date Ended Current: Not reported

Owner/Operator Address: ADDRESS NOT REPORTED
Owner/Operator City, State, Zip: CITY NOT REPORTED, AK 99998

Owner/Operator Telephone: 312-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner

Owner/Operator Name: ILLINOIS POWER CO

Legal Status: Private Date Became Current: Not reported Date Ended Current: Not reported Owner/Operator Address: 500 S 27TH ST Owner/Operator City, State, Zip: DECATUR, IL 62525 217-424-7087 Owner/Operator Telephone: Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator

Owner/Operator Name: NAME NOT REPORTED

Legal Status: Municipal
Date Became Current: Not reported
Date Ended Current: Not reported

Owner/Operator Address: ADDRESS NOT REPORTED
Owner/Operator City,State,Zip: CITY NOT REPORTED, AK 99998

 Owner/Operator Telephone:
 312-555-1212

 Owner/Operator Telephone Ext:
 Not reported

 Owner/Operator Fax:
 Not reported

 Owner/Operator Email:
 Not reported

Owner/Operator Indicator: Owner

Owner/Operator Name: ILLINOIS POWER CO

Legal Status: Private

Date Became Current: Not reported

Date Ended Current: Not reported

Owner/Operator Address: 500 S 27TH ST

Owner/Operator City, State, Zip: DECATUR, IL 62525

Direction Distance

Elevation Site Database(s) EPA ID Number

ILLINOIS POWER CO CAIRO GMS (Continued)

1000258163

EDR ID Number

Owner/Operator Telephone: 217-424-7087
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 20080422 Handler Name: ILLINOIS POWER CO CAIRO GMS

Federal Waste Generator Description: Not a generator, verified

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 20081001 Handler Name: ILLINOIS POWER CO CAIRO GMS

Federal Waste Generator Description: Not a generator, verified

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

Yes

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 19881128 Handler Name: ILLINOIS POWER CO CAIRO GMS

Federal Waste Generator Description: Small Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 20040105 Handler Name: ILLINOIS POWER CO CAIRO GMS

Federal Waste Generator Description: Small Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste: No Recognized Trader Importer: No Recognized Trader Exporter: No Spent Lead Acid Battery Importer: No Spent Lead Acid Battery Exporter: No Current Record: No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Direction Distance Elevation

Site Database(s) EPA ID Number

ILLINOIS POWER CO CAIRO GMS (Continued)

1000258163

EDR ID Number

Receive Date: 19920301

Handler Name: IP TOWN GAS SITE

Federal Waste Generator Description: Large Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 20000301 Handler Name: ILLINOIS POWER CO-CAIRO GMS

Federal Waste Generator Description: Not a generator, verified

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Code: 2212

NAICS Description: NATURAL GAS DISTRIBUTION

Facility Has Received Notices of Violation:

Found Violation: No Agency Which Determined Violation: Not reported Not reported Violation Short Description: Date Violation was Determined: Not reported Actual Return to Compliance Date: Not reported Return to Compliance Qualifier: Not reported Violation Responsible Agency: Not reported Scheduled Compliance Date: Not reported Enforcement Identifier: Not reported Date of Enforcement Action: Not reported Enforcement Responsible Agency: Not reported Not reported **Enforcement Docket Number:** Not reported **Enforcement Attorney:** Corrective Action Component: Not reported Appeal Initiated Date: Not reported Appeal Resolution Date: Not reported Disposition Status Date: Not reported Disposition Status: Not reported

Consent/Final Order Sequence Number:Not reported

Disposition Status Description:

Consent/Final Order Respondent Name: Not reported Consent/Final Order Lead Agency: Not reported

Not reported

Enforcement Type: Not reported

Enforcement Responsible Person: Not reported Enforcement Responsible Sub-Organization: Not reported

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

ILLINOIS POWER CO CAIRO GMS (Continued)

1000258163

SEP Sequence Number: Not reported

SEP Expenditure Amount: Not reported SEP Scheduled Completion Date: Not reported SEP Actual Date: Not reported SEP Defaulted Date: Not reported SEP Type: Not reported SEP Type Description: Not reported Proposed Amount: Not reported Final Monetary Amount: Not reported Paid Amount: Not reported Final Count: Not reported Final Amount: Not reported

Evaluation Action Summary:

20080422 **Evaluation Date:** Evaluation Responsible Agency: State Found Violation:

Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE

Evaluation Responsible Person Identifier: SRW Evaluation Responsible Sub-Organization: F7

Actual Return to Compliance Date: Not reported Not reported Scheduled Compliance Date: Date of Request: Not reported Date Response Received: Not reported Request Agency: Not reported Former Citation: Not reported

W136 FT DEFIANCE STATE PARK RCRA NonGen / NLR 1000907237

IL0000488593

Property CAIRO, IL 62914

US RTE 51

Target

Site 3 of 3 in cluster W

Actual: RCRA Listings:

318 ft. Date Form Received by Agency: 20110725

FT DEFIANCE STATE PARK Handler Name: Focus Map:

Handler Address: US RTE 51

Handler City, State, Zip: CAIRO, IL 62914 EPA ID: IL0000488593 Contact Name: RICH KICKY Contact Address: 524 S 2ND ST

SPRINGFIELD, IL 62706 Contact City, State, Zip:

Contact Telephone: 217-782-2605 Contact Fax: Not reported Contact Email: Not reported Contact Title: Not reported EPA Region: 05

Land Type: State

Federal Waste Generator Description: Not a generator, verified

Non-Notifier: Not reported Biennial Report Cycle: Not reported Accessibility: Not reported Active Site Indicator: Not reported State District Owner: Not reported State District: **MARION** Mailing Address: 524 S 2ND ST

MAP FINDINGS Map ID Direction

EDR ID Number Distance Elevation Site **EPA ID Number** Database(s)

FT DEFIANCE STATE PARK (Continued)

1000907237

Mailing City, State, Zip: SPRINGFIELD, IL 62706

ILLINOIS DEPT OF CONSERVATION Owner Name: Owner Type: State

Operator Name: Not reported

Operator Type: Not reported

Short-Term Generator Activity: No Importer Activity: No Mixed Waste Generator: No Transporter Activity: No Transfer Facility Activity: No Recycler Activity with Storage: Nο Small Quantity On-Site Burner Exemption: No Smelting Melting and Refining Furnace Exemption: No **Underground Injection Control:** No Off-Site Waste Receipt: No Universal Waste Indicator: No Universal Waste Destination Facility: Nο Federal Universal Waste: No

Active Site Fed-Reg Treatment Storage and Disposal Facility: Not reported Active Site Converter Treatment storage and Disposal Facility: Not reported Active Site State-Reg Treatment Storage and Disposal Facility: Not reported

Active Site State-Reg Handler:

Federal Facility Indicator: Not reported Hazardous Secondary Material Indicator: NN Sub-Part K Indicator: Not reported

Commercial TSD Indicator: No Treatment Storage and Disposal Type: Not reported 2018 GPRA Permit Baseline: Not on the Baseline 2018 GPRA Renewals Baseline: Not on the Baseline Permit Renewals Workload Universe: Not reported Permit Workload Universe: Not reported Permit Progress Universe: Not reported Post-Closure Workload Universe: Not reported

Closure Workload Universe: Not reported 202 GPRA Corrective Action Baseline: No Corrective Action Workload Universe: No Subject to Corrective Action Universe: No

Non-TSDFs Where RCRA CA has Been Imposed Universe: No TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: No

TSDFs Only Subject to CA under Discretionary Auth Universe: No

Corrective Action Priority Ranking: No NCAPS ranking

Environmental Control Indicator: No Institutional Control Indicator: No Human Exposure Controls Indicator: N/A Groundwater Controls Indicator: N/A

Operating TSDF Universe: Not reported Full Enforcement Universe: Not reported

Significant Non-Complier Universe: No Unaddressed Significant Non-Complier Universe: No Addressed Significant Non-Complier Universe: No Significant Non-Complier With a Compliance Schedule Universe: No Financial Assurance Required: Not reported

20110802 Handler Date of Last Change: Recognized Trader-Importer: No Recognized Trader-Exporter: No Importer of Spent Lead Acid Batteries: No

Exporter of Spent Lead Acid Batteries: No

Direction Distance

Elevation Site Database(s) EPA ID Number

FT DEFIANCE STATE PARK (Continued)

1000907237

EDR ID Number

Recycler Activity Without Storage:

Manifest Broker:

Not reported

Not reported

Sub-Part P Indicator: No

Hazardous Waste Summary:

Waste Code: D001

Waste Description: IGNITABLE WASTE

Handler - Owner Operator:

Owner/Operator Indicator:
Owner/Operator Name: ILLINOIS DEPT OF CONSERVATION
Legal Status:
State
Date Became Current:
Not reported
Date Ended Current:
Owner/Operator Address:

Source
Owner/Operator Address:
Owner/Operator Indicator:
Owner

Owner/Operator City, State, Zip: SPRINGFIELD, IL 62706

Owner/Operator Telephone: 217-782-2605
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator:
Owner/Operator Name: ILLINOIS DEPT OF CONSERVATION
Legal Status:
Date Became Current:
Not reported
Date Ended Current:
Owner/Operator Address:

Owner
Owner

Owner/Operator City, State, Zip: SPRINGFIELD, IL 62706

Owner/Operator Telephone: 217-782-2605
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 20110725

Handler Name: FT DEFIANCE STATE PARK

Federal Waste Generator Description: Not a generator, verified

State District Owner: Not reported

Large Quantity Handler of Universal Waste: No Recognized Trader Importer: No Recognized Trader Exporter: No Spent Lead Acid Battery Importer: No Spent Lead Acid Battery Exporter: Nο Current Record: Yes Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 19940728

Handler Name: FT DEFIANCE STATE PARK

Federal Waste Generator Description: Small Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No

Distance Elevation

ion Site Database(s) EPA ID Number

FT DEFIANCE STATE PARK (Continued)

1000907237

EDR ID Number

Spent Lead Acid Battery Exporter: No Current Record: No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violation:

Found Violation: No

Agency Which Determined Violation: Not reported Violation Short Description: Not reported Date Violation was Determined: Not reported Actual Return to Compliance Date: Not reported Return to Compliance Qualifier: Not reported Violation Responsible Agency: Not reported Scheduled Compliance Date: Not reported Enforcement Identifier: Not reported Date of Enforcement Action: Not reported Enforcement Responsible Agency: Not reported **Enforcement Docket Number:** Not reported Not reported **Enforcement Attorney:** Corrective Action Component: Not reported Not reported Appeal Initiated Date: Not reported Appeal Resolution Date: Disposition Status Date: Not reported **Disposition Status:** Not reported Disposition Status Description: Not reported

Consent/Final Order Sequence Number:Not reported

Consent/Final Order Respondent Name: Not reported Consent/Final Order Lead Agency: Not reported

Enforcement Type: Not reported

Enforcement Responsible Person: Not reported Enforcement Responsible Sub-Organization: Not reported

SEP Sequence Number: Not reported

SEP Expenditure Amount: Not reported SEP Scheduled Completion Date: Not reported Not reported SEP Actual Date: SEP Defaulted Date: Not reported SEP Type: Not reported SEP Type Description: Not reported Proposed Amount: Not reported Not reported Final Monetary Amount: Not reported Paid Amount: Final Count: Not reported Final Amount: Not reported

Evaluation Action Summary:

Evaluation Date: 20110725
Evaluation Responsible Agency: State
Found Violation: No

Evaluation Type Description: NON-FINANCIAL RECORD REVIEW

Evaluation Responsible Person Identifier: SRW Evaluation Responsible Sub-Organization: F7

Actual Return to Compliance Date: Not reported Scheduled Compliance Date: Not reported

Direction Distance

Elevation Site Database(s) EPA ID Number

FT DEFIANCE STATE PARK (Continued)

1000907237

EDR ID Number

Date of Request:

Date Response Received:

Request Agency:

Former Citation:

Not reported

Not reported

Not reported

Not reported

 X137
 OHIO RIVER CO
 FINDS
 1005636532

 Target
 RIVER MILE 5.5
 ECHO
 N/A

 Property
 CAIRO, IL 62914
 IL AIRS

Site 1 of 3 in cluster X

Actual: FINDS:

309 ft. Registry ID: 110007279426

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

ACES (Illinois - Agency Compliance And Enforcement System) is the Illinois EPA Project to facilitate the permitting operations

AIR MINOR

<u>Click this hyperlink</u> while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1005636532 Registry ID: 110007279426

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110007279426

Name: OHIO RIVER CO
Address: RIVER MILE 5.5
City, State, Zip: CAIRO, IL 62914

AIRS:

Name: OHIO RIVER CO Address: **RIVER MILE 5.5** City, State, Zip: CAIRO, IL 2nd Address: Not reported Facility ID: 75 Year: Not reported Contact Name: Not reported Contact Title: Not reported Contact Telephone: Not reported Not reported Contact Fax: Contact Ext: Not reported Contact Email: Not reported 003005AAR ID Number:

Direction Distance

Elevation Site Database(s) EPA ID Number

OHIO RIVER CO (Continued) 1005636532

Cease Operation Date: 1/1/1901 SIC Code: Not reported NAICS: Not reported Type Code: LOC Permit: Not reported Not reported Type: Not reported Status: Status Date: Not reported **Expiration Date:** Not reported Latitude: Not reported Longitude: Not reported

 X138
 PHILLIPS PETROLEUM COMPANY
 FINDS
 1005636531

 Target
 HOLBROOK & MO. PAC R/R
 ECHO
 N/A

 Property
 CAIRO, IL 62914
 IL AIRS

Site 2 of 3 in cluster X

Actual: FINDS:

309 ft. Registry ID: 110002070302

Focus Map:

7 Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V

of the Clean Air Act.

ACES (Illinois - Agency Compliance And Enforcement System) is the Illinois EPA Project to facilitate the permitting operations

AIR MINOR

<u>Click this hyperlink</u> while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1005636531 Registry ID: 110002070302

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002070302

Name: PHILLIPS PETROLEUM COMPANY
Address: HOLBROOK & MO. PAC R/R

City, State, Zip: CAIRO, IL 62914

AIRS:

Name: PHILLIPS PETROLEUM CO
Address: HOLBROOK & MO. PAC R/R

City,State,Zip: CAIRO, IL
2nd Address: Not reported
Facility ID: 72

Year: Not reported Contact Name: Not reported

EDR ID Number

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

PHILLIPS PETROLEUM COMPANY (Continued)

1005636531

IL AIRS \$107740477

N/A

Contact Title: Not reported Contact Telephone: Not reported Contact Fax: Not reported Contact Ext: Not reported Contact Email: Not reported 003005AAM ID Number: 10/23/1992 Cease Operation Date: SIC Code: 5171 NAICS: Not reported Type Code: LOC Permit: Not reported Not reported Type: Not reported Status: Status Date: Not reported **Expiration Date:** Not reported Latitude: Not reported Longitude: Not reported

2006

X139 **CAIRO DRY KILNS INC** HWY 51, 2 MILES N OF CAIRO **Target**

Year:

Property CAIRO, IL

Site 3 of 3 in cluster X

AIRS: Actual: 309 ft. Name: CAIRO DRY KILNS INC

Address: HWY 51, 2 MILES N OF CAIRO Focus Map:

City, State, Zip: CAIRO, IL Not reported 2nd Address: Facility ID: 78

Contact Name: Terry W Farrow Contact Title: Not reported Contact Telephone: 618-734-1039 618-734-1053 Contact Fax: Contact Ext: Not reported Contact Email: fcc1@midwest.net 003802AAB ID Number: Cease Operation Date: Not reported SIC Code: 5031 NAICS: Not reported Type Code: LOC Permit: Not reported Not reported

Type: Not reported Status: Status Date: Not reported Not reported **Expiration Date:** 37.039100 Latitude: -89.208500 Longitude:

Detail:

003802AAB ID Number:

Tons Per Year: 0.467500000000000003

Year: 2014 Pollutant Code: CO

ID Number: 003802AAB

Tons Per Year: 69.712500000000006

Direction Distance Elevation

vation Site Database(s) EPA ID Number

CAIRO DRY KILNS INC (Continued)

S107740477

EDR ID Number

Year: 2014 Pollutant Code: CO2

ID Number:003802AABTons Per Year:0.006875Year:Not reportedPollutant Code:METHANE

ID Number: 003802AAB

Tons Per Year: 4.1250000000000002E-3

Year: Not reported

Pollutant Code: N2O

ID Number: 003802AAB

Tons Per Year: 0
Year: 2014
Pollutant Code: NOX

ID Number: 003802AAB

Tons Per Year: 0
Year: 2014
Pollutant Code: PART

ID Number: 003802AAB

 Tons Per Year:
 0

 Year:
 2014

 Pollutant Code:
 PM10

ID Number: 003802AAB

 Tons Per Year:
 0

 Year:
 2014

 Pollutant Code:
 PM2_5

ID Number: 003802AAB

Tons Per Year: 0
Year: 2014
Pollutant Code: SO2

ID Number: 003802AAB

 Tons Per Year:
 0

 Year:
 2015

 Pollutant Code:
 N2O

ID Number: 003802AAB

Tons Per Year: 0
Year: 2015
Pollutant Code: LEAD

ID Number: 003802AAB

Tons Per Year: 0
Year: 2015
Pollutant Code: METHANE

ID Number: 003802AAB

Tons Per Year: 2.5019999999999998

Year: 2010 Pollutant Code: PM2_5

Direction Distance Elevation

vation Site Database(s) EPA ID Number

CAIRO DRY KILNS INC (Continued)

S107740477

EDR ID Number

ID Number: 003802AAB

Tons Per Year: 2.501999999999998

Year: 2008 Pollutant Code: PM2_5

ID Number: 003802AAB

Year: 2010 Pollutant Code: CO2

ID Number: 003802AAB

Tons Per Year: 3.330000000000001

Year: 2009 Pollutant Code: PART

ID Number: 003802AAB

Tons Per Year: 0.479999999999999

Year: 2008 Pollutant Code: NOX

ID Number: 003802AAB

Tons Per Year: 0.479999999999999

Year: 2010 Pollutant Code: CO

ID Number: 003802AAB

Tons Per Year: 0.4799999999999999

Year: 2008 Pollutant Code: CO

ID Number: 003802AAB

Tons Per Year: 2.495099999999999

Year: 2009 Pollutant Code: CO2

ID Number: 003802AAB

Tons Per Year: 0.479999999999999

Year: 2010 Pollutant Code: NOX

ID Number: 003802AAB

Tons Per Year: 3.330000000000001

Year: 2008 Pollutant Code: PART

ID Number: 003802AAB

Tons Per Year: 3
Year: 2010
Pollutant Code: PM10

ID Number: 003802AAB

 Tons Per Year:
 3

 Year:
 2009

 Pollutant Code:
 PM10

ID Number: 003802AAB

Tons Per Year: 8.99999999999997E-2

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

CAIRO DRY KILNS INC (Continued)

S107740477

Year: 2010 Pollutant Code: N2O

ID Number: 003802AAB

8.9999999999997E-2 Tons Per Year:

Year: 2009 Pollutant Code: N2O

ID Number: 003802AAB

Tons Per Year: 0.1499999999999999

2008 Year: Pollutant Code: **METHANE**

ID Number: 003802AAB

Tons Per Year: 2.501999999999998

2009 Year: Pollutant Code: PM2_5

ID Number: 003802AAB

Tons Per Year: 3 Year: 2008 Pollutant Code: PM10

ID Number: 003802AAB

Tons Per Year: 0.1499999999999999

Year: 2010 Pollutant Code: **METHANE**

003802AAB ID Number:

Tons Per Year: 0.1499999999999999

2009 Year: Pollutant Code: **METHANE**

ID Number: 003802AAB

8.9999999999997E-2 Tons Per Year:

2008 Year: Pollutant Code: N2O

003802AAB ID Number:

0.479999999999998 Tons Per Year:

Year: 2009 Pollutant Code: CO

ID Number: 003802AAB

Tons Per Year: 2.4950000000000001

2008 Year: Pollutant Code: CO₂

ID Number: 003802AAB

Tons Per Year: 0.479999999999998

2009 Year: Pollutant Code: NOX

ID Number: 003802AAB

3.3300000000000001 Tons Per Year:

Year: 2010 Pollutant Code: **PART**

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

CAIRO DRY KILNS INC (Continued)

S107740477

ID Number: 003802AAB

0.4799999999999998 Tons Per Year:

2012 Year: Pollutant Code: NOX

ID Number: 003802AAB

Tons Per Year: 2.495099999999999

Year: 2012 Pollutant Code: PART

003802AAB ID Number: Tons Per Year: 2.29 2012 Year: Pollutant Code: PM10

ID Number: 003802AAB

Tons Per Year: 1.5800000000000001

Year: 2012 Pollutant Code: PM2_5

ID Number: 003802AAB Tons Per Year: 0.01 Year: 2012 Pollutant Code: N2O

003802AAB ID Number:

Tons Per Year: 1.0999999999999E-2

Year: 2012 Pollutant Code: **METHANE**

ID Number: 003802AAB Tons Per Year: CF4 Year: 2014 Pollutant Code: CF4

ID Number: 003802AAB Tons Per Year: COG Year: 2014 Pollutant Code: COG

003802AAB ID Number:

Tons Per Year: 2.1999999999999E-2

Year: 2014 Pollutant Code: NOX

ID Number: 003802AAB

Tons Per Year: 0.18124999999999999

Year: 2014 Pollutant Code: PART

003802AAB ID Number:

Tons Per Year: 0.16612499999999999

2014 Year: Pollutant Code: PM10

ID Number: 003802AAB Tons Per Year: 0.114675

Direction Distance Elevation

tion Site Database(s) EPA ID Number

CAIRO DRY KILNS INC (Continued)

S107740477

EDR ID Number

Year: 2014 Pollutant Code: PM2_5

ID Number: 003802AAB

Tons Per Year: 8.93799999999998E-3

Year: 2014 Pollutant Code: SO2

ID Number: 003802AAB

Tons Per Year: 69.712500000000006

Year: Not reported

Pollutant Code: CO2

ID Number: 003802AAB

Year: Not reported

Pollutant Code: CO

ID Number: 003802AAB

Tons Per Year: 0
Year: 2014
Pollutant Code: N2O

ID Number: 003802AAB

Tons Per Year: 0
Year: 2014
Pollutant Code: METHANE

 ID Number:
 003802AAB

 Tons Per Year:
 2.4951

 Year:
 2014

 Pollutant Code:
 CO2

 ID Number:
 003802AAB

 Tons Per Year:
 0.48

 Year:
 2014

 Pollutant Code:
 CO

 ID Number:
 003802AAB

 Tons Per Year:
 0.006875

 Year:
 2014

 Pollutant Code:
 METHANE

ID Number: 003802AAB

Tons Per Year: 4.125000000000002E-3

Year: 2014 Pollutant Code: N2O

ID Number: 003802AAB

Tons Per Year: 2.1999999999999992-2

Year: Not reported Pollutant Code: NOX

ID Number: 003802AAB

Tons Per Year: 0.1812499999999999

Year: Not reported Pollutant Code: PART

Direction
Distance
Elevation

tion Site Database(s) EPA ID Number

CAIRO DRY KILNS INC (Continued)

S107740477

EDR ID Number

ID Number: 003802AAB

Tons Per Year: 0.1661249999999999

Year: Not reported Pollutant Code: PM10

 ID Number:
 003802AAB

 Tons Per Year:
 0.114675

 Year:
 Not reported

 Pollutant Code:
 PM2_5

 ID Number:
 003802AAB

 Tons Per Year:
 0.022

 Year:
 2015

 Pollutant Code:
 NOX

 ID Number:
 003802AAB

 Tons Per Year:
 0.18

 Year:
 2015

 Pollutant Code:
 PART

 ID Number:
 003802AAB

 Tons Per Year:
 0.166

 Year:
 2015

 Pollutant Code:
 PM10

 ID Number:
 003802AAB

 Tons Per Year:
 0.115

 Year:
 2015

 Pollutant Code:
 PM2_5

 ID Number:
 003802AAB

 Tons Per Year:
 0.009

 Year:
 2015

 Pollutant Code:
 SO2

ID Number: 003802AAB

Tons Per Year: 2.50199999999999

Year: 2009 Pollutant Code: PM2_5

ID Number: 003802AAB

Tons Per Year: 2.5019999999999998

Year: 2008 Pollutant Code: PM2_5

ID Number: 003802AAB

Tons Per Year: 3.330000000000001

Year: 2009 Pollutant Code: PART

ID Number: 003802AAB

 Tons Per Year:
 3

 Year:
 2008

 Pollutant Code:
 PM10

ID Number: 003802AAB

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

CAIRO DRY KILNS INC (Continued)

S107740477

Year: 2008 Pollutant Code: NOX

ID Number: 003802AAB

Tons Per Year: 2009 Year: PM10 Pollutant Code:

ID Number: 003802AAB

Tons Per Year: 8.9999999999997E-2

2009 Year: Pollutant Code: N2O

ID Number: 003802AAB

Tons Per Year: 0.1499999999999999

Year: 2008 Pollutant Code: **METHANE**

ID Number: 003802AAB

0.4799999999999998 Tons Per Year:

Year: 2009 Pollutant Code: NOX

ID Number: 003802AAB

Tons Per Year: 0.479999999999998

Year: 2008 Pollutant Code: CO

003802AAB ID Number:

Tons Per Year: 0.1499999999999999

2009 Year: Pollutant Code: **METHANE**

ID Number: 003802AAB

0.479999999999998 Tons Per Year:

2009 Year: Pollutant Code: CO

003802AAB ID Number:

2.495099999999999 Tons Per Year:

2009 Year: Pollutant Code: CO₂

003802AAB ID Number:

Tons Per Year: 2.4950000000000001

2008 Year: Pollutant Code: CO₂

ID Number: 003802AAB

Tons Per Year: 3.3300000000000001

Year: 2008 Pollutant Code: **PART**

ID Number: 003802AAB

8.9999999999997E-2 Tons Per Year:

Year: 2008 Pollutant Code: N2O

Map ID MAP FINDINGS Direction

Elevation Site

Distance

Site Database(s) EPA ID Number

CAIRO DRY KILNS INC (Continued)

S107740477

EDR ID Number

ID Number: 003802AAB

Year: 2012 Pollutant Code: CO

 ID Number:
 003802AAB

 Tons Per Year:
 576

 Year:
 2012

 Pollutant Code:
 CO2

ID Number: 003802AAB
Tons Per Year: CF4
Year: 2014
Pollutant Code: CF4

 ID Number:
 003802AAB

 Tons Per Year:
 COG

 Year:
 2014

 Pollutant Code:
 COG

ID Number: 003802AAB
Tons Per Year: CF4
Year: Not reported

Pollutont Code: CF4

Pollutant Code: CF4

ID Number: 003802AAB
Tons Per Year: COG
Year: Not reported
Pollutant Code: COG

 ID Number:
 003802AAB

 Tons Per Year:
 CF4

 Year:
 2015

 Pollutant Code:
 CF4

 ID Number:
 003802AAB

 Tons Per Year:
 COG

 Year:
 2015

 Pollutant Code:
 COG

 ID Number:
 003802AAB

 Tons Per Year:
 2.4951

 Year:
 2015

 Pollutant Code:
 CO2

 ID Number:
 003802AAB

 Tons Per Year:
 0.48

 Year:
 2015

 Pollutant Code:
 CO

Direction Distance

Elevation Site Database(s) **EPA ID Number**

Y140 ILLINOIS CENTRAL RAILROAD CORP **FINDS** 1005569583 **ECHO** N/A

Target JCT. ROUTE 3 & HWY. 51

CAIRO, IL 62914 **Property**

Site 1 of 2 in cluster Y

Actual: FINDS:

301 ft. Registry ID: 110010005378

Focus Map:

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

ACES (Illinois - Agency Compliance And Enforcement System) is the

Illinois EPA Project to facilitate the permitting operations

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the

discharge does not adversely affect water quality.

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1005569583 Registry ID: 110010005378

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110010005378

Name: ILLINOIS CENTRAL RAILROAD CORP

Address: JCT. ROUTE 3 & HWY. 51

CAIRO, IL 62914 City, State, Zip:

Y141 **VEACH SERVICE** IL UST U001132542 **HWY 3 & 51 Target** N/A

VEACH SERVICE

HWY 3 & 51

CAIRO, IL 62995 Property

Site 2 of 2 in cluster Y

UST: Actual: 300 ft. Name:

Address: Focus Map: City:

CAIRO Zip: 62995 Facility ID: 7023262 Facility Status: CLOSED Facility Type: **OTHER** Owner Id: U0015667

Veach Oil Company Owner Name: Owner Address: P.O. Box 68 Owner City, St, Zip: Vienna, IL 62995

Tank Number:

Removed Tank Status: Tank Capacity: 3000 Tank Substance: Gasoline Last Used Date: 12/22/1998 OSFM First Notify Date: 4/29/1986 Red Tag Issue Date: Not reported Install Date: 7/1/1972

EDR ID Number

Direction Distance Elevation

n Site Database(s) EPA ID Number

VEACH SERVICE (Continued)

U001132542

EDR ID Number

Green Tag Decal:

Green Tag Issue Date:

Green Tag Expire Date:

Fee Due:

Motor Fuel Permit Inspection Date:

Motor Fuel Permit Expiration Date:

MOTOR FUEL TYPE:

Not reported

Not reported

Not reported

Not reported

Pending Nov: N

IEMA: 99-1972 ,99-2218 ,99-2222

Equipment Type: Not reported Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 9/29/1999
Abandoned Date: Not reported Not reported

Tank Number: 10
Tank Status: Removed

Tank Capacity: 560

Tank Substance: Heating Oil Last Used Date: 11/1/1991 10/1/1999 **OSFM First Notify Date:** Red Tag Issue Date: Not reported 1/2/1965 Install Date: **Green Tag Decal:** Not reported **Green Tag Issue Date:** Not reported **Green Tag Expire Date:** Not reported

Fee Due: \$0.00

Motor Fuel Permit Inspection Date:

Motor Fuel Permit Expiration Date:

MOTOR FUEL TYPE:

Not reported

Not reported

Pending Nov:

IEMA: Not reported Equipment Type: Not reported Equipment: Not reported Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 9/28/1999 Abandoned Date: Not reported

Tank Number: 11

Tank Status:

Tank Capacity: 560 Tank Substance: Heating Oil Last Used Date: 11/1/1991 **OSFM First Notify Date:** 10/1/1999 Red Tag Issue Date: Not reported 1/2/1965 Install Date: **Green Tag Decal:** Not reported **Green Tag Issue Date:** Not reported **Green Tag Expire Date:** Not reported

Removed

Fee Due: \$0.00

Motor Fuel Permit Inspection Date:

Motor Fuel Permit Expiration Date:

MOTOR FUEL TYPE:

Not reported

Not reported

Direction Distance

Elevation Site Database(s) **EPA ID Number**

VEACH SERVICE (Continued)

U001132542

EDR ID Number

Pending Nov: Ν

Not reported IEMA: Not reported **Equipment Type:** Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 9/28/1999 Abandoned Date: Not reported

Tank Number: 2

Tank Status: Removed Tank Capacity: 3000 Tank Substance: Gasoline Last Used Date: 12/22/1998 OSFM First Notify Date: 4/29/1986 Red Tag Issue Date: Not reported Install Date: 1/2/1965 **Green Tag Decal:** Not reported Green Tag Issue Date: Not reported **Green Tag Expire Date:** Not reported Fee Due: \$0.00

Motor Fuel Permit Inspection Date: Not reported Motor Fuel Permit Expiration Date: Not reported MOTOR FUEL TYPE: Not reported

Pending Nov:

IEMA: 99-1972 ,99-2218 ,99-2222

Equipment Type: Not reported Equipment: Not reported Last Passing Date: Not reported Not reported Test Expire Date: Removed Date: 9/29/1999 Abandoned Date: Not reported

Tank Number: 3

Tank Status: Removed Tank Capacity: 3000 Tank Substance: Gasoline Last Used Date: 12/22/1998 OSFM First Notify Date: 4/29/1986 Red Tag Issue Date: Not reported Install Date: 1/2/1965 Not reported **Green Tag Decal:** Green Tag Issue Date: Not reported **Green Tag Expire Date:** Not reported

\$0.00

Motor Fuel Permit Inspection Date: Not reported Motor Fuel Permit Expiration Date: Not reported MOTOR FUEL TYPE: Not reported

Pending Nov:

IEMA: 99-1972 ,99-2218 ,99-2222

Equipment Type: Not reported Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 9/29/1999

Direction Distance Elevation

EDR ID Number Site Database(s) **EPA ID Number**

Not reported

VEACH SERVICE (Continued) Abandoned Date:

Tank Number:

U001132542

Tank Status: Removed Tank Capacity: 2000 Tank Substance: Gasoline Last Used Date: 12/22/1998 OSFM First Notify Date: 4/29/1986 Red Tag Issue Date: Not reported Install Date: 1/2/1965 **Green Tag Decal:** Not reported Green Tag Issue Date: Not reported **Green Tag Expire Date:** Not reported Fee Due: \$0.00 Not reported

Motor Fuel Permit Inspection Date: Motor Fuel Permit Expiration Date: Not reported MOTOR FUEL TYPE: Not reported

Pending Nov:

99-1972 ,99-2218 ,99-2222 IEMA:

Equipment Type: Not reported Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported 9/29/1999 Removed Date: Abandoned Date: Not reported

Tank Number: 5

Tank Status: Removed 2000 Tank Capacity: Tank Substance: Gasoline Last Used Date: 12/22/1998 **OSFM First Notify Date:** 4/29/1986 Red Tag Issue Date: Not reported Install Date: 1/2/1965 **Green Tag Decal:** Not reported **Green Tag Issue Date:** Not reported **Green Tag Expire Date:** Not reported Fee Due: \$0.00

Motor Fuel Permit Inspection Date: Not reported Motor Fuel Permit Expiration Date: Not reported MOTOR FUEL TYPE: Not reported

Pending Nov:

99-1972 ,99-2218 ,99-2222 IEMA:

Equipment Type: Not reported Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 9/28/1999 Abandoned Date: Not reported

Tank Number: 6 Tank Status: Removed Tank Capacity: 4000

Tank Substance: Diesel Fuel

Direction Distance Elevation

on Site Database(s) EPA ID Number

VEACH SERVICE (Continued)

U001132542

EDR ID Number

Last Used Date: 12/22/1998 OSFM First Notify Date: 4/29/1986 Red Tag Issue Date: Not reported Install Date: 4/1/1974 **Green Tag Decal:** Not reported **Green Tag Issue Date:** Not reported **Green Tag Expire Date:** Not reported Fee Due: \$0.00

Motor Fuel Permit Inspection Date:

Motor Fuel Permit Expiration Date:

MOTOR FUEL TYPE:

Not reported

Not reported

Pending Nov: N

IEMA:

Requipment Type:

Requipment:

Last Passing Date:

Test Expire Date:

Removed Date:

Abandoned Date:

Not reported

Tank Number: **Tank Status:** Removed Tank Capacity: 4000 Tank Substance: Diesel Fuel 12/22/1998 Last Used Date: OSFM First Notify Date: 4/29/1986 Red Tag Issue Date: Not reported Install Date: 1/2/1965 **Green Tag Decal:** Not reported Green Tag Issue Date: Not reported **Green Tag Expire Date:** Not reported

Fee Due: \$0.00

Motor Fuel Permit Inspection Date: Not reported

Motor Fuel Permit Expiration Date: Not reported

MOTOR FUEL TYPE: Not reported

Pending Nov: N

IEMA: 99-1972 ,99-2218 ,99-2222

Equipment Type: Not reported Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 9/28/1999 Abandoned Date: Not reported

Tank Number: Tank Status: Removed Tank Capacity: 4000 Tank Substance: Gasoline 11/1/1991 Last Used Date: **OSFM First Notify Date:** 10/1/1999 Red Tag Issue Date: Not reported Install Date: 1/2/1965 **Green Tag Decal:** Not reported **Green Tag Issue Date:** Not reported **Green Tag Expire Date:** Not reported

Direction Distance

Elevation Site Database(s) EPA ID Number

VEACH SERVICE (Continued)

U001132542

EDR ID Number

Fee Due: \$0.00

Motor Fuel Permit Inspection Date: Not reported

Motor Fuel Permit Expiration Date: Not reported

MOTOR FUEL TYPE: Not reported

Pending Nov: Ν IEMA: Not reported Not reported **Equipment Type:** Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported 9/29/1999 Removed Date: Abandoned Date: Not reported

Tank Number: 9 Removed Tank Status: Tank Capacity: 2000 Tank Substance: Gasoline Last Used Date: 11/1/1991 OSFM First Notify Date: 10/1/1999 Red Tag Issue Date: Not reported Install Date: 1/2/1965 **Green Tag Decal:** Not reported Green Tag Issue Date: Not reported Not reported **Green Tag Expire Date:** Fee Due: \$0.00

Motor Fuel Permit Inspection Date:

Motor Fuel Permit Expiration Date:

MOTOR FUEL TYPE:

Pending Nov:

Not reported

Not reported

Not reported

Not reported

Not reported

Not reported

IEMA: Not reported Equipment Type: Not reported Equipment: Not reported Equipment: Not reported Last Passing Date: Not reported Test Expire Date: Not reported Removed Date: 9/29/1999 Abandoned Date: Not reported

142 ILLINOIS POWER TOWN GAS PLANT
Target WASHINGTON AVENUE AND 1ST STREET
Property CAIRO, IL 62914

Manufactured Gas Plants:

No additional information available

Actual: 304 ft. Focus Map: 1008407316

N/A

EDR MGP

Direction Distance

Elevation Site Database(s) EPA ID Number

 143
 MOSS, GEORGE
 FINDS
 1010731325

 Target
 RTE 51 & 1ST ST
 N/A

Target RTE 51 & 1ST ST Property CAIRO, IL 62914

FINDS:

Registry ID: 110033603517

Actual:

305 ft. Click Here for FRS Facility Detail Report: Focus Map: Environmental Interest/Information System:

14

ACES (Illinois - Agency Compliance And Enforcement System) is the

Illinois EPA Project to facilitate the permitting operations

Click this hyperlink while viewing on your computer to access

additional FINDS: detail in the EDR Site Report.

144 CAIRO DRAINAGE DIST
Target

IL SWF/LF S108110913
N/A

Target Property

CAIRO, IL 62914

IL WMRC_LF:

WMRC Region: Actual: General: Not reported 310 ft. IEPA ID Number: 38520002 Municipal Waste: Not reported Focus Map: Provisional IEPA ID: Not reported 14 Not reported Septic: NIPC Map Number: Animal:

NIPC Map Number:

Animal:

Owner Name:

Pathological:

Operator:

Industrial:

PO Box:

Not reported

Not reported

Not reported

Not reported

Not reported

Not reported

187

Foundry Sand: Not reported Incinerator Ash: Not reported Not reported Slag: Not reported Hazardous: Hazardous Liquid: Not reported Radiation: Not reported Demolition: Not reported 370200/891111 Lat/Long: Landscaping: Not reported Oil Field: Not reported

Primemer ID: 3
Special: Not reported

Township: 17S
Other: Not reported

 Range:
 01W

 Unknown:
 X

 Section:
 14

Quarter Section1: Not reported
Quarter Section2: Not reported
Quarter Section3: Not reported
Quarter Section4: Not reported
IEPA: X

ISGS: Not reported PollutionControlBoard: Not reported IDM&M: Not reported DPH: Not reported

Operational Status: CLOSED FINAL COVER

EDR ID Number

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

CAIRO DRAINAGE DIST (Continued)

S108110913

Local Agency: Not reported

UNPERMITTED UNAUTHORIZED Permit Status:

Agency: Not reported IEPA Permit Date: 10173 Source Other: Not reported Close Date: 82273 Reaction: Not reported RCRA Facility: Not reported Date Discover: Not reported

GW Monitoring: NO

Not reported Date Cleaned: Not reported FD Site: Offsite Waste: Not reported Landfill Size: Not reported Random Dump: Not reported Size Fill: Not reported Open Dump: Not reported Leachate Collected: Not reported Abandonment: Not reported Other: Not reported Recompacted Clay: Not reported In-situ Clay: Not reported Not reported Secured Containers: Combination: Not reported Landfill: None: Not reported Incineration: Not reported Other: Not reported Survace Impoundment: Not reported Land Application: Not reported

145 **READY MIX SOLUTIONS LLC US AIRS** 1004477504 **IL AIRS Target** RTE 1 N/A

CAIRO, IL 62914 **Property**

US AIRS MINOR:

Envid: 1004477504

Actual: Region Code: 05

315 ft. Programmatic ID: AIR IL000003851AAA Facility Registry ID: 110007263914 Focus Map: D and B Number: Not reported 14

Primary SIC Code: 3273 NAICS Code: 327320 Default Air Classification Code: MIN Facility Type of Ownership Code: POF Air CMS Category Code: Not reported **HPV Status:** Not reported

US AIRS MINOR:

Region Code: 05

Programmatic ID: AIR IL000003851AAA Facility Registry ID: 110007263914

Air Operating Status Code: OPR Default Air Classification Code: MIN

Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards

Activity Date: 1977-04-19 00:00:00

Activity Status Date: Not reported

Compliance Monitoring Activity Group:

Direction Distance

Elevation Site Database(s) EPA ID Number

READY MIX SOLUTIONS LLC (Continued)

1004477504

EDR ID Number

Activity Type: Inspection/Evaluation

Activity Status: Not reported

Region Code: 05

Programmatic ID: AIR IL000003851AAA Facility Registry ID: 110007263914

Air Operating Status Code: OPR
Default Air Classification Code: MIN

Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards

Activity Date: 1985-09-19 00:00:00

Activity Status Date: Not reported

Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

Activity Status: Not reported

Region Code: 05

Programmatic ID: AIR IL000003851AAA Facility Registry ID: 110007263914

Air Operating Status Code: OPR
Default Air Classification Code: MIN

Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards

Activity Date: 1989-07-12 00:00:00

Activity Status Date: Not reported

Activity Group: Compliance Monitoring Activity Type: Inspection/Evaluation

Activity Status: Not reported

Region Code: 05

Programmatic ID: AIR IL000003851AAA Facility Registry ID: 110007263914

Air Operating Status Code: OPR Default Air Classification Code: MIN

Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards

Activity Date: 1989-07-20 00:00:00

Activity Status Date: Not reported

Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

Activity Status: Not reported

AIRS:

Name: ILLINI READY MIX INC

Address: **ROUTE 1** City, State, Zip: CAIRO, IL 62914 2nd Address: Not reported Facility ID: Not reported Year: 2010 Not reported Contact Name: Not reported Contact Title: Contact Telephone: Not reported Contact Fax: Not reported Contact Ext: Not reported Not reported Contact Email: 003851AAA ID Number: Cease Operation Date: Not reported SIC Code: 3273 NAICS: Not reported

Distance Elevation

tion Site Database(s) EPA ID Number

READY MIX SOLUTIONS LLC (Continued)

1004477504

EDR ID Number

Type Code: Not reported Permit: Not reported Not reported Type: Status: Not reported Status Date: Not reported **Expiration Date:** Not reported Latitude: Not reported Longitude: Not reported

Detail:

ID Number: 003851AAA

Tons Per Year: 0.334299999999999

Year: 2010 Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 3.2300000000000002E-2

Year: 2008 Pollutant Code: PM10

ID Number: 003851AAA

Year: 2009 Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 8.949999999999996E-2

Year: 2010 Pollutant Code: PM10

 ID Number:
 003851AAA

 Tons Per Year:
 0.1206

 Year:
 2008

 Pollutant Code:
 PART

 ID Number:
 003851AAA

 Tons Per Year:
 0.4889

 Year:
 2009

 Pollutant Code:
 PART

ID Number: 003851AAA

Tons Per Year: 9.607499999999994E-2

Year: 2014 Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 7.754999999999997E-3

Year: 2014 Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 7.690999999999999E-3

Year: 2014
Pollutant Code: PM2_5

ID Number: 003851AAA

Tons Per Year: 9.607499999999994E-2

Year: Not reported

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

READY MIX SOLUTIONS LLC (Continued)

1004477504

Pollutant Code: **PART**

ID Number: 003851AAA

Tons Per Year: 7.754999999999997E-3

Year: Not reported Pollutant Code: PM10

003851AAA ID Number:

Tons Per Year: 7.69099999999999E-3

Year: Not reported Pollutant Code: PM2_5

ID Number: 003851AAA Tons Per Year: 0.1206 Year: 2008 Pollutant Code: **PART**

003851AAA ID Number:

0.1308999999999999 Tons Per Year:

2009 Year: Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 3.2300000000000002E-2

Year: 2008 Pollutant Code: PM10

ID Number: 003851AAA Tons Per Year: 0.4889 2009 Year: Pollutant Code: PART

ID Number: 003851AAA Tons Per Year: CF4 2014 Year: Pollutant Code: CF4

ID Number: 003851AAA COG Tons Per Year: 2014 Year: Pollutant Code: COG

ID Number: 003851AAA Tons Per Year: CF4

Not reported Year:

Pollutant Code: CF4

ID Number: 003851AAA Tons Per Year: COG Year: Not reported Pollutant Code: COG

Name: ILLINI READY MIX INC

Address: **ROUTE 1** City, State, Zip: CAIRO, IL 62914 2nd Address: PLANT 2

Distance Elevation

ion Site Database(s) EPA ID Number

READY MIX SOLUTIONS LLC (Continued)

1004477504

EDR ID Number

Facility ID: 79
Year: 2007
Contact Name: Kathryn Stevens

Contact Title: President Contact Telephone: 618-529-8122 Contact Fax: Not reported Contact Ext: Not reported Contact Email: Not reported ID Number: 003851AAA Cease Operation Date: Not reported SIC Code: 3273 NAICS: Not reported Type Code: Not reported Permit: Not reported Not reported Type: Not reported Status: Status Date: Not reported **Expiration Date:** Not reported Latitude: Not reported Not reported Longitude:

Detail:

ID Number: 003851AAA

Tons Per Year: 0.3342999999999999

Year: 2010 Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 3.2300000000000002E-2

Year: 2008 Pollutant Code: PM10

ID Number: 003851AAA

Year: 2009 Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 8.949999999999996E-2

Year: 2010 Pollutant Code: PM10

 ID Number:
 003851AAA

 Tons Per Year:
 0.1206

 Year:
 2008

 Pollutant Code:
 PART

 ID Number:
 003851AAA

 Tons Per Year:
 0.4889

 Year:
 2009

 Pollutant Code:
 PART

ID Number: 003851AAA

Tons Per Year: 9.607499999999994E-2

Year: 2014 Pollutant Code: PART

ID Number: 003851AAA

Distance Elevation

Site Database(s) EPA ID Number

READY MIX SOLUTIONS LLC (Continued)

1004477504

EDR ID Number

Tons Per Year: 7.75499999999997E-3

Year: 2014 Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 7.690999999999999E-3

Year: 2014
Pollutant Code: PM2_5

ID Number: 003851AAA

Tons Per Year: 9.607499999999994E-2

Year: Not reported Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 7.754999999999997E-3

Year: Not reported Pollutant Code: PM10

ID Number: 003851AAA

Year: Not reported Pollutant Code: PM2_5

 ID Number:
 003851AAA

 Tons Per Year:
 0.1206

 Year:
 2008

 Pollutant Code:
 PART

ID Number: 003851AAA

Tons Per Year: 0.1308999999999999

Year: 2009 Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 3.230000000000002E-2

Year: 2008 Pollutant Code: PM10

 ID Number:
 003851AAA

 Tons Per Year:
 0.4889

 Year:
 2009

 Pollutant Code:
 PART

 ID Number:
 003851AAA

 Tons Per Year:
 CF4

 Year:
 2014

 Pollutant Code:
 CF4

ID Number:003851AAATons Per Year:COGYear:2014Pollutant Code:COG

ID Number: 003851AAA
Tons Per Year: CF4
Year: Not reported

MAP FINDINGS Map ID Direction

Distance

Elevation Site Database(s) **EPA ID Number**

READY MIX SOLUTIONS LLC (Continued)

1004477504

EDR ID Number

Pollutant Code: CF4

ID Number: 003851AAA Tons Per Year: COG Year: Not reported Pollutant Code: COG

Name: ILLINI READY MIX INC

Address: **ROUTE 1** CAIRO, IL 62914 City,State,Zip: 2nd Address: Not reported Facility ID: Not reported Year: 2008 Contact Name: Not reported Not reported Contact Title: Contact Telephone: Not reported Not reported Contact Fax: Contact Ext: Not reported Not reported Contact Email: ID Number: 003851AAA Cease Operation Date: Not reported SIC Code: 3273 NAICS: Not reported Type Code: Not reported Not reported Permit: Not reported Type:

Status: Not reported Not reported Status Date: **Expiration Date:** Not reported Latitude: Not reported Longitude: Not reported

Detail:

ID Number: 003851AAA

Tons Per Year: 0.33429999999999999

2010 Year: Pollutant Code: **PART**

ID Number: 003851AAA

Tons Per Year: 3.2300000000000002E-2

2008 Year: Pollutant Code: PM10

ID Number: 003851AAA

0.1308999999999999 Tons Per Year:

2009 Year: Pollutant Code: PM10

ID Number: 003851AAA

8.94999999999996E-2 Tons Per Year:

Year: 2010 Pollutant Code: PM10

ID Number: 003851AAA Tons Per Year: 0.1206 Year: 2008 Pollutant Code: PART

Distance Elevation

evation Site Database(s) EPA ID Number

READY MIX SOLUTIONS LLC (Continued)

1004477504

EDR ID Number

 ID Number:
 003851AAA

 Tons Per Year:
 0.4889

 Year:
 2009

 Pollutant Code:
 PART

ID Number: 003851AAA

Tons Per Year: 9.607499999999994E-2

Year: 2014 Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 7.75499999999997E-3

Year: 2014 Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 7.690999999999999E-3

Year: 2014 Pollutant Code: PM2_5

ID Number: 003851AAA

Tons Per Year: 9.607499999999994E-2

Year: Not reported Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 7.754999999999997E-3

Year: Not reported Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 7.690999999999999E-3

Year: Not reported Pollutant Code: PM2_5

 ID Number:
 003851AAA

 Tons Per Year:
 0.1206

 Year:
 2008

 Pollutant Code:
 PART

ID Number: 003851AAA

Year: 2009 Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 3.230000000000002E-2

Year: 2008 Pollutant Code: PM10

 ID Number:
 003851AAA

 Tons Per Year:
 0.4889

 Year:
 2009

 Pollutant Code:
 PART

ID Number: 003851AAA

Tons Per Year: CF4

Direction Distance Elevation

ation Site Database(s) EPA ID Number

READY MIX SOLUTIONS LLC (Continued)

1004477504

EDR ID Number

Year: 2014 Pollutant Code: CF4

 ID Number:
 003851AAA

 Tons Per Year:
 COG

 Year:
 2014

 Pollutant Code:
 COG

ID Number:003851AAATons Per Year:CF4Year:Not reportedPollutant Code:CF4

ID Number:003851AAATons Per Year:COGYear:Not reportedPollutant Code:COG

Name: ILLINI READY MIX INC

Address: ROUTE 1
City,State,Zip: CAIRO, IL 62914

2nd Address: PLANT 2
Facility ID: 79
Year: 2006

Contact Name: Kathryn Stevens President Contact Title: Contact Telephone: 618-529-8122 Not reported Contact Fax: Contact Ext: Not reported Contact Email: Not reported ID Number: 003851AAA Cease Operation Date: Not reported SIC Code: 3273 NAICS: Not reported Type Code: LOC Permit:

Permit: Not reported
Type: Not reported
Status: Not reported
Status Date: Not reported
Expiration Date: Not reported
Latitude: 37.029400
Longitude: -89.188100

Detail:

ID Number: 003851AAA

Tons Per Year: 0.3342999999999999

Year: 2010 Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 3.2300000000000002E-2

Year: 2008 Pollutant Code: PM10

ID Number: 003851AAA

Year: 2009

Direction Distance Elevation

vation Site Database(s) EPA ID Number

READY MIX SOLUTIONS LLC (Continued)

1004477504

EDR ID Number

Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 8.949999999999996E-2

Year: 2010 Pollutant Code: PM10

 ID Number:
 003851AAA

 Tons Per Year:
 0.1206

 Year:
 2008

 Pollutant Code:
 PART

 ID Number:
 003851AAA

 Tons Per Year:
 0.4889

 Year:
 2009

 Pollutant Code:
 PART

ID Number: 003851AAA

Tons Per Year: 9.60749999999994E-2

Year: 2014 Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 7.754999999999997E-3

Year: 2014 Pollutant Code: PM10

ID Number: 003851AAA

Year: 2014 Pollutant Code: PM2_5

ID Number: 003851AAA

Tons Per Year: 9.607499999999994E-2

Year: Not reported Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 7.754999999999997E-3

Year: Not reported Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 7.69099999999999999E-3

Year: Not reported Pollutant Code: PM2_5

 ID Number:
 003851AAA

 Tons Per Year:
 0.1206

 Year:
 2008

 Pollutant Code:
 PART

ID Number: 003851AAA

Tons Per Year: 0.1308999999999999

Year: 2009 Pollutant Code: PM10

Direction Distance Elevation

on Site Database(s) EPA ID Number

READY MIX SOLUTIONS LLC (Continued)

1004477504

EDR ID Number

ID Number: 003851AAA

Tons Per Year: 3.2300000000000002E-2

Year: 2008 Pollutant Code: PM10

 ID Number:
 003851AAA

 Tons Per Year:
 0.4889

 Year:
 2009

 Pollutant Code:
 PART

 ID Number:
 003851AAA

 Tons Per Year:
 CF4

 Year:
 2014

 Pollutant Code:
 CF4

 ID Number:
 003851AAA

 Tons Per Year:
 COG

 Year:
 2014

 Pollutant Code:
 COG

ID Number: 003851AAA Tons Per Year: CF4

Year: Not reported

Pollutant Code: CF4

ID Number:003851AAATons Per Year:COGYear:Not reportedPollutant Code:COG

Name: ILLINI READY MIX INC

Address: **ROUTE 1** CAIRO, IL 62914 City, State, Zip: Not reported 2nd Address: Facility ID: Not reported Year: 2009 Contact Name: Not reported Not reported Contact Title: Contact Telephone: Not reported Not reported Contact Fax: Contact Ext: Not reported Contact Email: Not reported 003851AAA ID Number:

Cease Operation Date: Not reported SIC Code: 3273

NAICS: Not reported Type Code: Not reported Permit: Not reported Type: Not reported Not reported Status: Status Date: Not reported Not reported **Expiration Date:** Latitude: Not reported Longitude: Not reported

Detail:

ID Number: 003851AAA

Distance EDR ID Number
Elevation Site EDR ID Number
Database(s) EPA ID Number

READY MIX SOLUTIONS LLC (Continued)

1004477504

Tons Per Year: 0.3342999999999999

Year: 2010 Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 3.230000000000002E-2

Year: 2008 Pollutant Code: PM10

ID Number: 003851AAA

Year: 2009 Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 8.949999999999996E-2

Year: 2010 Pollutant Code: PM10

 ID Number:
 003851AAA

 Tons Per Year:
 0.1206

 Year:
 2008

 Pollutant Code:
 PART

 ID Number:
 003851AAA

 Tons Per Year:
 0.4889

 Year:
 2009

 Pollutant Code:
 PART

ID Number: 003851AAA

Tons Per Year: 9.607499999999994E-2

Year: 2014 Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 7.754999999999997E-3

Year: 2014 Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 7.690999999999999E-3

Year: 2014 Pollutant Code: PM2_5

ID Number: 003851AAA

Tons Per Year: 9.607499999999994E-2

Year: Not reported Pollutant Code: PART

ID Number: 003851AAA

Tons Per Year: 7.754999999999997E-3

Year: Not reported Pollutant Code: PM10

ID Number: 003851AAA

Year: Not reported

Direction Distance

Elevation Site Database(s) **EPA ID Number**

READY MIX SOLUTIONS LLC (Continued)

1004477504

EDR ID Number

Pollutant Code: PM2_5

003851AAA ID Number: Tons Per Year: 0.1206 Year: 2008 Pollutant Code: **PART**

ID Number: 003851AAA

Tons Per Year: 0.1308999999999999

Year: 2009 Pollutant Code: PM10

ID Number: 003851AAA

Tons Per Year: 3.2300000000000002E-2

Year: 2008 Pollutant Code: PM10

003851AAA ID Number: Tons Per Year: 0.4889 2009 Year: Pollutant Code: **PART**

ID Number: 003851AAA Tons Per Year: CF4 2014 Year: CF4 Pollutant Code:

ID Number: 003851AAA Tons Per Year: COG 2014 Year: Pollutant Code: COG

ID Number: 003851AAA Tons Per Year: CF4 Not reported Year: Pollutant Code: CF4

ID Number: 003851AAA Tons Per Year: COG Year: Not reported COG Pollutant Code:

146 AT & T-TANK#1-148 **Target 13101 THIRD AVENUE Property** CAIRO, IL 62914

IL AST A100480298 N/A

AST:

Actual:

321 ft.

AT & T-TANK#1-148 Name: Address: 13101 THIRD AVENUE City, State, Zip: CAIRO, IL 62914 Occupancy Number:

Focus Map: Occupant Type: 059 - ABOVE GROUND BULK STORAGE Section Number: AB

Property Owner Name:

TANK - ABOVE GROUND BULK GENERATOR 1 NOVS Type:

AB-059-1554138845155

Direction Distance

Elevation Site Database(s) **EPA ID Number**

147 MOUND CITY MUNICIPAL IL SWF/LF S108112437 NNE N/A

1/8-1/4 0.168 mi. 887 ft.

Actual: IL WMRC_LF:

318 ft. **WMRC** Region: General: Χ Focus Map:

MOUND CITY, IL 62963

IEPA ID Number: 1538540001 Municipal Waste: Not reported Provisional IEPA ID: Not reported Septic: Not reported NIPC Map Number: Not reported

Not reported Animal: Owner Name: MAYOR & COUNCIL

Pathological: Not reported

MAYOR & COUNCIL Operator:

Industrial: Not reported PO Box: Not reported Foundry Sand: Not reported Incinerator Ash: Not reported Slag: Not reported Hazardous: Not reported Hazardous Liquid: Not reported Radiation: Not reported Not reported Demolition: 370455/891015 Lat/Long: Landscaping: Not reported Oil Field: Not reported

Primemer ID:

Special: Not reported Township: 16S

Other:

Not reported Range: 01W

Unknown: Not reported

Section: 36

Quarter Section1: Not reported Quarter Section2: Not reported Quarter Section3: Not reported Quarter Section4: Not reported

IEPA: Χ

ISGS: Not reported PollutionControlBoard: Not reported IDM&M: Not reported DPH: Not reported

Operational Status: **CLOSED FINAL COVER**

Local Agency: Not reported

UNPERMITTED UNAUTHORIZED Permit Status:

Agency: Not reported IEPA Permit Date: 10165 Source Other: Not reported Close Date: 71278 Reaction: Not reported Not reported RCRA Facility: Date Discover: Not reported **GW Monitoring:** NO

Date Cleaned: Not reported FD Site: Not reported **EDR ID Number**

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

Not reported

MOUND CITY MUNICIPAL (Continued)

Offsite Waste:

S108112437

1000986542

ILR000000711

RCRA NonGen / NLR

3RD ST RIVER BANK

ILR000000711

PO BOX 433

618-734-4659

Not reported

Not reported

BERT JOHNSON

CAIRO, IL 62914

MOUND CITY, IL 62963

FINDS

ECHO

Landfill Size: 37 Random Dump: Not reported Size Fill: 5 Open Dump: Not reported Leachate Collected: Not reported Not reported Abandonment: Not reported Other: Recompacted Clay: Not reported In-situ Clay: Not reported Secured Containers: Not reported Combination: Not reported Landfill:

None: Not reported Incineration: Not reported Other: Not reported Survace Impoundment: Not reported Land Application: Not reported

148 **JOHNSON BERT PARAGON MARINE**

NNE 3RD ST RIVER BANK

1/8-1/4 MOUND CITY, IL 62963

0.183 mi. 967 ft.

Actual: RCRA Listings:

325 ft. Date Form Received by Agency: 19950302 Handler Name: JOHNSON BERT PARAGON MARINE Focus Map:

Handler Address: Handler City, State, Zip:

EPA ID: Contact Name: Contact Address: Contact City, State, Zip: Contact Telephone: Contact Fax: Contact Email:

Contact Title: Not reported EPA Region: 05 Land Type: Private Federal Waste Generator Description:

Not a generator, verified

Non-Notifier: Not reported Biennial Report Cycle: Not reported Not reported Accessibility: Active Site Indicator: Not reported State District Owner: Not reported State District: **MARION** Mailing Address: **PO BOX 433** Mailing City, State, Zip: CAIRO, IL 62914

Owner Name: JOHNSON BERT

Owner Type: Private

Operator Name: Not reported

Operator Type: Not reported

Short-Term Generator Activity: No Importer Activity: No Mixed Waste Generator: No Transporter Activity: No Transfer Facility Activity: No

Distance Elevation Site

Site Database(s) EPA ID Number

JOHNSON BERT PARAGON MARINE (Continued)

1000986542

EDR ID Number

Recycler Activity with Storage: No Small Quantity On-Site Burner Exemption: No Smelting Melting and Refining Furnace Exemption: No **Underground Injection Control:** No Off-Site Waste Receipt: No Universal Waste Indicator: No Universal Waste Destination Facility: No Federal Universal Waste: Nο

Active Site Fed-Reg Treatment Storage and Disposal Facility:
Active Site Converter Treatment storage and Disposal Facility:
Active Site State-Reg Treatment Storage and Disposal Facility:

Not reported
Not reported

Active Site State-Reg Handler: --

Federal Facility Indicator: Not reported

Hazardous Secondary Material Indicator: NN

Sub-Part K Indicator: Not reported

Commercial TSD Indicator: No
Treatment Storage and Disposal Type: Not reported

2018 GPRA Permit Baseline:
2018 GPRA Renewals Baseline:
Not on the Baseline
Permit Renewals Workload Universe:
Not reported
Permit Workload Universe:
Permit Progress Universe:
Post-Closure Workload Universe:
Not reported

202 GPRA Corrective Action Baseline:

Corrective Action Workload Universe:

No Subject to Corrective Action Universe:

No Non-TSDFs Where RCRA CA has Been Imposed Universe:

TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:

TSDFs Only Subject to CA under Discretionary Auth Universe:

No

Corrective Action Priority Ranking: No NCAPS ranking

Environmental Control Indicator:

Institutional Control Indicator:

Human Exposure Controls Indicator:

Groundwater Controls Indicator:

N/A

Operating TSDF Universe:

Full Enforcement Universe:

Not reported

Not reported

Significant Non-Complier Universe: No Unaddressed Significant Non-Complier Universe: No Addressed Significant Non-Complier Universe: No Significant Non-Complier With a Compliance Schedule Universe: No

Financial Assurance Required: Not reported

Handler Date of Last Change:

Recognized Trader-Importer:

Recognized Trader-Exporter:

Importer of Spent Lead Acid Batteries:

No

Exporter of Spent Lead Acid Batteries:

No

Recycler Activity Without Storage: Not reported Manifest Broker: Not reported

Sub-Part P Indicator: No

Hazardous Waste Summary:

Waste Code: U051 Waste Description: CREOSOTE Map ID MAP FINDINGS

Distance Elevation

Site Database(s) EPA ID Number

JOHNSON BERT PARAGON MARINE (Continued)

1000986542

EDR ID Number

Handler - Owner Operator:

Owner/Operator Indicator: Owner

Owner/Operator Name: JOHNSON BERT

Legal Status: Private Date Became Current: Not reported Not reported Date Ended Current: PO BOX 433 Owner/Operator Address: Owner/Operator City, State, Zip: CAIRO, IL 62914 Owner/Operator Telephone: 618-734-4659 Owner/Operator Telephone Ext: Not reported Owner/Operator Fax: Not reported Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 19950302 Handler Name: JOHNSON BERT PARAGON MARINE

Federal Waste Generator Description: Not a generator, verified

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

Receive Date: 19960301

Handler Name: BERT JOHNSON

Federal Waste Generator Description: Large Quantity Generator

State District Owner: Not reported

Large Quantity Handler of Universal Waste:

Recognized Trader Importer:

No
Recognized Trader Exporter:

No
Spent Lead Acid Battery Importer:

No
Spent Lead Acid Battery Exporter:

No
Current Record:

No

Non Storage Recycler Activity: Not reported Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:

NAICS Code: 48833

NAICS Description: NAVIGATIONAL SERVICES TO SHIPPING

Facility Has Received Notices of Violations:

Violations: No Violations Found

Evaluation Action Summary:

Evaluations: No Evaluations Found

FINDS:

Registry ID: 110007552825

Map ID MAP FINDINGS

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

JOHNSON BERT PARAGON MARINE (Continued)

1000986542

S108111183

N/A

IL SWF/LF

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000986542 Registry ID: 110007552825

DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110007552825

JOHNSON BERT PARAGON MARINE Name:

Address: 3RD ST RIVER BANK MOUND CITY, IL 62963 City,State,Zip:

149 **DEAL, BRUCE** NNE **613 WALNUT ST**

1/4-1/2 MOUNDS CITY, IL 62963 0.303 mi.

1598 ft.

Actual: IL WMRC_LF: 328 ft.

WMRC Region: General: Not reported Focus Map: IEPA ID Number: 1538540004 Municipal Waste: Not reported

> Provisional IEPA ID: Not reported Not reported Septic: NIPC Map Number: Not reported Animal: Not reported Owner Name: **DEAL BRUCE** Pathological: Not reported Operator: DEAL BRUCE Industrial: Not reported PO Box: Not reported Foundry Sand: Not reported Incinerator Ash: Not reported Not reported Slag: Hazardous: Not reported Hazardous Liquid: Not reported Radiation: Not reported

Lat/Long:

Demolition:

Not reported Landscaping: Oil Field: Not reported Primemer ID: Not reported Special: Not reported

Not reported

Township:

Other: Not reported Range: Not reported

Unknown:

Section: Not reported

MAP FINDINGS Map ID

Direction Distance

Elevation Site Database(s) **EPA ID Number**

DEAL, BRUCE (Continued) S108111183

Quarter Section1: Not reported Not reported Quarter Section2: Not reported Quarter Section3: Quarter Section4: Not reported

IEPA: Χ

ISGS: Not reported PollutionControlBoard: Not reported IDM&M: Not reported DPH: Not reported

Operational Status: **CLOSED FINAL COVER**

Local Agency: Not reported

UNPERMITTED UNAUTHORIZED Permit Status:

Agency: Not reported IEPA Permit Date: 10170 Source Other: Not reported Close Date: 71073 Reaction: Not reported RCRA Facility: Not reported Date Discover: Not reported

GW Monitoring: NO

Date Cleaned: Not reported FD Site: Not reported Offsite Waste: Not reported

Landfill Size:

Random Dump: Not reported

Size Fill:

Open Dump: Not reported Leachate Collected: Not reported Abandonment: Not reported Not reported Other: Not reported Recompacted Clay: Not reported In-situ Clay: Secured Containers: Not reported Combination: Not reported

Landfill:

None: Not reported Not reported Incineration: Other: Not reported Survace Impoundment: Not reported Land Application: Not reported

IL SWF/LF \$108110915 150 **CAIRO MUNICIPAL 1** N/A

South 1/4-1/2

CAIRO, IL 62914

0.476 mi. 2514 ft.

Actual: IL WMRC_LF: 320 ft. Region:

WMRC General: Χ Focus Map: 30050001 IEPA ID Number: 14

Not reported Municipal Waste: Provisional IEPA ID: Not reported Septic: Not reported

NIPC Map Number: Not reported Animal: Not reported **MAYOR & COUNCIL** Owner Name:

Pathological: Not reported **EDR ID Number**

Map ID MAP FINDINGS

Direction Distance Elevation

vation Site Database(s) EPA ID Number

CAIRO MUNICIPAL 1 (Continued)

S108110915

EDR ID Number

CITY OF CAIRO Operator: Industrial: Not reported PO Box: Not reported Foundry Sand: Not reported Incinerator Ash: Not reported Not reported Slag: Not reported Hazardous: Hazardous Liquid: Not reported Radiation: Not reported Demolition: Not reported 370102/891122 Lat/Long: Landscaping: Not reported Oil Field: Not reported

Primemer ID: 3

Special: Not reported Township: 17S

Township: 17S
Other: Not reported

Range: 01W

Unknown: Not reported

Section: 23

Quarter Section1: Not reported
Quarter Section2: Not reported
Quarter Section3: Not reported
Quarter Section4: Not reported
IEPA: X

Not reported
Not reported

ISGS: Not reported PollutionControlBoard: Not reported IDM&M: Not reported DPH: Not reported

Operational Status: CLOSED FINAL COVER

Local Agency: Not reported

Permit Status: UNPERMITTED UNAUTHORIZED

Agency: Not reported IEPA Permit Date: 10165
Source Other: Not reported Close Date: 112574
Reaction: Not reported RCRA Facility: Not reported Date Discover: Not reported

GW Monitoring: NO

Date Cleaned: Not reported FD Site: Not reported Offsite Waste: Not reported

Landfill Size: 40

Random Dump: Not reported Size Fill: Not reported Open Dump: Not reported Leachate Collected: Not reported Abandonment: Not reported Other: Not reported Not reported Recompacted Clay: In-situ Clay: Not reported Secured Containers: Not reported Combination: Not reported Landfill:

None: Not reported Incineration: Not reported

MAP FINDINGS Map ID

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

CAIRO MUNICIPAL 1 (Continued)

S108110915

Other: Not reported Not reported Survace Impoundment: Land Application: Not reported

S108891203 151 **ELMWOOD SCHOOL** IL SSU **500 37TH STREET**

N/A

South 1/2-1 CAIRO, IL

0.556 mi. 2937 ft.

Actual: SSU: 316 ft.

Focus Map: 14

ELMWOOD SCHOOL Name: Address: 500 37TH STREET

City,State,Zip: CAIRO, IL Facility ID: 0030055066

Facility Type: Abandoned School - Asbestos

Region: Des Plaines Current Program: SSU Project Manager: Kershaw Community Relations: Tebrugge SSU Status: Backlog FOS: Not reported Year Completed: Not reported

Site Size:

Lat/Long: Not reported

152 **CAIRO SCHOOL** IL SSU S108493238 South 29TH AND SYCAMORE N/A

1/2-1 CAIRO, IL

0.890 mi. 4698 ft.

Actual: SSU:

314 ft. Name: CAIRO SCHOOL Address: 29TH AND SYCAMORE Focus Map:

City, State, Zip: CAIRO, IL Facility ID: 0030055064

Abandoned School - Asbestos Facility Type:

Des Plaines Region: Current Program: SSU Project Manager: Kershaw Community Relations: Tebrugge SSU Status: Completed FOS: Not reported Year Completed: 2007 Site Size:

Lat/Long: Not reported Count: 49 records ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
BALLARD COUNTY	S123237573	NEWPAGE CORP (AI ID: 60)	RECOVERY BLDG. (2ND FLOOR), AND #1 BLOX TOWER IN RECOVERY AREA OF WICKLIFFE PAPER CO., 1724 FT. JEFFERSON HILL RD.		KY ASBESTOS
BALLARD COUNTY	S128198608	WICKLIFFE PAPER CO LLC (AI ID: 60)	WICKLIFFE PAPER MILL		KY ASBESTOS
BALLARD COUNTY	S123238507	CITY OF BARLOW	1445 4TH STREET		KY ASBESTOS
BALLARD COUNTY	S128197892	NEWPAGE CORP (AI ID: 60)	WICKLIFF MILL		KY ASBESTOS
BALLARD COUNTY		WICKLIFFE PAPER COMPANY (AI ID: 60)	WICKLIFFE MILL		KY ASBESTOS
BALLARD COUNTY	S128196803	BALLARD CO MIDDLE & HIGH SCHOOL (AI ID: 44652)	BALLARD COUNTY HIGH SCHOOL		KY ASBESTOS
BALLARD COUNTY	S128198612	WICKLIFFE PAPER COMPANY (AI ID: 60)	WICKLIFFE PAPER MILL.		KY ASBESTOS
BALLARD COUNTY	S123238749	CITY OF BARLOW	756 BROADWAY		KY ASBESTOS
BALLARD COUNTY	S121447632	CITY OF WICKLIFFE	557 BROADWAY		KY ASBESTOS
BALLARD COUNTY	S125982599	күтс	THE BRIDGE IS LOCATED IN BALLARD COUNTY KENTUCKY. THERE IS NOT A SPECIFIC ADDRESS, BUT THE BRIDGE IS LOCATED ON JOHNSON ROAD APPROXIMATELY 1.5 MILES FROM BARLOW, KENTCUKY 42024.		KY ASBESTOS
BARLOW	1015930222	BARLOW WWTP	S 6TH ST	42024	FINDS
BARLOW	1026437435	DOLLAR GENERAL - BARLOW	US 60	42024	FINDS
BARLOW	1026210214	DOLLAR GENERAL - BARLOW	US 60	42024	ECHO
BARLOW	S108017216	MAC & MAC EQUIPMENT CO. INC.	HWY 60	42024	KY Financial Assurance
BARROW	S108016216	JOHN SULLIVAN PROPERTY	HWY 60	42024	KY Financial Assurance
CAIRO	98455439		4TH ST	62914	ERNS
CAIRO	2022326723		14610 OHIO RIVER LEVEE RD.	62914	ERNS
CAIRO	90316		106 MAIN RD.		ERNS
CAIRO	99489512		CAIRO CITY FRONT AT THE	62914	ERNS
CAIRO	U004060400	GEORGE MOSS / FORMER GLEN'S TRUCK STOP	US HIGHWAY 51 & 1ST AVENUE	62914	IL UST
CAIRO	U001135769	FORT DEFIANCE STATE PARK	HWY 60, 62	62914	IL UST
CAIRO		AMOCO GAS	ROUTE 1, BOX 2 & I-57	62914	IL UST
CAIRO		CAIRO TRUCK STOP	I-57, EXIT 1 OFF RT 3	62914	ICIS, FINDS, ECHO
CAIRO		CAIRO DRY KILNS INC	HWY 51 2 MILES N OF CAIRO		US AIRS
CAIRO	1015799489		205 224 -26 20TH ST & 2608 SYCAMORE		FINDS
CAIRO	1016106590		4TH ST & PEYTON BERBLING		FINDS
CAIRO	1008132869		S END OF 2ND ST FUTURE CT		FINDS
CAIRO		WHITAKER, FUTURE CITY	1ST & NEW CR NW COR		FINDS
CAIRO	1005636533	•	4801 SYCAMORE AVE		FINDS, ECHO, IL AIRS
CAIRO	1027065570		12864 PATIERDALE RD		FINDS
CAIRO	1008337859		I-57 & ROUTE 3 (BY EXIT 1)		FINDS
CAIRO	1008337908		SOUTH OF I-57 & RT. 3 (N:37.035170,W89.187400)		FINDS
CAIRO		CAIRO DRAINAGE DIST	RTE 51-1MI N OF CAIRO		FINDS
CAIRO		CAIRO DRY KILNS INC	HWY 51 2 MILES N OF CAIRO		IL AIRS
CAIRO		CAIRO DRY KIENS INC	1ST AND OHIO STREET		IL NPDES
CHARLESTON		I-57 & US 62	I-57 & US 62		HMIRS
CHARLESTON		MISSISSIPPI CO HWY DEPT	HWY 60 W	63834	
CHARLESTON		PILOT CORP	I-57 & S HWY 105		FINDS
OF IAINLES FOR	1007091380	FILOT CORF	1-01 0 0 1100 1 100	03034	I IINDO

Count: 49 records ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CHARLESTON	1014775505	DISTRIBUTION PARKING LOT	I-57 OUTER RD	63834	FINDS
CHARLESTON	S122848130	BREWER'S LAKE CULVERT	MISSOURI HIGHWAY 60/62	63834	MO ASBESTOS
FUTURE CITY	1008143432	CLARK, ODESSA & WHITAKER, CHARLES	2ND & CROSS ST SW COR	62914	FINDS
LA CENTER	A100451430	CITY OF LACENTER	E 4TH ST	42056	KY AST
LA CENTER	A100451429	CITY OF LACENTER	BROADWAY	42056	KY AST
LA CENTER	1000841430	BALLARD COUNTY BOARD OF EDUCATION	3465 PADUCAH ROAD	42056	RCRA NonGen / NLR, FINDS, ECHO
LA CENTER	1000863811	HAGOOD OIL COMPANY INC.	HIGHWAY 60 WEST OF LACENTER	42056	RCRA NonGen / NLR
LACENTER	S108011405	BALLARD COUNTY EXT. DISTRICT BOARD PROP.	FIRST AND BROADWAY	42056	KY Financial Assurance
LACENTER	S108011403	BALLARD COUNTY BOARD OF EDUCATION	HIGHWAY 60	42056	KY Financial Assurance
MOUND CITY,	1026581359	CITY OF MOUNDS	MUNICIPAL SERVICES OFFICE, 314 MAIN	62963	PRP
OSCAR	S122830277	OLMSTED LOCK & DAM NO 53	OSCAR RD	42056	KY SHWS

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 01/25/2023 Source: EPA
Date Data Arrived at EDR: 02/03/2023 Telephone: N/A

Number of Days to Update: 25 Next Scheduled EDR Contact: 04/10/2023
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources

EPA's Environmental Photographic Interpretation Center (EPIC)

Telephone: 202-564-7333

EPA Region 1 EPA Region 6

Telephone 617-918-1143 Telephone: 214-655-6659

EPA Region 3 EPA Region 7

Telephone 215-814-5418 Telephone: 913-551-7247

EPA Region 4 EPA Region 8

Telephone 404-562-8033 Telephone: 303-312-6774

EPA Region 5 EPA Region 9

Telephone 312-886-6686 Telephone: 415-947-4246

EPA Region 10

Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 01/25/2023 Source: EPA
Date Data Arrived at EDR: 02/02/2023 Telephone: N/A

Next Scheduled EDR Contact: 04/10/2023
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Number of Days to Update: 26

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991 Date Data Arrived at EDR: 02/02/1994 Date Made Active in Reports: 03/30/1994

Number of Days to Update: 56

Source: EPA

Telephone: 202-564-4267 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 01/25/2023 Date Data Arrived at EDR: 02/02/2023 Date Made Active in Reports: 02/28/2023

Number of Days to Update: 26

Source: EPA Telephone: N/A

Last EDR Contact: 03/01/2023

Next Scheduled EDR Contact: 04/10/2023 Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 08/25/2022 Date Data Arrived at EDR: 09/06/2022 Date Made Active in Reports: 12/05/2022

Number of Days to Update: 90

Source: Environmental Protection Agency

Telephone: 703-603-8704 Last EDR Contact: 12/21/2022

Next Scheduled EDR Contact: 04/10/2023 Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/25/2023 Date Data Arrived at EDR: 02/02/2023 Date Made Active in Reports: 02/28/2023

Number of Days to Update: 26

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 03/01/2023

Next Scheduled EDR Contact: 04/24/2023 Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/25/2023 Date Data Arrived at EDR: 02/02/2023 Date Made Active in Reports: 02/28/2023

Number of Days to Update: 26

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 03/01/2023

Next Scheduled EDR Contact: 04/24/2023 Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 11/21/2022 Date Data Arrived at EDR: 11/21/2022 Date Made Active in Reports: 12/05/2022

Number of Days to Update: 14

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 12/21/2022

Next Scheduled EDR Contact: 04/03/2023 Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 11/21/2022 Date Data Arrived at EDR: 11/21/2022 Date Made Active in Reports: 12/05/2022

Number of Days to Update: 14

Source: Environmental Protection Agency

Telephone: (404) 562-8651 Last EDR Contact: 12/21/2022

Next Scheduled EDR Contact: 04/03/2023 Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/21/2022 Date Data Arrived at EDR: 11/21/2022 Date Made Active in Reports: 12/05/2022

Number of Days to Update: 14

Source: Environmental Protection Agency

Telephone: (404) 562-8651 Last EDR Contact: 12/21/2022

Next Scheduled EDR Contact: 04/03/2023 Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 11/21/2022 Date Data Arrived at EDR: 11/21/2022 Date Made Active in Reports: 12/05/2022

Number of Days to Update: 14

Source: Environmental Protection Agency

Telephone: (404) 562-8651 Last EDR Contact: 12/21/2022

Next Scheduled EDR Contact: 04/03/2023 Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation
and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database
includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste
as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate
less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/21/2022 Date Data Arrived at EDR: 11/21/2022 Date Made Active in Reports: 12/05/2022

Number of Days to Update: 14

Source: Environmental Protection Agency

Telephone: (404) 562-8651 Last EDR Contact: 12/21/2022

Next Scheduled EDR Contact: 04/03/2023 Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 11/02/2022 Date Data Arrived at EDR: 11/08/2022 Date Made Active in Reports: 01/10/2023

Number of Days to Update: 63

Source: Department of the Navy Telephone: 843-820-7326 Last EDR Contact: 02/03/2023

Next Scheduled EDR Contact: 05/22/2023 Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/27/2022 Date Data Arrived at EDR: 11/16/2022 Date Made Active in Reports: 02/09/2023

Number of Days to Update: 85

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 02/21/2023

Next Scheduled EDR Contact: 06/05/2023 Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/27/2022 Date Data Arrived at EDR: 11/16/2022 Date Made Active in Reports: 02/09/2023

Number of Days to Update: 85

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 02/21/2023

Next Scheduled EDR Contact: 06/05/2023

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/12/2022 Date Data Arrived at EDR: 12/14/2022 Date Made Active in Reports: 12/19/2022

Number of Days to Update: 5

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180 Last EDR Contact: 12/14/2022

Next Scheduled EDR Contact: 04/03/2023 Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SHWS: State Leads List

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 09/14/2022 Date Data Arrived at EDR: 09/15/2022 Date Made Active in Reports: 12/06/2022

Number of Days to Update: 82

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 02/17/2023

Next Scheduled EDR Contact: 06/05/2023 Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/25/2022 Date Data Arrived at EDR: 10/24/2022 Date Made Active in Reports: 01/12/2023

Number of Days to Update: 80

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 01/24/2023

Next Scheduled EDR Contact: 05/08/2023 Data Release Frequency: Semi-Annually

Lists of state and tribal leaking storage tanks

PSTEAF: Facility Ranking List

The Underground Storage Tank Branch (USTB) has ranked all PSTEAF reimbursable facilities requiring corrective action, in accordance with 401 KAR 42:290. Directive letters will be issued on the basis of facility ranking and available PSTEAF funding in sequential order as ranked. For example, Rank 2 facilities will be issued directives before Rank 3 facilities.

Date of Government Version: 08/01/2022 Date Data Arrived at EDR: 10/03/2022 Date Made Active in Reports: 12/14/2022

Number of Days to Update: 72

Source: Department of Environmental Protection

Telephone: 502-564-5981 Last EDR Contact: 01/04/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/11/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA, Region 5 Telephone: 312-886-7439 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/28/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA Region 6 Telephone: 214-665-6597 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/20/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: Environmental Protection Agency Telephone: 415-972-3372 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/20/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA Region 8 Telephone: 303-312-6271 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/28/2021 Date Data Arrived at EDR: 06/11/2021 Date Made Active in Reports: 09/07/2021

Number of Days to Update: 88

Source: EPA Region 1 Telephone: 617-918-1313 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 06/02/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/31/2022

Number of Days to Update: 79

Source: EPA Region 4 Telephone: 404-562-8677 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/14/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023

SB193: SB193 Branch Site Inventory List

The inventory indicates facilities that have performed permanent closure activities at a regulated underground storage tank facility and have known soil and/or groundwater contamination.

Date of Government Version: 09/05/2006 Date Data Arrived at EDR: 09/13/2006 Date Made Active in Reports: 10/18/2006

Number of Days to Update: 35

Source: Department of Environmental Protection

Telephone: 502-564-5981 Last EDR Contact: 04/08/2016

Next Scheduled EDR Contact: 07/25/2016

Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 10/14/2021 Date Data Arrived at EDR: 11/05/2021 Date Made Active in Reports: 02/01/2022

Number of Days to Update: 88

Source: FEMA

Telephone: 202-646-5797 Last EDR Contact: 12/28/2022

Next Scheduled EDR Contact: 04/17/2023

Data Release Frequency: Varies

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 11/08/2022 Date Data Arrived at EDR: 11/16/2022 Date Made Active in Reports: 02/09/2023

Number of Days to Update: 85

Source: Department of Environmental Protection

Telephone: 502-564-5981 Last EDR Contact: 02/22/2023

Next Scheduled EDR Contact: 06/05/2023 Data Release Frequency: Quarterly

AST: Above Ground Storage Tanks

A listing of aboveground storage tank site locations.

Date of Government Version: 06/01/2021 Date Data Arrived at EDR: 06/02/2021 Date Made Active in Reports: 08/23/2021

Number of Days to Update: 82

Source: Office of State Fire Marshal Telephone: 502-564-4010 Last EDR Contact: 02/02/2023

Next Scheduled EDR Contact: 06/05/2023

Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA Region 9 Telephone: 415-972-3368 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/20/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA Region 8 Telephone: 303-312-6137 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/14/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/20/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/07/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA, Region 1 Telephone: 617-918-1313 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/11/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA Region 5 Telephone: 312-886-6136 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023

Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/28/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/16/2022

Number of Days to Update: 64

Source: EPA Region 6 Telephone: 214-665-7591 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 06/02/2022 Date Data Arrived at EDR: 06/13/2022 Date Made Active in Reports: 08/31/2022

Number of Days to Update: 79

Source: EPA Region 4 Telephone: 404-562-9424 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Site Listing A listing of sites that use engineering controls.

Date of Government Version: 09/14/2022 Date Data Arrived at EDR: 09/15/2022 Date Made Active in Reports: 12/06/2022

Number of Days to Update: 82

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 02/17/2023

Next Scheduled EDR Contact: 06/05/2023 Data Release Frequency: Varies

INST CONTROL: State Superfund Database

A list of closed sites in the State Superfund Database. Institutional controls would be in place at any site that uses Contained or Managed as a Closure Option.

Date of Government Version: 09/14/2022 Date Data Arrived at EDR: 09/15/2022 Date Made Active in Reports: 12/06/2022

Number of Days to Update: 82

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 02/17/2023

Next Scheduled EDR Contact: 06/05/2023

Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008 Date Data Arrived at EDR: 04/22/2008 Date Made Active in Reports: 05/19/2008

Number of Days to Update: 27

Source: EPA, Region 7 Telephone: 913-551-7365 Last EDR Contact: 07/08/2021

Next Scheduled EDR Contact: 07/20/2009

Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015 Date Data Arrived at EDR: 09/29/2015 Date Made Active in Reports: 02/18/2016

Number of Days to Update: 142

Source: EPA, Region 1 Telephone: 617-918-1102 Last EDR Contact: 12/13/2022

Next Scheduled EDR Contact: 04/03/2023

Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Sites

Sites that have been accepted into the Voluntary Cleanup Program or have submitted an application.

Date of Government Version: 10/11/2022 Date Data Arrived at EDR: 10/12/2022 Date Made Active in Reports: 12/23/2022

Number of Days to Update: 72

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 12/20/2022

Next Scheduled EDR Contact: 04/10/2023 Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Kentucky Brownfield Inventory

The Kentucky Brownfield Program has created an inventory of brownfield sites in order to market the properties to those interested in brownfield redevelopment. The Kentucky Brownfield Program is working to promote the redevelopment of these sites by helping to remove barriers that prevent reuse, providing useful information to communities, developers and the public and encouraging a climate that fosters redevelopment of contaminated sites.

Date of Government Version: 10/27/2022 Date Data Arrived at EDR: 10/27/2022 Date Made Active in Reports: 01/12/2023

Number of Days to Update: 77

Source: Division of Compliance Assistance

Telephone: 502-564-0323 Last EDR Contact: 01/09/2023

Next Scheduled EDR Contact: 04/24/2023 Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 02/23/2022 Date Data Arrived at EDR: 03/10/2022 Date Made Active in Reports: 03/10/2022

Number of Days to Update: 0

Source: Environmental Protection Agency

Telephone: 202-566-2777 Last EDR Contact: 12/07/2022

Next Scheduled EDR Contact: 03/27/2023 Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF: Historical Landfills

This solid waste facility listing contains detail information that is not included in the landfill listing. A listing with detail information is no longer available by the Department of Environmental Protection.

Date of Government Version: 05/01/2003 Date Data Arrived at EDR: 03/30/2006 Date Made Active in Reports: 05/01/2006

Number of Days to Update: 32

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 02/23/2009

Next Scheduled EDR Contact: 05/25/2009 Data Release Frequency: No Update Planned

SWRCY: Recycling Facilities

A listing of recycling facilities located in the state of Kentucky.

Date of Government Version: 09/04/2020 Date Data Arrived at EDR: 10/14/2020 Date Made Active in Reports: 01/04/2021

Number of Days to Update: 82

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 01/13/2023

Next Scheduled EDR Contact: 04/24/2023 Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 01/24/2008

Number of Days to Update: 52

Source: Environmental Protection Agency

Telephone: 703-308-8245 Last EDR Contact: 01/20/2023

Next Scheduled EDR Contact: 05/08/2023 Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985 Date Data Arrived at EDR: 08/09/2004 Date Made Active in Reports: 09/17/2004

Number of Days to Update: 39

Source: Environmental Protection Agency

Telephone: 800-424-9346 Last EDR Contact: 06/09/2004 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009 Date Data Arrived at EDR: 05/07/2009 Date Made Active in Reports: 09/21/2009

Number of Days to Update: 137

Source: EPA, Region 9 Telephone: 415-947-4219 Last EDR Contact: 01/13/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014 Date Data Arrived at EDR: 08/06/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service

Telephone: 301-443-1452 Last EDR Contact: 01/27/2023

Next Scheduled EDR Contact: 05/08/2023

Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 01/06/2023 Date Data Arrived at EDR: 02/02/2023 Date Made Active in Reports: 02/10/2023

Number of Days to Update: 8

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 02/02/2023

Next Scheduled EDR Contact: 06/05/2023 Data Release Frequency: No Update Planned

CDL: Clandestine Drub Lab Location Listing Clandestine drug lab site locations.

Date of Government Version: 09/14/2022 Date Data Arrived at EDR: 09/15/2022 Date Made Active in Reports: 12/06/2022

Number of Days to Update: 82

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 02/17/2023

Next Scheduled EDR Contact: 06/05/2023

Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 01/06/2023 Date Data Arrived at EDR: 02/02/2023 Date Made Active in Reports: 02/10/2023

Number of Days to Update: 8

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 02/02/2023

Next Scheduled EDR Contact: 06/05/2023 Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 01/25/2023 Date Data Arrived at EDR: 02/02/2023 Date Made Active in Reports: 02/28/2023

Number of Days to Update: 26

Source: Environmental Protection Agency

Telephone: 202-564-6023 Last EDR Contact: 03/01/2023

Next Scheduled EDR Contact: 04/10/2023 Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/19/2022 Date Data Arrived at EDR: 09/19/2022 Date Made Active in Reports: 09/30/2022

Number of Days to Update: 11

Source: U.S. Department of Transportation

Telephone: 202-366-4555 Last EDR Contact: 12/14/2022

Next Scheduled EDR Contact: 04/03/2023 Data Release Frequency: Quarterly

SPILLS: State spills

A listing of spill and/or release related incidents.

Date of Government Version: 10/31/2022 Date Data Arrived at EDR: 11/02/2022 Date Made Active in Reports: 01/24/2023

Number of Days to Update: 83

Source: DEP, Emergency Response

Telephone: 502-564-2380 Last EDR Contact: 01/09/2023

Next Scheduled EDR Contact: 04/24/2023 Data Release Frequency: Varies

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/21/2022 Date Data Arrived at EDR: 11/21/2022 Date Made Active in Reports: 12/05/2022

Number of Days to Update: 14

Source: Environmental Protection Agency

Telephone: (404) 562-8651 Last EDR Contact: 12/21/2022

Next Scheduled EDR Contact: 04/03/2023 Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 11/01/2022 Date Data Arrived at EDR: 11/10/2022 Date Made Active in Reports: 02/09/2023

Number of Days to Update: 91

Source: U.S. Army Corps of Engineers

Telephone: 202-528-4285 Last EDR Contact: 02/14/2023

Next Scheduled EDR Contact: 05/29/2023 Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021 Date Data Arrived at EDR: 07/13/2021 Date Made Active in Reports: 03/09/2022

Number of Days to Update: 239

Source: USGS Telephone: 888-275-8747 Last EDR Contact: 01/13/2023

Next Scheduled EDR Contact: 04/24/2023

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018 Date Data Arrived at EDR: 04/11/2018 Date Made Active in Reports: 11/06/2019

Number of Days to Update: 574

Source: U.S. Geological Survey Telephone: 888-275-8747 Last EDR Contact: 01/03/2023

Next Scheduled EDR Contact: 04/17/2023

Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021 Date Data Arrived at EDR: 02/03/2023 Date Made Active in Reports: 02/10/2023

Number of Days to Update: 7

Source: Environmental Protection Agency

Telephone: 615-532-8599 Last EDR Contact: 02/02/2023

Next Scheduled EDR Contact: 05/22/2023 Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/19/2022 Date Data Arrived at EDR: 09/20/2022 Date Made Active in Reports: 12/22/2022

Number of Days to Update: 93

Source: Environmental Protection Agency

Telephone: 202-566-1917 Last EDR Contact: 12/14/2022

Next Scheduled EDR Contact: 04/03/2023 Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013 Date Data Arrived at EDR: 03/21/2014 Date Made Active in Reports: 06/17/2014

Number of Days to Update: 88

Source: Environmental Protection Agency

Telephone: 617-520-3000 Last EDR Contact: 01/30/2023

Next Scheduled EDR Contact: 05/15/2023 Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017 Date Data Arrived at EDR: 05/08/2018 Date Made Active in Reports: 07/20/2018

Number of Days to Update: 73

Source: Environmental Protection Agency

Telephone: 703-308-4044 Last EDR Contact: 02/03/2023

Next Scheduled EDR Contact: 05/15/2023

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020

Number of Days to Update: 85

Source: EPA

Telephone: 202-260-5521 Last EDR Contact: 12/12/2022

Next Scheduled EDR Contact: 03/27/2023 Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2021 Date Data Arrived at EDR: 11/01/2022 Date Made Active in Reports: 02/09/2023

Number of Days to Update: 100

Source: EPA

Telephone: 202-566-0250 Last EDR Contact: 02/16/2023

Next Scheduled EDR Contact: 05/29/2023 Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/17/2022 Date Data Arrived at EDR: 10/18/2022 Date Made Active in Reports: 01/10/2023

Number of Days to Update: 84

Source: EPA

Telephone: 202-564-4203 Last EDR Contact: 01/18/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/25/2023 Date Data Arrived at EDR: 02/02/2023 Date Made Active in Reports: 02/28/2023

Number of Days to Update: 26

Source: EPA

Telephone: 703-416-0223 Last EDR Contact: 03/01/2023

Next Scheduled EDR Contact: 06/12/2023 Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/27/2022 Date Data Arrived at EDR: 05/04/2022 Date Made Active in Reports: 05/10/2022

Number of Days to Update: 6

Source: Environmental Protection Agency

Telephone: 202-564-8600 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995 Date Data Arrived at EDR: 07/03/1995 Date Made Active in Reports: 08/07/1995

Number of Days to Update: 35

Source: EPA

Telephone: 202-564-4104 Last EDR Contact: 06/02/2008

Next Scheduled EDR Contact: 09/01/2008 Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/27/2022 Date Data Arrived at EDR: 11/01/2022 Date Made Active in Reports: 11/15/2022

Number of Days to Update: 14

Source: EPA

Telephone: 202-564-6023 Last EDR Contact: 03/01/2023

Next Scheduled EDR Contact: 05/15/2023 Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2022 Date Data Arrived at EDR: 01/20/2022 Date Made Active in Reports: 03/25/2022

Number of Days to Update: 64

Source: EPA

Telephone: 202-566-0500 Last EDR Contact: 01/04/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016 Date Data Arrived at EDR: 11/23/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 79

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/28/2022

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances

Telephone: 202-566-1667 Last EDR Contact: 08/18/2017

Next Scheduled EDR Contact: 12/04/2017 Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA Telephone: 202-566-1667 Last EDR Contact: 08/18/2017

Next Scheduled EDR Contact: 12/04/2017 Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/26/2022 Date Data Arrived at EDR: 11/22/2022 Date Made Active in Reports: 12/05/2022

Number of Days to Update: 13

Source: Nuclear Regulatory Commission

Telephone: 301-415-7169 Last EDR Contact: 01/17/2023

Next Scheduled EDR Contact: 05/01/2023 Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2020 Date Data Arrived at EDR: 11/30/2021 Date Made Active in Reports: 02/22/2022

Number of Days to Update: 84

Source: Department of Energy Telephone: 202-586-8719 Last EDR Contact: 11/29/2022

Next Scheduled EDR Contact: 03/13/2023 Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017 Date Data Arrived at EDR: 03/05/2019 Date Made Active in Reports: 11/11/2019

Number of Days to Update: 251

Source: Environmental Protection Agency

Telephone: N/A

Last EDR Contact: 02/27/2023

Next Scheduled EDR Contact: 06/12/2023 Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019 Date Data Arrived at EDR: 11/06/2019 Date Made Active in Reports: 02/10/2020

Number of Days to Update: 96

Source: Environmental Protection Agency

Telephone: 202-566-0517 Last EDR Contact: 02/03/2023

Next Scheduled EDR Contact: 05/15/2023 Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019 Date Data Arrived at EDR: 07/01/2019 Date Made Active in Reports: 09/23/2019

Number of Days to Update: 84

Source: Environmental Protection Agency

Telephone: 202-343-9775 Last EDR Contact: 12/20/2022

Next Scheduled EDR Contact: 04/10/2023 Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2007

Next Scheduled EDR Contact: 03/17/2008

Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2008

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020 Date Data Arrived at EDR: 01/28/2020 Date Made Active in Reports: 04/17/2020

Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety

Telephone: 202-366-4595 Last EDR Contact: 01/24/2023

Next Scheduled EDR Contact: 05/08/2023 Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2022 Date Data Arrived at EDR: 10/21/2022 Date Made Active in Reports: 01/10/2023

Number of Days to Update: 81

Source: Department of Justice, Consent Decree Library

Telephone: Varies

Last EDR Contact: 01/03/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2019 Date Data Arrived at EDR: 03/02/2022 Date Made Active in Reports: 03/25/2022

Number of Days to Update: 23

Source: EPA/NTIS Telephone: 800-424-9346 Last EDR Contact: 12/21/2022

Next Scheduled EDR Contact: 04/03/2023 Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater

than 640 acres.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 07/14/2015 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 546

Source: USGS

Telephone: 202-208-3710 Last EDR Contact: 01/06/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 07/26/2021 Date Data Arrived at EDR: 07/27/2021 Date Made Active in Reports: 10/22/2021

Number of Days to Update: 87

Source: Department of Energy Telephone: 202-586-3559 Last EDR Contact: 01/30/2023

Next Scheduled EDR Contact: 05/15/2023

Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019 Date Data Arrived at EDR: 11/15/2019 Date Made Active in Reports: 01/28/2020

Number of Days to Update: 74

Source: Department of Energy Telephone: 505-845-0011 Last EDR Contact: 02/13/2023

Next Scheduled EDR Contact: 05/29/2023

Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/25/2023 Date Data Arrived at EDR: 02/02/2023 Date Made Active in Reports: 02/28/2023

Number of Days to Update: 26

Source: Environmental Protection Agency

Telephone: 703-603-8787 Last EDR Contact: 03/01/2023

Next Scheduled EDR Contact: 04/10/2023

Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001 Date Data Arrived at EDR: 10/27/2010 Date Made Active in Reports: 12/02/2010

Number of Days to Update: 36

Source: American Journal of Public Health

Telephone: 703-305-6451 Last EDR Contact: 12/02/2009 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Telephone: 202-564-2496

Last EDR Contact: 09/26/2017

Date of Government Version: 10/12/2016 Date Data Arrived at EDR: 10/26/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 100

US AIRS MINOR: Air Facility System Data A listing of minor source facilities.

> Date of Government Version: 10/12/2016 Date Data Arrived at EDR: 10/26/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 100

Source: EPA

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 09/26/2017

Next Scheduled EDR Contact: 01/08/2018 Data Release Frequency: Annually

Next Scheduled EDR Contact: 01/08/2018 Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/07/2022 Date Data Arrived at EDR: 11/17/2022 Date Made Active in Reports: 02/10/2023

Number of Days to Update: 85

Source: Department of Labor, Mine Safety and Health Administration

Telephone: 303-231-5959 Last EDR Contact: 02/22/2023

Next Scheduled EDR Contact: 06/05/2023 Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 11/29/2022 Date Data Arrived at EDR: 11/30/2022 Date Made Active in Reports: 12/22/2022

Number of Days to Update: 22

Source: DOL, Mine Safety & Health Admi

Telephone: 202-693-9424 Last EDR Contact: 02/23/2023

Next Scheduled EDR Contact: 06/12/2023 Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020 Date Data Arrived at EDR: 05/27/2020 Date Made Active in Reports: 08/13/2020

Number of Days to Update: 78

Source: USGS

Telephone: 703-648-7709 Last EDR Contact: 02/24/2023

Next Scheduled EDR Contact: 06/05/2023 Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011 Date Data Arrived at EDR: 06/08/2011 Date Made Active in Reports: 09/13/2011

Number of Days to Update: 97

Source: USGS

Telephone: 703-648-7709 Last EDR Contact: 02/24/2023

Next Scheduled EDR Contact: 06/05/2023

Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/13/2022 Date Data Arrived at EDR: 09/14/2022 Date Made Active in Reports: 12/05/2022

Number of Days to Update: 82

Source: Department of Interior Telephone: 202-208-2609 Last EDR Contact: 03/01/2023

Next Scheduled EDR Contact: 06/19/2023 Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 08/03/2022 Date Data Arrived at EDR: 08/25/2022 Date Made Active in Reports: 10/24/2022

Number of Days to Update: 60

Source: EPA Telephone: (404) 562-9900 Last EDR Contact: 02/28/2023

Next Scheduled EDR Contact: 06/12/2023 Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/25/2022 Date Data Arrived at EDR: 09/30/2022 Date Made Active in Reports: 12/22/2022

Number of Days to Update: 83

Source: Environmental Protection Agency

Telephone: 202-564-2280 Last EDR Contact: 01/04/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021 Date Data Arrived at EDR: 05/21/2021 Date Made Active in Reports: 08/11/2021

Number of Days to Update: 82

Source: Environmental Protection Agency

Telephone: 202-564-0527 Last EDR Contact: 02/24/2023

Next Scheduled EDR Contact: 06/05/2023 Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 11/09/2021 Date Data Arrived at EDR: 10/20/2022 Date Made Active in Reports: 01/10/2023

Number of Days to Update: 82

Source: Department of Defense Telephone: 703-704-1564 Last EDR Contact: 01/09/2023

Next Scheduled EDR Contact: 04/24/2023 Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/10/2022 Date Data Arrived at EDR: 11/10/2022 Date Made Active in Reports: 02/09/2023

Number of Days to Update: 91

Source: EPA

Telephone: 800-385-6164 Last EDR Contact: 02/14/2023

Next Scheduled EDR Contact: 05/29/2023 Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 02/23/2022 Date Data Arrived at EDR: 07/08/2022 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 123

Source: Environmental Protection Agency

Telephone: 703-603-8895 Last EDR Contact: 01/10/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 02/23/2022 Date Data Arrived at EDR: 03/31/2022 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 222

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 01/05/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 01/03/2022 Date Data Arrived at EDR: 03/31/2022 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 222

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 01/05/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST HANDLING INSTR), Non-hazardous waste description (NON HAZ WASTE DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 01/03/2022 Date Data Arrived at EDR: 03/31/2022 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 222

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 01/05/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020 Date Data Arrived at EDR: 03/17/2021 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 601

Source: Department of Health & Human Services

Telephone: 202-741-5770 Last EDR Contact: 01/23/2023

Next Scheduled EDR Contact: 05/08/2023 Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 01/03/2022 Date Data Arrived at EDR: 03/31/2022 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 222

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 01/05/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits.

Date of Government Version: 01/03/2022 Date Data Arrived at EDR: 03/31/2022 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 222

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 01/05/2023

Next Scheduled EDR Contact: 04/17/2023

Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 01/03/2022 Date Data Arrived at EDR: 03/31/2022 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 222

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 01/05/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset, as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 08/22/2018 Date Data Arrived at EDR: 03/31/2022 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 222

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 01/05/2023

Next Scheduled EDR Contact: 04/17/2023

Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 08/22/2018 Date Data Arrived at EDR: 10/26/2022 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 13

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 01/05/2023

Next Scheduled EDR Contact: 04/17/2023

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 02/23/2022 Date Data Arrived at EDR: 03/31/2022 Date Made Active in Reports: 11/08/2022

Number of Days to Update: 222

Source: Environmental Protection Agency

Telephone: 202-272-0167 Last EDR Contact: 01/05/2023

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Varies

PFAS: PFAS Detections Site Listing

The presence of PFAS contamination at locations, including water treatment plants.

Date of Government Version: 12/01/2022 Date Data Arrived at EDR: 12/01/2022 Date Made Active in Reports: 02/22/2023

Number of Days to Update: 83

Source: Department of Environmental Protection

Telephone: 502-564-3410 Last EDR Contact: 11/30/2022

Next Scheduled EDR Contact: 03/20/2023 Data Release Frequency: Varies

AIRS: Permitted Airs Facility Listing
A listing of permitted Airs facilities.

Date of Government Version: 08/08/2022 Date Data Arrived at EDR: 08/09/2022 Date Made Active in Reports: 10/27/2022

Number of Days to Update: 79

Source: Department of Environmental Protection

Telephone: 502-573-3382 Last EDR Contact: 01/23/2023

Next Scheduled EDR Contact: 05/08/2023 Data Release Frequency: Semi-Annually

ASBESTOS: Asbestos Notification Listing Asbestos sites

> Date of Government Version: 09/14/2022 Date Data Arrived at EDR: 09/14/2022 Date Made Active in Reports: 12/06/2022

Number of Days to Update: 83

Source: Department of Environmental Protection

Telephone: 502-782-6780 Last EDR Contact: 02/23/2023

Next Scheduled EDR Contact: 06/12/2023

Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites
A listing of coal ash pond site locations.

Date of Government Version: 08/25/2022 Date Data Arrived at EDR: 10/24/2022 Date Made Active in Reports: 01/12/2023

Number of Days to Update: 80

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 01/24/2023

Next Scheduled EDR Contact: 05/08/2023 Data Release Frequency: No Update Planned

DRYCLEANERS: Drycleaner Listing
A listing of drycleaner facility locations.

Date of Government Version: 02/16/2023 Date Data Arrived at EDR: 02/16/2023 Date Made Active in Reports: 02/27/2023

Number of Days to Update: 11

Source: Department of Environmental Protection

Telephone: 502-573-3382 Last EDR Contact: 01/23/2023

Next Scheduled EDR Contact: 05/08/2023 Data Release Frequency: Semi-Annually

Financial Assurance 1: Financial Assurance Information Listing

A listing of financial assurance information.

Date of Government Version: 11/14/2022 Date Data Arrived at EDR: 11/16/2022 Date Made Active in Reports: 02/03/2023

Number of Days to Update: 79

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 01/23/2023

Next Scheduled EDR Contact: 05/08/2023 Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

Financial Assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/14/2014 Date Data Arrived at EDR: 06/06/2014 Date Made Active in Reports: 06/24/2014

Number of Days to Update: 18

Source: Department of Environmental Protection

Telephone: 502-564-5981 Last EDR Contact: 01/20/2023

Next Scheduled EDR Contact: 05/08/2023

Data Release Frequency: Varies

Financial Assurance 3: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/14/2022 Date Data Arrived at EDR: 11/16/2022 Date Made Active in Reports: 02/03/2023

Number of Days to Update: 79

Source: Department of Environmental Protection

Telephone: 502-564-6716 Last EDR Contact: 01/23/2023

Next Scheduled EDR Contact: 05/08/2023

Data Release Frequency: Varies

LEAD: Environmental Lead Program Report Tracking Database

Lead Report Tracking Database

Date of Government Version: 01/27/2017 Date Data Arrived at EDR: 02/02/2017 Date Made Active in Reports: 08/21/2017

Number of Days to Update: 200

Source: Department of Public Health

Telephone: 502-564-4537 Last EDR Contact: 01/30/2023

Next Scheduled EDR Contact: 05/15/2023

Data Release Frequency: Varies

NPDES: Permitted Facility Listing

A listing of permitted wastewater facilities.

Date of Government Version: 02/21/2023 Date Data Arrived at EDR: 02/23/2023 Date Made Active in Reports: 02/27/2023

Number of Days to Update: 4

Source: Department of Environmental Protection

Telephone: 502-564-3410 Last EDR Contact: 01/30/2023

Next Scheduled EDR Contact: 05/15/2023 Data Release Frequency: Semi-Annually

UIC: UIC Information

A listing of wells identified as underground injection wells, in the Kentucky Oil & Gas Wells data base.

Date of Government Version: 07/28/2022 Date Data Arrived at EDR: 10/07/2022 Date Made Active in Reports: 12/23/2022

Number of Days to Update: 77

Source: Kentucky Geological Survey Telephone: 859-323-0544 Last EDR Contact: 01/10/2023

Next Scheduled EDR Contact: 04/24/2023 Data Release Frequency: Quarterly

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011 Date Data Arrived at EDR: 08/05/2011 Date Made Active in Reports: 09/29/2011

Number of Days to Update: 55

Source: EPA, Office of Water Telephone: 202-564-2496 Last EDR Contact: 12/28/2022

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits

An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014 Date Data Arrived at EDR: 01/06/2015 Date Made Active in Reports: 05/06/2015

Number of Days to Update: 120

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 12/28/2022

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 02/05/2015 Date Made Active in Reports: 03/06/2015

Number of Days to Update: 29

Source: EPA

Telephone: 202-564-2497 Last EDR Contact: 12/28/2022

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 08/23/2022 Date Data Arrived at EDR: 11/22/2022 Date Made Active in Reports: 02/28/2023

Number of Days to Update: 98

Source: USGS

Telephone: 703-648-6533 Last EDR Contact: 02/24/2023

Next Scheduled EDR Contact: 06/05/2023

Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A

Number of Days to Update: N/A

Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Protection Telephone: N/A

Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A Date Data Arrived at EDR: 07/01/2013 Date Made Active in Reports: 01/15/2014 Number of Days to Update: 198 Source: Department of Environmental Protection

Telephone: N/A

Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 11/16/2022 Date Data Arrived at EDR: 11/16/2022 Date Made Active in Reports: 02/06/2023 Source: Department of Energy & Environmental Protection

Telephone: 860-424-3375 Last EDR Contact: 02/10/2023

Number of Days to Update: 82 Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018 Date Data Arrived at EDR: 04/10/2019 Date Made Active in Reports: 05/16/2019

Number of Days to Update: 36

Source: Department of Environmental Protection

Telephone: N/A

Last EDR Contact: 12/28/2022

Next Scheduled EDR Contact: 04/17/2023 Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD

facility.

Date of Government Version: 01/01/2019 Date Data Arrived at EDR: 10/29/2021 Date Made Active in Reports: 01/19/2022

Number of Days to Update: 82

Source: Department of Environmental Conservation

Telephone: 518-402-8651 Last EDR Contact: 01/27/2023

Next Scheduled EDR Contact: 05/08/2023 Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018 Date Data Arrived at EDR: 07/19/2019 Date Made Active in Reports: 09/10/2019

Number of Days to Update: 53

Source: Department of Environmental Protection

Telephone: 717-783-8990 Last EDR Contact: 01/06/2023

Next Scheduled EDR Contact: 04/24/2023 Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2020 Date Data Arrived at EDR: 11/30/2021 Date Made Active in Reports: 02/18/2022

Number of Days to Update: 80

Source: Department of Environmental Management

Telephone: 401-222-2797 Last EDR Contact: 02/13/2022

Next Scheduled EDR Contact: 05/29/2023 Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018 Date Data Arrived at EDR: 06/19/2019 Date Made Active in Reports: 09/03/2019

Number of Days to Update: 76

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 12/01/2022

Next Scheduled EDR Contact: 03/20/2023 Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services,

a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary

and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Certified Child Care Homes Source: Cabinet for Families & Children

Telephone: 502-564-7130

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Environmental & Public Protection Cabinet

Telephone: 502-564-6736

STREET AND ADDRESS INFORMATION

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Appendix B: Site Photos



Ballard County



801 Broadway



Ballard County Fiscal Court



Betty's Corner Cafe



Bluegrass Recycling



Hagood Oil



Depot City Mart



Highway 60 Wall St.



IDOT Yard



Veach Oil

Appendix C: GAF Form

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KENTUCKY TRANSPORTATION CABINET

Department of Highways

DIVISION OF ENVIRONMENTAL ANALYSIS UST/HAZMAT - GUIDANCE AND ACCOUNTABILITY

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Page 1

Baseline Prepared by:	Qk4, Inc.	Author:	James R. Smith, CEP	Firm: Qk4, Inc.
County: Ballard		Route:	US 60	Item No.: 01-80250.00
Project Description:	A Phase I Environmental Site Assessmental of a potential extension of the US 60 co	•		hich includes the feasibility, costs, and impact
Prime Consultant:				
Due Date:	Submittal Date:	1/30/2024	Submittal Draft #: #1	Approval Date:

Instructions:

Baseline Prepared by: Name of author/firm that prepared the study.

County: Name of county(ies) within which the project is located.

Route: Name of highway for which the project is intended. Include route designation and number as applicable (i.e., US 60, Winchester Rd)

Item No.: Item number as it appears in the contract and Six Year Plan which corresponds with the project.

Description: Official description of the project as it appears in the Six Year Plan.

Prime Consultant: Name of the Phase I Design and Environmental Consultant (prime contract holder) for the project.

Due Date: Date that the project is due as agreed upon in contract negotiation.

Date of Submittal/Submittal Draft Number: Date of submittal and draft being submitted (1st, 2^{na}, 3^{ra}) in appropriate sections.

Approval Date: Date baseline is approved by DEA (DEA use only).

For "Required" column: ✓ indicates all applicable areas of focus (DEA's responsibility).

For "Complete" column: use "Y" and yes and "NA" for not applicable as necessary (Consultant's responsibility).

For "DEA" column: DEA will use "C" for all areas that adequately address concerns, and "I" for those that are insufficient in coverage.

"Comment" page: Discuss supplemental information, guidance, or instructions, if any, that required deviation from the checklist. Discuss all categories which contain "NA" in the "Complete" columns of this format. Comments regarding the content and format of this form and/or its applicability may also be submitted in the comments section. submitted in the comments section.

"Commitments to be Implemented" page: Identify any commitments that are documented within the study. Specify the nature of the commitment, to whom it was or should be made, when the commitment should be acted upon, etc.

"Mitigation and Special Issues" page: Identify mitigation measures, if any, that are specified within the report. Also identify any special issues that are addressed within the document that should be considered by the Project Team as it makes decisions regarding the project.

"Signature" page: Signatures of Prime Consultant and KYTC/DEA Environmental project Manager/Reviewer will attest that the base study meets the requirements set forth in this checklist. Signatures of KYTC Project Manager and District Environmental Coordinator ensure that the findings of the report, including impacts to the project and mitigation measures, have been presented to the project development team and are acceptable.

Completed form is to be delivered to KYTC with the document. Previous checklists for the document, or copies thereof, shall be attached to the current checklist.

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			DIVISION OF ENVIRONMENTAL ANALYSIS UST/HAZMAT - GUIDANCE AND ACCOUNTABILITY	ige	2	of !	5
Required	Complete	DEA	CATEGORY			m No: 0250.0	
che	Insert ckmar oropria	k as	PHASE I SITE ASSESSMENT				
V	Υ		Introduction section				T
>	Υ		Describe the area geology and hydrogeology at and around the site(s)				
>	NA		Perform and describe an historical review of past site(s) and surrounding land uses				
>	Υ		Perform site reconnaissance and describe the current use of the site(s)				
>	NA		Inventory and describe any chemical and/or hazardous materials used on the subject site(s)				
>	NA		Discuss any past or present waste disposal practices at the site(s)				
>	NA		Discuss any past or present PCB electrical equipment usage at the site(s)				
\checkmark	NA		Discuss any staining and stressed vegetation at the site(s)				
\checkmark	NA		Discuss what the water supply is and if there are any wells at the site(s)				
>	NA		Interview local fire and health department representatives to see if there are any environmental concerns at the site(s)				
>	Υ		Review and describe any regulatory listed facilities in the area around the site(s)				
>	Υ		Provide conclusions and recommendations for Phase II site assessment				
			PHASE II SITE ASSESSMENT				
	NA		Discuss the background information of the site(s)				
	NA		Review and discuss technical approaches for assessing the site(s)				
\searrow	NA		Conduct interviews and review site records to gain a better understanding of past and current operational practices				
\checkmark	NA		Prepare phase II site assessment work plan that outlines selected approach				
	NA		Execute the phase II site assessment work plan				_
✓	NA		Review phase II site assessment data				_
>	NA		Prepare a final phase II site assessment with conclusions and recommendations for correction action (Phase III)				



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			UST/HAZMAT - GUIDANCE AND ACCOUNTABILITY				
Required	Complete	DEA	CATEGORY	Item No: 01-80250.00			
Insert checkmark as appropriate			PHASE III CORRECTIVE ACTION				
V	NA	Discuss the background information and purpose of the site(s)					
>	NA	Review all available site records					
>	NA		Review and discuss technical approaches for remediating the contamination at the site(s)				
>	NA		Prepare a phase III corrective action work plan that outlines selected approach				
>	NA		Execute the phase III corrective action work plan				
>	NA		Review and/or monitor the corrective action until completion				
>	NA		Submit quarterly and/or annual reports summarizing the effectiveness of selected corrective action. Make modifications as needed				



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Comments: Discuss supplemental information, guidance, or instructions that required deviation from the checklist. Discuss all categories Item No: which contain "NA" in the "Complete" columns of this format. Comments regarding the content and format of this form and/or its

01-80250.00

applicability may also be submitted through this section.	
None.	
Commitments to be implemented. Identify any commitments that are decumented within the study. Consify the nature of the commitment, to whom it was	ras ar shauld
Commitments to be implemented: Identify any commitments that are documented within the study. Specify the nature of the commitment, to whom it we be made, when the commitment should be acted upon, etc.	vas or snould
Once a Preferred alignment is identified or selected, reevaluate the final preliminary lines and grades prior to purchasing ROW. Any structures that are project.	nosed to be
demolished will need an asbestos inspection and abatement, if asbestos building materials are identified. This inspection/abatement needs will be conduct	
demolition, typically after purchase of the property.	

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DIVISION OF ENVIRONMENTAL ANALYSIS UST/HAZMAT - GUIDANCE AND ACCOUNTABILITY	Page	5 of 5
Mitigation and Special Issues: Identify mitigation measures, if any, that are specified within the report. Also identify any special within the document that should be considered by the Project Team as it makes decisions regarding the project.		Item No: 01-80250.00
None.		
SIGNATURE PAGE I have reviewed the project documentation and attest that those responsible for its preparation are familiar with the requirement that proper management controls were in effect throughout the course of document development to ensure that the document all applicable checklist components.		
Lindoay Hoskins Qk4, Inc.	03/15/2024	
Prime Consultant	Date	
Recommended for approval by:		
KYTC/DEA Environmental Project Manager/Reviewer	Date	
Project Manager	Date	