



SECTION 401 WQC REGIONAL GENERAL PERMIT NOTIFICATION

State Form 51937 (R5 / 7-18)

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM) and U.S. ARMY CORPS OF ENGINEERS (USACE)

Authorities: Section 401 Water Quality Certification, Section 404 of the Clean Water Act, and Section 10 of the Rivers and Harbor Act

INSTRUCTIONS:

1. Familiarize yourself with the terms and conditions of this permit.
2. Read the instructions before filling out this form.
3. All applicable sections of this two (2) page form must be completed.

AGENCY USE ONLY

Date Received (mm/dd/yyyy)

2-16-23

IDEM ID

2023-144-6-JWR-X

Processing Date (mm/dd/yyyy)

2-16-23

APPLICANT INFORMATION

Name of Project: CR900 Bridge Over Withe (Young) Creek Replacement Project	Designation Number: N/A
Applicant: Boone County	Agent (Name of Company): Lochmueller Group
Contact Person: Mike Goralski	Contact Person: David Duncan
Address (number and street): 1955 Indianapolis Ave	Address (number and street) : 6200 Vogel Rd
City: Lebanon State: IN ZIP Code: 46052	City: Evansville State: IN ZIP Code: 47715
Telephone Number: (765) 482-4550	Telephone Number: (812) 479-6200
E-mail Address: mgoralski@boone.in.us	E-mail Address: dduncan@lochgroup.com

PROJECT LOCATION

County: Boone	Nearest Town: Colfax
Quad Name: Colfax	Section: 18 & 19
	Township: 20N
	Range: 2W
Latitude: 40.171488°N	Longitude: -86.687987°W

Project Address and Driving Directions:

From I-465 in Indianapolis, IN take I-65 north. Travel north on I-65 for approximately 22 miles to SR47 (Exit 146), turn left (west). Travel west on SR47 for 8 miles to CR1075W, turn right (north). Follow CR1075N for 1.5 miles to CR1050W. Continue north on CR1050W for 1 mile to CR900, turn left (west). Travel west for 1.13 miles to reach the project area. The project area is located 0.6 mile west of the CR900N and CR1100W intersection.

EXISTING CONDITIONS ON THE PROJECT SITE

Lake: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Name of Lake: N/A
Stream: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Name of Stream: Withe (Young) Creek
	Stream Type: <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral
Wetlands: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Acreage on the site by Wetland Type(s): ___ Emergent ___ Scrub-Shrub ___ Forested
	Date (mm/dd/yyyy) of Wetland Delineation:
	Date (mm/dd/yyyy) of the U.S. Army Corps of Engineers Jurisdiction Correspondence:

PROJECT IMPACTS

Activity Description:

The CR900N Bridge Replacement Project in Boone County, IN includes replacement of the existing 18.3 ft L x 24.1 ft W x 7 ft T concrete box-beam bridge over Withe (Young) Creek with a new 48 ft L x 28 ft W x 7.6 ft T three-sided concrete box which will result in impacts to jurisdictional waters. The bridge replacement includes channel clearing, both upstream and downstream of the new box along with placement of riprap scour protection through the structure and at the inlet and outlet of the structure extending on both sides along each bank. The OHWM of Withe (Young) Creek is 13.4 ft W x 1.8 ft D. Total cumulative permanent impacts below the OHWM of Withe (Young) Creek include 167 ft (0.04 ac) for the excavation of 268.7 cyd of soil, concrete, and timbers and the placement of 7.7 cyd of clean fill. Permanent impacts below the OHWM along the right bank of Withe (Young) Creek include 82.7 ft (0.004 ac) for the placement of 4.2 cyd of revetment riprap for scour protection. Approximate dimensions of the revetment riprap being placed along the right bank is 108.41 ft L x 6 ft to 14.5 ft W x 1.5 ft D with 82.7 ft L x 0.5 ft to 3 ft W x 1.5 ft D placed below the OHWM of Withe (Young) Creek. Permanent impacts along the left bank of Withe (Young) Creek include 60.5 ft (0.002 ac) for the placement of 3.5 cyd of revetment riprap for scour protection. Approximate dimensions of the revetment riprap being placed along the left bank is 106 ft L x 6 ft to 12.3 ft W x 1.5 ft D with 60.5 ft L x 0.5 ft to 3 ft W x 1.5 ft D placed below the OHWM of Withe (Young) Creek. Permanent impacts through the center of Withe (Young) Creek include 131 ft (0.034 ac) for the excavation of 268.7 cyd of soil for channel clearing. Temporary impacts below the OHWM of Withe (Young) Creek include 10 ft (0.004 ac)/(0.002 ac and 5 ft ea.) for placement of two sandbag cofferdams to support installation of a temporary pump-around. Temporary impacts are anticipated to be in place for 60 days. All temporary and permanent impacts with the Withe (Young) Creek floodway not stabilized with riprap, shall be seeded with INDOT seed-mix Floodplain. Impacts to the Withe (Young) Creek streambed will be restored with native substrate.

Purpose of Project:

The purpose of the project is to replace the deteriorating existing structure carrying CR900N over Withe (Young) Creek to provide a safe crossing for the traveling public, while maintaining adequate flow of Withe (Young) Creek. Revetment riprap is being installed to prevent scour.

For Lake Impact (Acceptable fill is defined in the instructions):

- (1) Linear feet of shoreline impact (Example – Seawall): N/A
- (2) Type of fill below the Ordinary High Water Mark: N/A Volume (Cubic Yards): N/A Acres: N/A
- (3) Does the shoreline or open water area have vegetation present? Yes No
If Yes, are you proposing natural shoreline stabilization? Yes No Description: N/A
- (4) Open water fill beyond shoreline (Examples – Boat Well, Underwater Beach): Type of Fill: N/A Acres: N/A

For Stream Impact (Acceptable fill is defined in instructions):

- (1) Total linear feet of stream impact (Examples - bank stabilization, bridge construction or culvert placement, seawall work): 167 ft
- (2) Total acre(s) of stream impact: 0.04 ac
- (3) Type of fill below the Ordinary High Water Mark: Revetment Riprap Volume (Cubic Yards): 7.7 cyd
- (4) Proposed start date of work in the stream (mm/dd/yyyy): 04/01/2023 Proposed end date of work in the stream (mm/dd/yyyy): 12/31/2024
- (5) Channel width in feet (See instructions): 13.4 ft Channel depth in feet (See instructions): 1.8 ft
- (6) Cross-sectional area below the Ordinary High Water Mark: 24.12 sqft
- (7) For stream crossings, type of structure proposed to be installed (Examples: three-sided or four-sided culvert, bridge, pipe): Three-sided Box
- (8) For stream crossings, width of culvert structure/diameter of pipe to be installed (feet): 28 ft Length of culvert structure/pipe (feet): 48 ft
- (9) For stream crossings, substrate type (i.e. sand, soil or unconsolidated till, bedrock or consolidated till): Silt, sand, gravel, cobble
- (10) Open water fill that projects beyond the stream bank: Type of fill: N/A Acre(s) of open water impact: N/A


For Wetland Impact (Acceptable fill is defined in instructions):

- (1) Type of fill: N/A
- (2) Acre(s) of Impact: N/A Emergent N/A Scrub-Shrub N/A Forested

SIGNATURE OF APPLICANT – STATEMENT OF AFFIRMATION

I swear or affirm, under penalty of perjury as specified by IC 35-44.1-2-1 and other penalties specified by IC 13-30-10, that the statements and representations in this notification are true, accurate, and complete.

I certify that I have the authority to undertake and will undertake the activities exactly as described in this notification form. I am aware that there are penalties for submitting false information. I understand that any changes in project design subsequent to IDEM's and the USACE's granting of authorization to discharge to a water of the U.S. are not authorized, and that I may be subject to civil and criminal penalties for proceeding without proper authorization. I agree to allow representatives of IDEM and the USACE to enter and inspect the project site. I understand that the granting of other permits by local, state, or federal agencies does not release me from the requirement of obtaining the authorization requested herein before commencing the project.

Signature of Applicant: _____  _____ Date (mm/dd/yyyy): 1/11/2023

Printed Name of Applicant: Mike Goralski Title: County Engineer

Enclose copies of the following documents (all enclosures must be on 8.5" by 11" paper). Failure to provide all applicable documents and information may result in a determination that the proposed project is out of scope.

- (1) Location Map
- (2) Drawings of existing site and proposed project
- (3) Cross sections of proposed activities showing extent of fill waterward (for seawall, shoreline, and stream bank stabilization impacts)
- (4) Cross sections of proposed activities showing the bankfull width or Ordinary High Water Mark of the stream
- (5) At least three photos of the site, labeled
- (6) Copy of wetland delineation report (for projects with wetland impacts)
- (7) Copies of all correspondence from the USACE (for projects with wetland impacts)
- (8) Copies of all correspondence from the Indiana Department of Natural Resources, Division of Nature Preserves (required)

Please Note:

- (1) It is recommended that you send this form and the attachments **via certified mail**. The agencies will **not** notify you when this form is received.
- (2) IDEM and the USACE will review this form and all attachments for completeness and accuracy. You will not be contacted during the application process unless deficiencies are identified at which time the agencies may require additional information to verify that the project meets all conditions of the Regional General Permit and the Section 401 Water Quality Certification (WQC). If you are not contacted by IDEM within thirty (30) days of the date IDEM receives this notification form, your project is authorized, subject to the terms and conditions of the Section 401 Water Quality Certification and its conditions. You will not receive a written confirmation of authorization from IDEM, however the USACE will issue written authorization.

**Indiana Department of
Environmental Management 401 WQC
and
US Army Corp of Engineers Section 404
Permit Application**

December 2022

CR900N Over Withe (Young) Creek

Bridge Replacement Project

Prepared by: Dave Duncan

County: Boone

Structure No.: 06-00021



Lochmueller Group, Inc.

6200 Vogel Road

Evansville, Indiana 47715

Phone: 812.479.6200

**IDEM401/USACE404 Permit Application
CR900N Over Withe (Young) Creek Bridge Replacement Project
Boone County, Indiana**

State Form 51821 (R5/7-18) 1
Waters Resources Map 3
Design Plans and Cross Sections 4
Water of the U.S. Report (May 6, 2022) 8
IDNR Heritage Database Search Results 38

PROJECT	DESIGNATION
2021-12	N/A
CONTRACT	BRIDGE FILE
N/A	06-00021

STRUCTURE INFORMATION				
STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
06-00021	Precast Reinforced-Concrete Three-Sided Structure	1 Span: 26'-0" Skew: 10°00'00" Rt.	Young Creek	16+25.82 "A"

NOTE: Structure Replaces Small Structure SC015



APPROVED BY:
BOONE COUNTY BOARD OF COMMISSIONERS

Jeff Wolfe, President _____ DATE

Don Lawson, Vice President _____ DATE

Tom Santelli, Member _____ DATE

ATTEST BY:
BOONE COUNTY AUDITOR

Debbie Crum _____ DATE

RECOMMENDED FOR APPROVAL BY:
BOONE COUNTY HIGHWAY DEPARTMENT

Mike Goralski, PE, County Engineer _____ DATE

BOONE COUNTY HIGHWAY DEPARTMENT

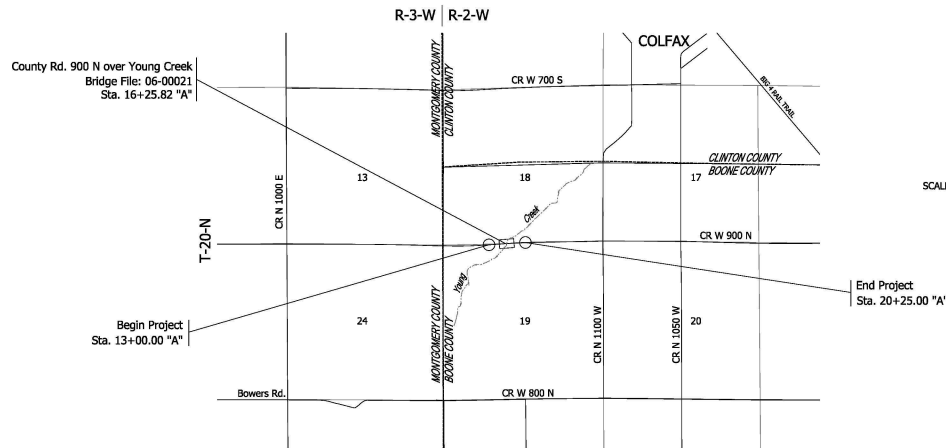
BRIDGE PLANS

FOR SPANS OVER 20 FEET

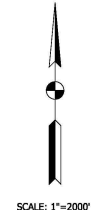
CR 900 N OVER YOUNG CREEK

PROJECT NO. 2021-12

Bridge Replacement on County Rd. 900 N over Young Creek
Located 0.6 miles west of County Rd. 1100 W
Sections 18 & 19, T-20-N, R-2-W, Sugar Creek Township, Boone County



LOCATION MAP



SCALE: 1"=2000'

TRAFFIC DATA		
A.A.D.T. (2023)		100 V.P.D.
A.A.D.T. (---)		--- V.P.D.
D.H.V. (---)		--- V.P.H.
DIRECTIONAL DISTRIBUTION	50/50 %	
TRUCKS	-% A.A.D.T.	
	-% D.H.V.	

DESIGN DATA	
DESIGN SPEED	45 M.P.H.
PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	LOCAL STREET
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE



PROJECT LOCATION SHOWN BY
(BOONE COUNTY)

LATITUDE: 40°10'17" N LONGITUDE: 86°41'17" W

BRIDGE LENGTH:	0.006	MI.
ROADWAY LENGTH:	0.131	MI.
TOTAL LENGTH:	0.137	MI.
MAX. GRADE:	+2.07	%

HUC12: 051201100405
HUC14: 05120110020060

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2022 &
BOONE COUNTY STANDARD DRAWINGS DATED 2021
TO BE USED WITH THESE PLANS

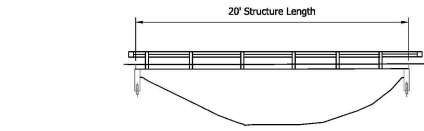
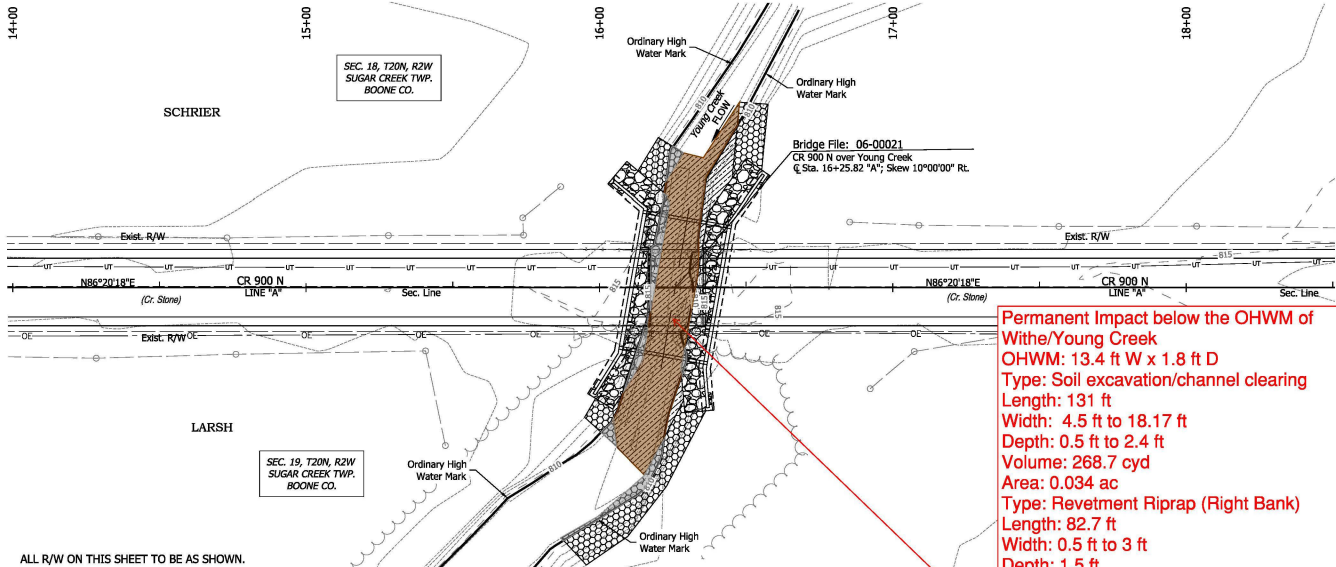
BRIDGE FILE	
06-00021	
DESIGNATION	N/A
SURVEY BOOK	SHEET
ELECTRONIC	1 of 8
CONTRACT	PROJECT
N/A	2021-12

PLANS PREPARED BY: **LOCHMUELLER GROUP, INC.** (317) 222-3880
PHONE NUMBER

CERTIFIED BY: _____ DATE

PLANS PREPARED BY: **LOCHMUELLER GROUP, INC.** (317) 222-3880
PHONE NUMBER

CERTIFIED BY: _____ DATE



EXISTING STRUCTURE
 The existing structure is a single span precast concrete box beam bridge with a 18.3' span and 23.8' clear roadway. Existing structure to be removed.
 NOT TO SCALE

- DENOTES LIMITS OF 18' REVELMENT RIPRAP ON GEOTEXTILE, TYPE 1A
- DENOTES LIMITS OF 18' REVELMENT RIPRAP ON GEOTEXTILE, TYPE 1A FOR BANK STABILIZATION AND EROSION CONTROL
- DENOTES LIMITS OF CHANNEL CLEARING

HYDRAULIC DATA
(FLAT TOP OPTION)

Drainage Area	=7.42 sq mi
Q100 Discharge	=1,850 cfs
Q100 Elevation	=814.16 ft
Waterway Opening Required	=187.51 sq ft
Waterway Opening Provided	=203.06 ft
Velocity (Q100)	=2.51 ft/sec
Backwater at Q100	=0.03 ft
Low Structure Elevation	=814.63 ft

HYDRAULIC DATA
(ARCH TOP OPTION)

Drainage Area	=7.42 sq mi
Q100 Discharge	=1,850 cfs
Q100 Elevation	=814.16 ft
Waterway Opening Required	=187.51 sq ft
Waterway Opening Provided	=203.06 ft
Velocity (Q100)	=2.51 ft/sec
Backwater at Q100	=0.03 ft
Low Structure Elevation	=814.63 ft

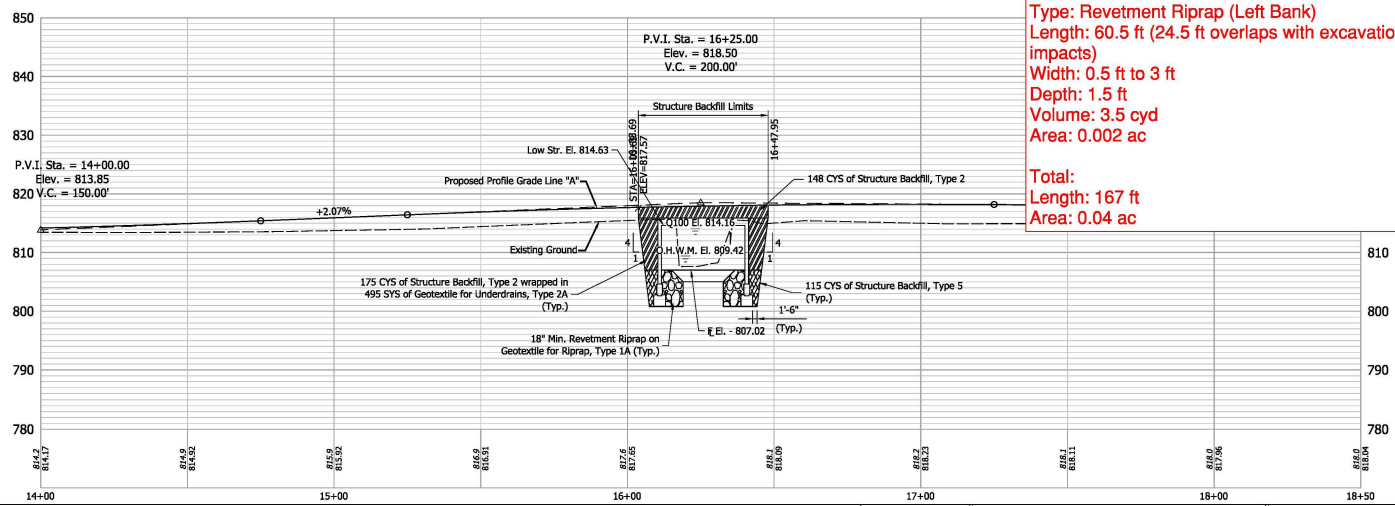
Existing Waterway Opening	=107.42 sq ft
Existing Low Structure Elevation	=814.63 ft
Existing Backwater	=0.05 ft
Existing Velocity	=2.05 ft/sec

HYDRAULIC SCOUR DATA

Q100 Discharge	=1,850 cfs
Q100 Elevation	=814.16 ft
Velocity at Q100	=2.75 ft/sec
Scour Depth (Contraction)	=0.46 ft
Scour Depth (Total)	=0.46 ft
Low Scour Elevation	=806.56 ft
Q500 Discharge	=2,498 cfs
Q500 Elevation	=814.48 ft
Velocity at Q500	=2.19 ft/sec
Scour Depth (Contraction)	=0.0 ft
Scour Depth (Total)	=0.0 ft
Low Scour Elevation	=807.02 ft

Permanent Impact below the OHWM of Withe/Young Creek
OHWM: 13.4 ft W x 1.8 ft D
Type: Soil excavation/channel clearing
Length: 131 ft
Width: 4.5 ft to 18.17 ft
Depth: 0.5 ft to 2.4 ft
Volume: 268.7 cyd
Area: 0.034 ac
Type: Revetment Riprap (Right Bank)
Length: 82.7 ft
Width: 0.5 ft to 3 ft
Depth: 1.5 ft
Volume: 4.2 cyd
Area: 0.004 ac
Type: Revetment Riprap (Left Bank)
Length: 60.5 ft (24.5 ft overlaps with excavation impacts)
Width: 0.5 ft to 3 ft
Depth: 1.5 ft
Volume: 3.5 cyd
Area: 0.002 ac
Total:
Length: 167 ft
Area: 0.04 ac

ALL R/W ON THIS SHEET TO BE AS SHOWN.
 ALL R/W ON THIS SHEET DESCRIBED FROM LINE "A" EXCEPT AS SHOWN.



PRECAST REINFORCED-CONCRETE THREE-SIDED STRUCTURE
1 SPAN: 28'-0"; 11'-10" RISE
CLEAR ROADWAY: 26'-0"
SKWEV: 10°00'00" RT.
CR 900 N OVER YOUNG CREEK
BOONE COUNTY

Date: Nov 12, 2022 3:26pm User Name: Tracy
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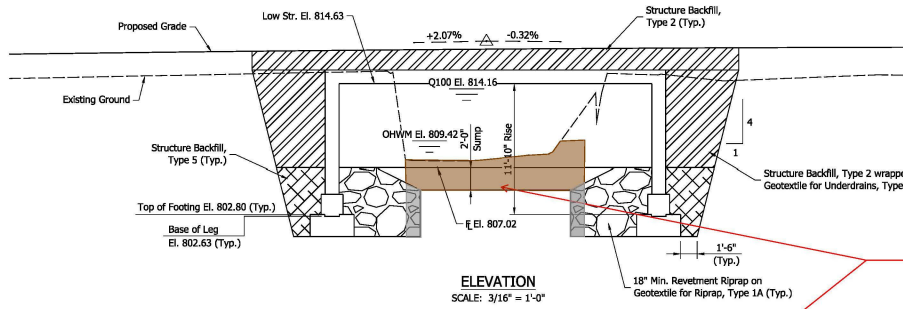
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: WSH	DRAWN: TAM	
CHECKED: BAC	CHECKED: WSH	

BOONE COUNTY HIGHWAY DEPARTMENT	
LAYOUT	

HORIZONTAL SCALE	BRIDGE FILE
1"=20'	06-00021
VERTICAL SCALE	DESIGNATION
1"=10'	N/A
SURVEY BOOK	SHEET
ELECTRONIC	11 of 26
CONTRACT	PROJECT
N/A	2021-12

VERTICAL CURVE INFORMATION

PVI = 16+25.00
 EL. = 818.50
 V.C. = 200'
 G₁ = +2.07%
 G₂ = -0.32%



Permanent Impact below the OHWM of Withe/Young Creek
OHWM: 13.4 ft W x 1.8 ft D
 Type: Soil excavation/channel clearing
 Length: 131 ft
 Width: 4.5 ft to 18.17 ft
 Depth: 0.5 ft to 2.4 ft
 Volume: 268.7 cyd
 Area: 0.034 ac
 Type: Revetment Riprap (Right Bank)
 Length: 82.7 ft
 Width: 0.5 ft to 3 ft
 Depth: 1.5 ft
 Volume: 4.2 cyd
 Area: 0.004 ac
 Type: Revetment Riprap (Left Bank)
 Length: 60.5 ft (24.5 ft overlaps with excavation impacts)
 Width: 0.5 ft to 3 ft
 Depth: 1.5 ft
 Volume: 3.5 cyd
 Area: 0.002 ac
Total:
 Length: 167 ft
 Area: 0.04 ac

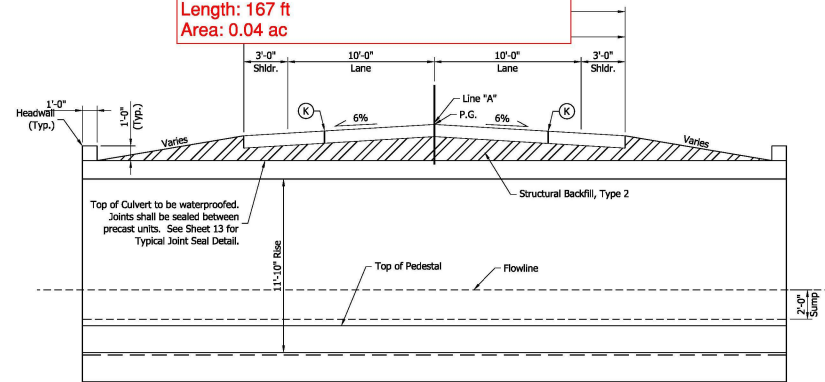
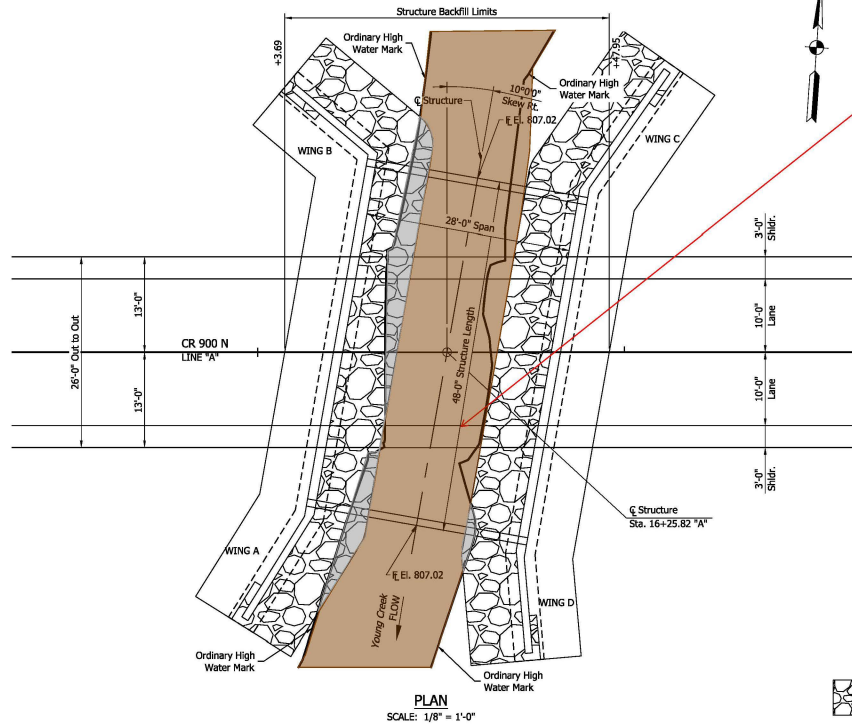
TYPICAL ROAD CROSS SECTION
 See Sheet No. 3

DESIGN DATA

Designed for HL-93 loading, in accordance with AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and all subsequent interim specifications.
 Actual weight plus 35 psf for future wearing surface.

GENERAL NOTES

- 1. All structure shall be precast. Wingwalls & headwalls may be cast in cast.
- 2. Riprap and geotextile quantities shall be based on the quantities indicated in the layout scheme.
- 3. Areas of the headwalls and wingwalls shall be surfaced sealed.
- 4. The contractor shall verify the existing flowline elevation to set the appropriate sump.
- 5. For protection details, see INDOT Std. Drwg. 723-CCSP-03 & 723-CCSP-04.
- 6. The soils found at the proposed foundation grade shall be undercut 24" and fill with Compacted Aggregate No. 5 (Est. Qty. = 98 CYS) wrapped in Geotextile for Type 2B (Est. Qty. = 365 SY5). For additional details see Footing Subgrade detail on Sheet 13.
- 7. All precast concrete segments shall be sealed prior to waterproofing by skew rod dipped in resin into the joints. After the resin around the skewer rod additional resin will be placed to fill the joints between the precast concrete and the joint will be waterproofed per manufacturers recommendations. For information see Typical Joint Seal Detail on Sheet 13.
- 8. All joints in the precast structure will be filled with grout prior to waterproofing.
- 9. The waterproofing membrane must be fully covered with fill.



PRECAST REINFORCED-CONCRETE THREE-SIDED STRUCTURE
 1 SPAN: 28'-0"; 11'-10" RISE
 CLEAR ROADWAY: 26'-0"
 SKEW: 10°00'00" RT.
 CR 900 N OVER YOUNG CREEK
 BOONE COUNTY

LEGEND

- (K) 12" Compacted Aggregate, No. 53 on Subgrade Treatment, Type III

DENOTES LIMITS OF 18" REVETMENT RIPRAP & GEOTEXTILE FOR RIPRAP, TYPE 1A

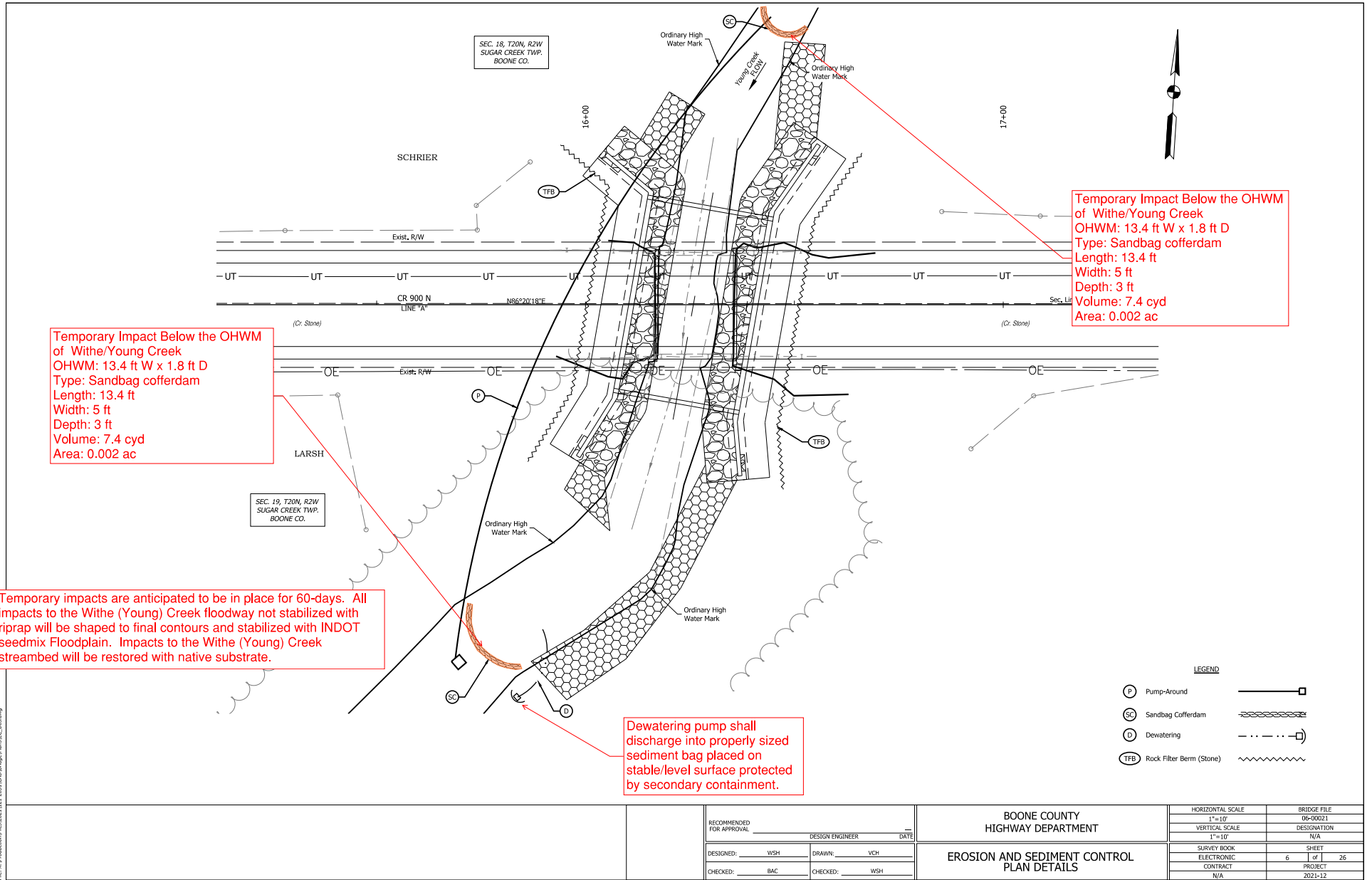
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: WSH	DRAWN: TAM	
CHECKED: BAC	CHECKED: WSH	

BOONE COUNTY
 HIGHWAY DEPARTMENT

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	06-00021
VERTICAL SCALE	DESIGNATION
AS SHOWN	N/A
SURVEY BOOK	SHEET
ELECTRONIC 12	of 26
CONTRACT	PROJECT
N/A	2021-12

Temporary Impact



Temporary Impact Below the OHWM of Withe/Young Creek
OHWM: 13.4 ft W x 1.8 ft D
Type: Sandbag cofferdam
Length: 13.4 ft
Width: 5 ft
Depth: 3 ft
Volume: 7.4 cyd
Area: 0.002 ac

Temporary Impact Below the OHWM of Withe/Young Creek
OHWM: 13.4 ft W x 1.8 ft D
Type: Sandbag cofferdam
Length: 13.4 ft
Width: 5 ft
Depth: 3 ft
Volume: 7.4 cyd
Area: 0.002 ac

Temporary impacts are anticipated to be in place for 60-days. All impacts to the Withe (Young) Creek floodway not stabilized with riprap will be shaped to final contours and stabilized with INDOT seedmix Floodplain. Impacts to the Withe (Young) Creek streambed will be restored with native substrate.

Dewatering pump shall discharge into properly sized sediment bag placed on stable/level surface protected by secondary containment.

Date: May 10, 2022, 2:56pm User Name: Tracy File: X:\Production\Files\2021\2121-2021\2121-2021\2121-2021\2121-2021\2121-2021\2121-2021.dwg

RECOMMENDED FOR APPROVAL: _____	
DESIGNED: WSH	DRAWN: VEH
CHECKED: BAC	CHECKED: WSH

BOONE COUNTY HIGHWAY DEPARTMENT	
EROSION AND SEDIMENT CONTROL PLAN DETAILS	

HORIZONTAL SCALE	BRIDGE FILE
1"=10'	09-00021
VERTICAL SCALE	DESIGNATION
1"=10'	N/A
SURVEY BOOK	SHEET
ELECTRONIC	6 of 26
CONTRACT	PROJECT
N/A	2021-12

**Waters of the U.S. Determination
County Road (CR) 900 N, Bridge Project
Structure No.: SC015
Boone County, Indiana**

Date(s) of Field Reconnaissance

October 20, 2021

Location

The project is located along CR 900 N, 0.6 mile East of CR 1100 W in Boone County, IN (Pages A1 through A3).

- Sections 18 and 19, Township 20 North, Range 2 West
- Colfax 1:24,000 United States Geological Survey (USGS) Quadrangles
- Sugar Creek Township, Boone County, Indiana
- Latitude: 40.171488°N Longitude: -86.687987°W

Project Description

The proposed project involves the replacement of the existing concrete box beam culvert (Structure No. SC015). The replacement will involve replacement of the existing structure with a new precast reinforced-concrete three-sided structure. New revetment riprap will be placed along the channel of Withe Creek (also known as Young Creek) through the structure. The new structure will have a new structure number, No. 06-00021.

One stream, Withe Creek, was identified within the investigation area. The investigation area is located along CR 900 N in Boone County, Indiana. Surrounding landscape is suburban and consists of maintained lawn, residential land, and some forested land. The investigation area is located within the mapped floodway of Withe Creek.

Soils

According to the Soil Survey Geographic (SSURGO) Database for Boone County, Indiana, the investigation area contains soil areas with predominantly hydric soils (Page A4).

Soil Name	Map Abbreviation	Hydric Range
Cyclone silty clay loam, 0 to 2 percent slopes	CxdA	Predominantly Hydric (83%)
Fincastle silt loam, tipton till plain, 0 to 2 percent slopes	FdbA	Predominantly Nonhydric (15%)
Mahalasville silty clay loam, 0 to 2 percent slopes	MamA	Predominantly Hydric (98%)
Miami-Rainsville complex, 2 to 6 percent slopes, eroded	XfuB2	Predominantly Nonhydric (1%)

National Wetlands Inventory Information

One National Wetlands Inventory (NWI) wetland was identified within the investigation area (Page A5). The wetland, which was field confirmed as Withe Creek, is classified as riverine, unknown perennial, unconsolidated bottom, permanently flooded (R5UBH). Wetland type is based on *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979).

Wetland Type	Description	Location: Lat/Long
R5UBH	riverine, unknown perennial, unconsolidated bottom, permanently flooded	40.171896°N -86.687748°W

12-Digit HUC

The Boone SC015 structure project investigation area is within the 12-digit HUC watershed 051201100405 (Withe Creek-Sugar Creek). The USGS StreamStats (<https://streamstats.usgs.gov/ss/>) generated one watershed within the investigation area with an upstream drainage area of 7.41 square miles (Page A7). The Indiana Floodplain Information Portal (<https://dnrmapping.dnr.in.gov/appsphp/fdms/>) Best Available Flood Zones data indicate that the investigation area is within a mapped floodway. The investigation area is within a regulatory floodway (Page A7).

Attached Documents

- Location Map
- USGS Quad Map (1:24,000)
- USGS Quad Map (1:12,000)
- USDA SSURGO Hydric Soils Map
- USFWS NWI Map
- StreamStats Watershed Map
- Best Available Flood Hazard Map
- Water Resources Map
- Photo Location Map and Project Photos
- Preliminary Jurisdictional Determination

Field Reconnaissance

The Waters of the U.S. (WOTUS) investigation area limits were established based on the scope of work expected for the Boone County SC015 structure project. One stream was identified during the field reconnaissance. No wetlands or roadside ditches were identified.

Water resource boundaries were mapped using a Trimble R1 receiver (sub-meter accuracy) and ArcCollector as the GIS data collection platform. For those features that displayed bed and bank, the ordinary high water mark (OHWM) width and depth were measured at the maximum dimension observed beyond the influence of bridge and culvert structures.

Stream Feature(s)

According to the USGS Colfax 1:24,000 topographic quadrangles, one solid blue-line stream feature is present within the investigation area (Pages A2 and A3). The NHD GIS dataset included one flowline feature within the investigation area (Page A9). The field investigation concluded that this feature was Withe Creek, which flows from northeast to southwest through the investigation area.

Withe Creek

Withe Creek is a natural perennial channel that flows northeast to southwest through the project area.. Approximately 214 feet of the stream is within the investigation area. The ordinary high water mark (OHWM) is 13.4 feet wide by 1.8 feet deep. The upstream drainage area is 7.41 square miles. The substrate within this reach of Withe Creek is silt (40%), sand (30%), gravel (20%) and cobble (10%). The channel morphology within this reach of Withe Creek is run (60%), riffle (25%) and pool (15%). The surrounding riparian area is rural with forested and agricultural land. This stream reach is considered average quality due to available habitat, riparian cover, and natural sinuosity.

Withe Creek is considered to be an perennial stream feature and it has a direct hydrologic connection with Sugar Creek approximately 3.4 river miles downstream of the project area. Sugar Creek is considered navigable from its junction with the Wabash River in Parke County for 56.8 miles to Montgomery-Boone County Line. Withe Creek would be subject to USACE jurisdiction under Section 404 of the Clean Water Act due to its connection to a traditionally navigable water (TNW). Withe Creek would not be subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.

Stream Summary Table

Water Feature Name	Photos	Lat/Long	OHW Width (ft)	OHW Depth (ft)	USGS Blue-line? Type?	Riffles? Pools?	Quality	Substrate	Likely Waters of U.S.?
Withe Creek	7-10, 13-16	40.171589°N -86.687968°W	13.4	1.8	Yes Perennial	Yes Yes	Average	Silt (40%) Sand (30%) Gravel (20%) Cobble (10%)	Yes

Wetlands

The October 20, 2021 field investigation did not identify any wetland features within the investigation area. Although the investigation area is within an area with mapped hydric soils, no hydrophyric vegetation or wetland hydrology indicators were identified.

Open Water

Open water features were not identified within the investigation area.

Roadside Ditch

Roadside ditch features were not identified within the investigation area.

Conclusions

The October 20, 2021 field review for the Boone SC015 Structure Replacement Project identified one stream, Withe Creek, within the investigation area. Withe Creek would be subject to USACE jurisdiction under Section 404 of the Clean Water Act due to its connection to Sugar Creek, a TNW.

Every effort should be taken to avoid and minimize impacts to waterways. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the U.S. Army Corps of Engineers. This report is our best judgment based on the guidelines set forth by the Corps.

All drainage structures within the investigation area were examined on October 20, 2021 for the presence of bats and were found to show no direct or indirect signs of occupation. Bird nests were not present under the structure.

Acknowledgement

This waters determination has been prepared based on the best available information, interpreted in the light of the investigator’s training, experience, and professional judgement in conformance with the 1987 *Corps of Engineers Wetlands Delineation Manual*, the appropriate regional supplement, the USACE *Jurisdictional Determination Form Instructional Guidebook*, and other appropriate agency guidelines.

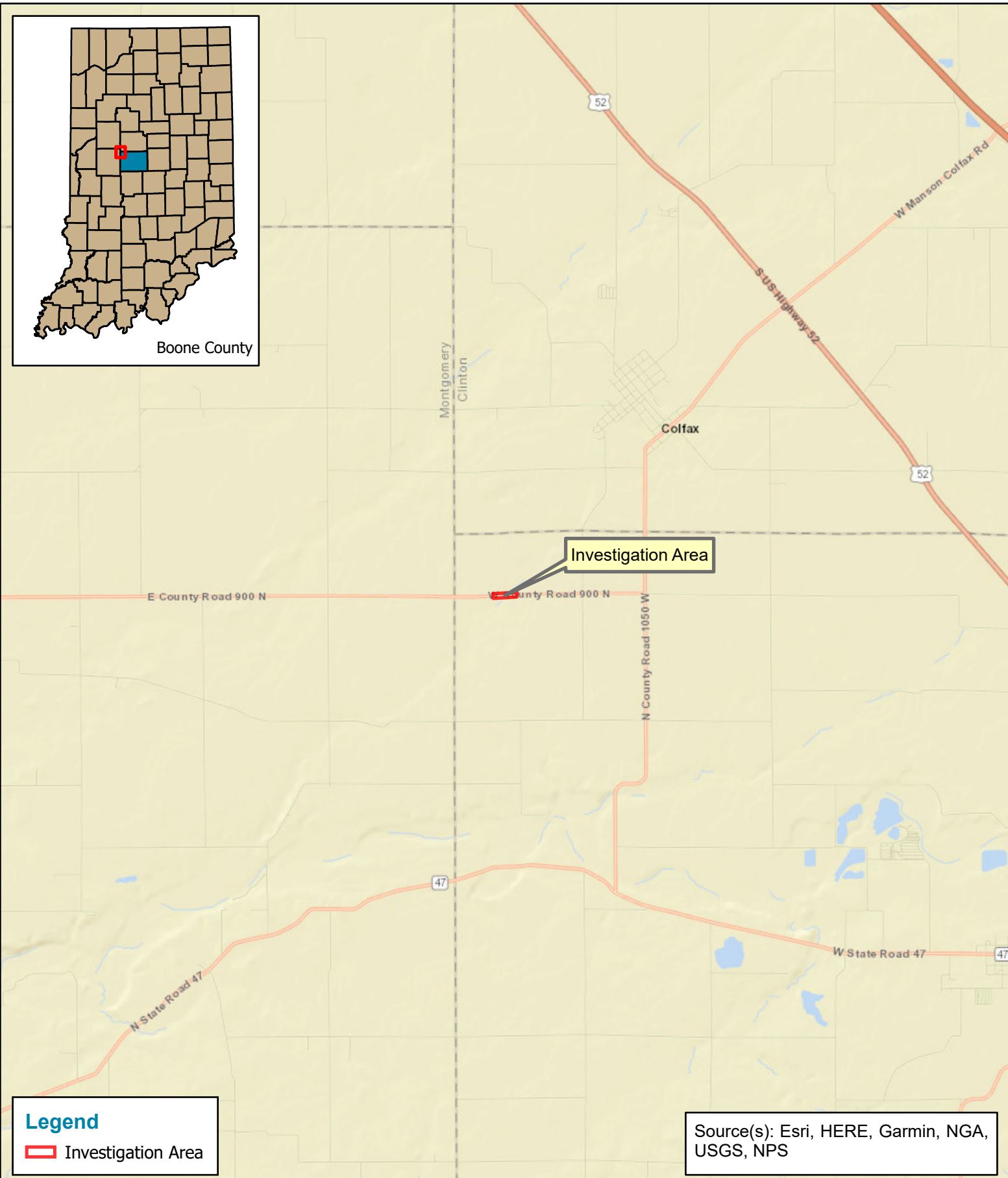
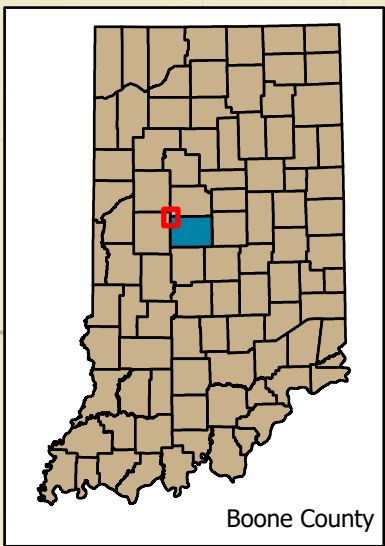
Chris Kunkel




Environmental Specialist II
Lochmueller Group, Inc.

Preparers

Lochmueller Group, Inc. Staff	Position	Contributing Effort
Chris Kunkel	Environmental Specialist	Field Data Collection, Report Preparation
Riley Marshall	Environmental Specialist	Field Data Collection



Legend

 Investigation Area


Source(s): Esri, HERE, Garmin, NGA, USGS, NPS



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 Indianapolis, IN 46268
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 Fax: (317) 222-3881

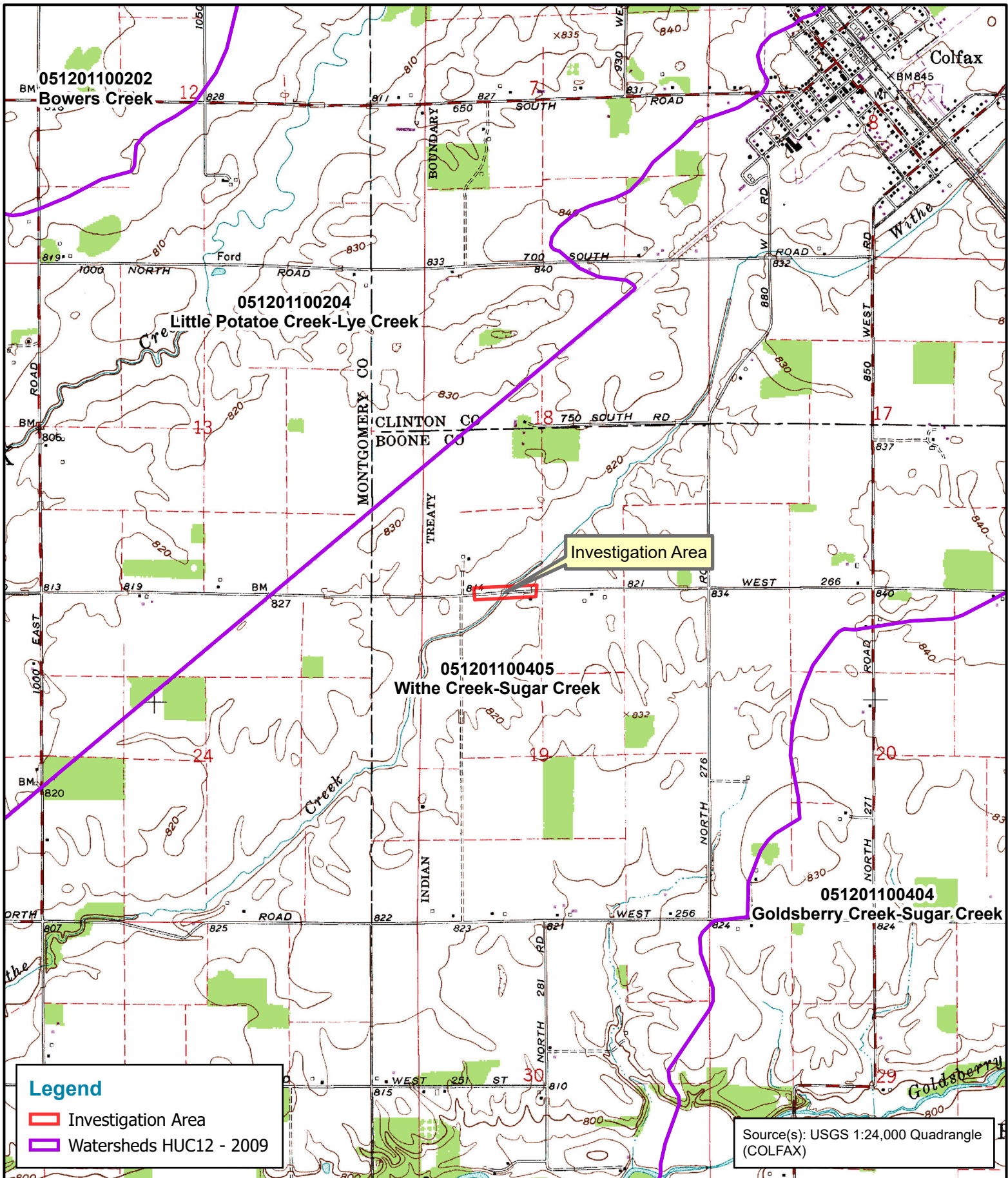
Location Map
 Waters of the U.S. Report

0 0.5 1 Miles



County: Boone
 Township: Sugar Creek
 State: Indiana

CR 900 N, 0.6 mi E of CR 1100 W
 Structure Replacement
 Created: 1/20/2022, CKunkel



Legend

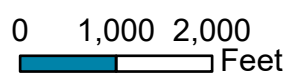
- Investigation Area
- Watersheds HUC12 - 2009

Source(s): USGS 1:24,000 Quadrangle (COLFAX)



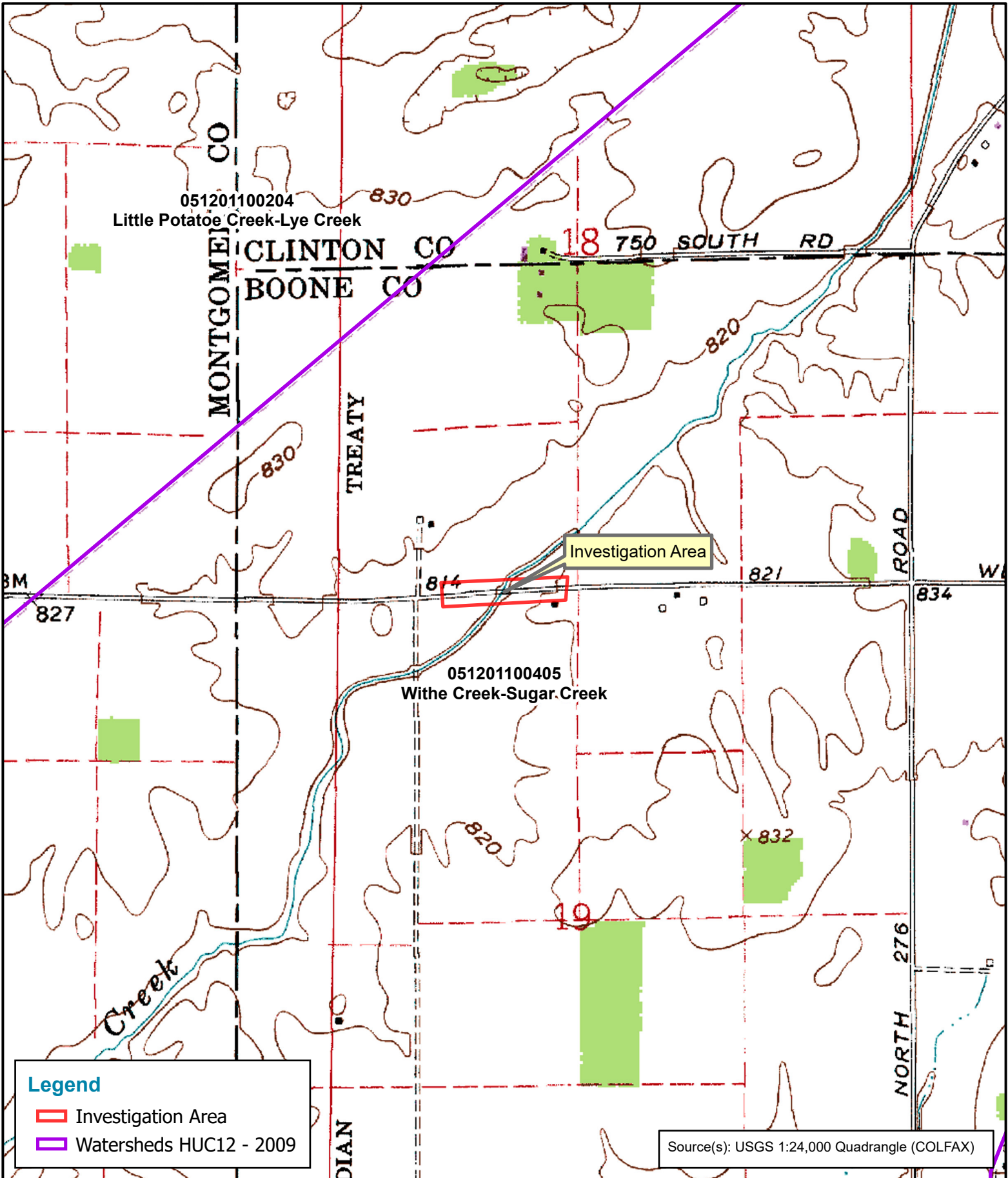
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 Fax: (317) 222-3881

USGS Quad Map (1:24,000)
 Waters of the U.S. Report



County: Boone
 Township: Sugar Creek
 State: Indiana

CR 900 N, 0.6 mi E of CR 1100 W
 Structure Replacement
 Created: 1/20/2022, CKunkel



Legend

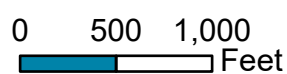
- Investigation Area
- Watersheds HUC12 - 2009

Source(s): USGS 1:24,000 Quadrange (COLFAX)



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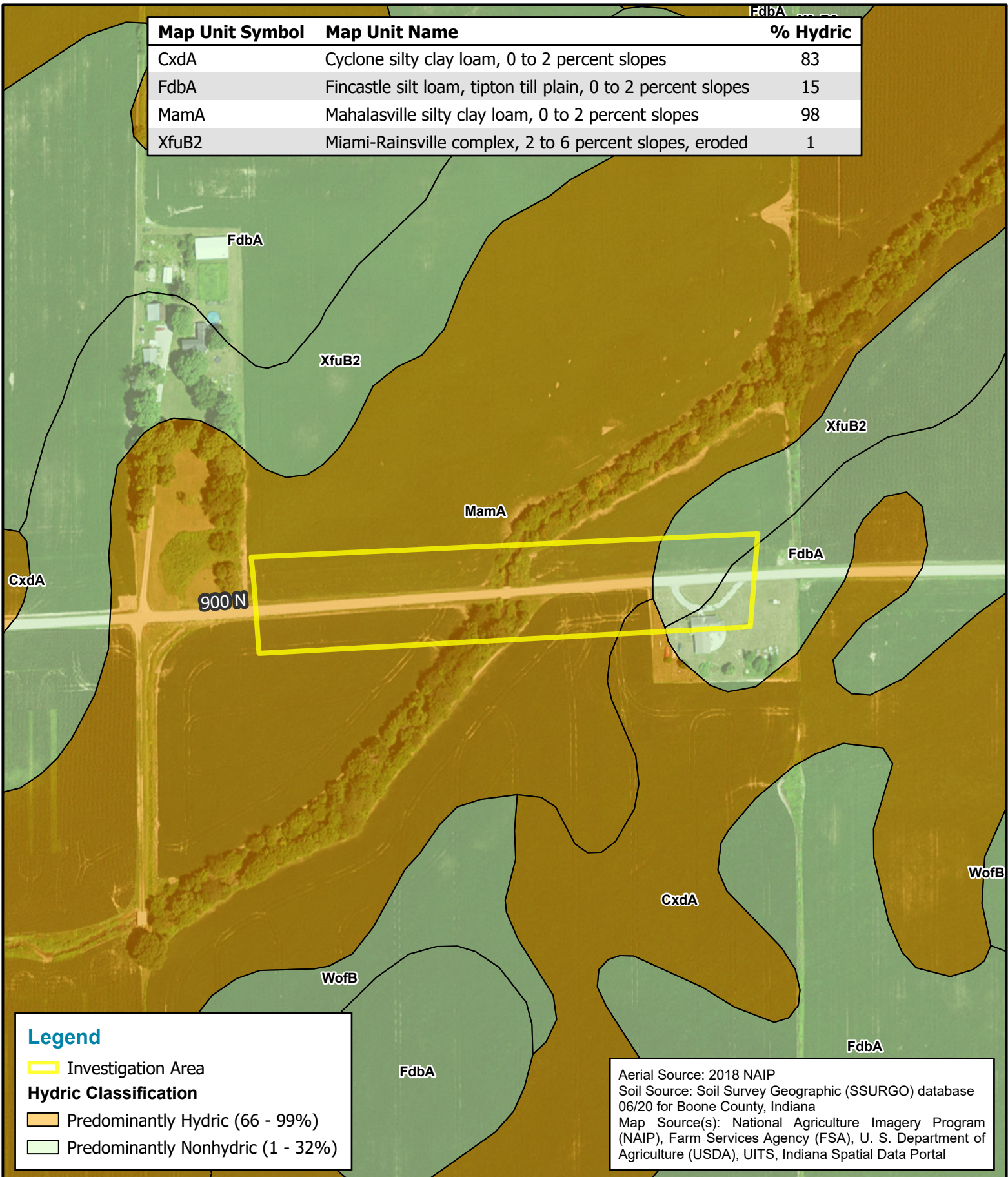
USGS Quad Map (1:12,000)
 Waters of the U.S. Report



County: Boone
 Township: Sugar Creek
 State: Indiana

CR 900 N, 0.6 mi E of CR 1100 W
 Structure Replacement
 Created: 1/20/2022, CKunkel

Map Unit Symbol	Map Unit Name	% Hydric
CxdA	Cyclone silty clay loam, 0 to 2 percent slopes	83
FdbA	Fincastle silt loam, tipton till plain, 0 to 2 percent slopes	15
MamA	Mahalasville silty clay loam, 0 to 2 percent slopes	98
XfuB2	Miami-Rainsville complex, 2 to 6 percent slopes, eroded	1



Legend

Investigation Area

Hydric Classification

Predominantly Hydric (66 - 99%)

Predominantly Nonhydric (1 - 32%)

Aerial Source: 2018 NAIP
 Soil Source: Soil Survey Geographic (SSURGO) database 06/20 for Boone County, Indiana
 Map Source(s): National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

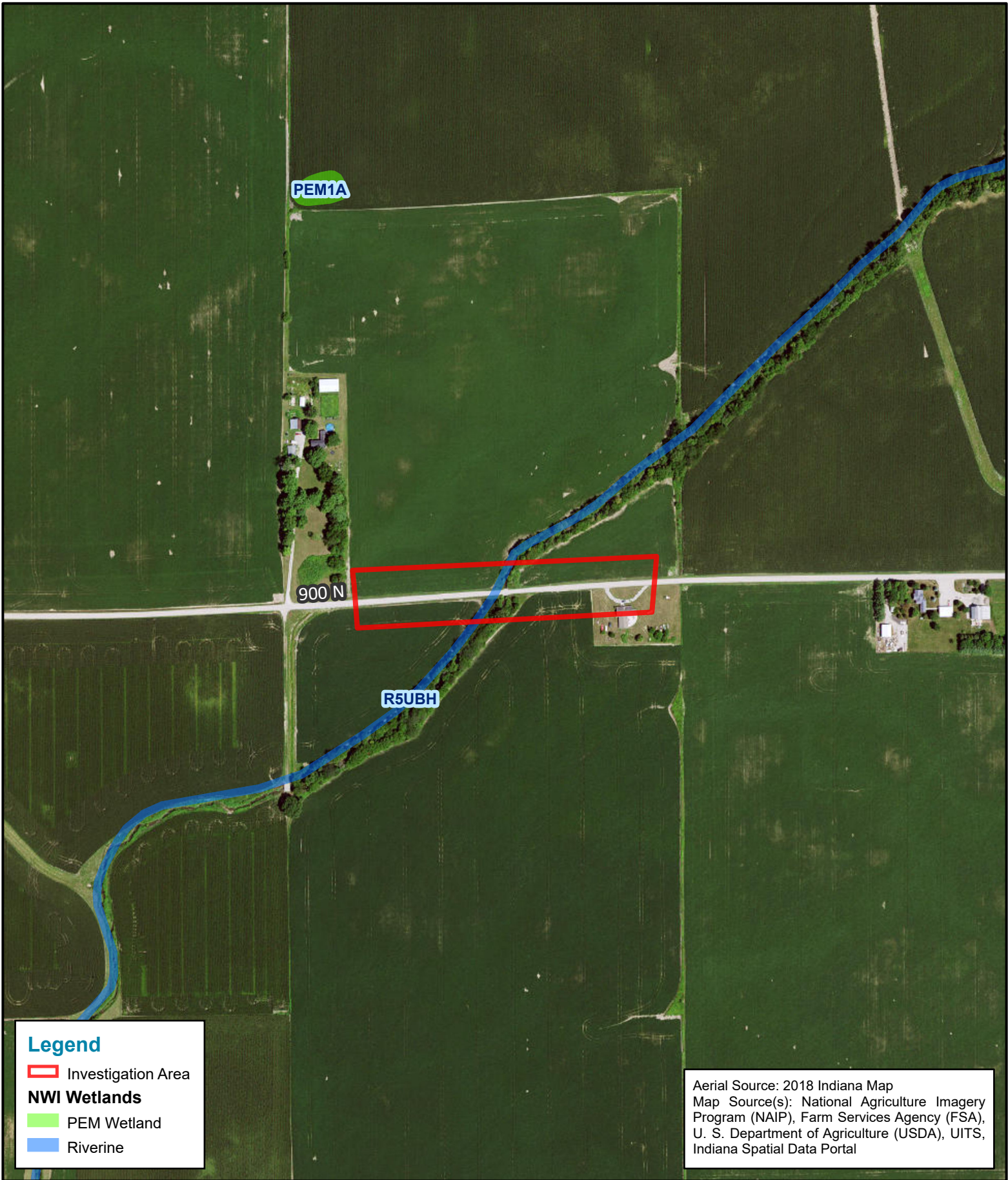
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USDA SSURGO Soils Map
 Waters of the U.S. Report

0 150 300 Feet

County: Boone
 Township: Sugar Creek
 State: Indiana

CR 900 N, 0.6 mi E of CR 1100 W
 Structure Replacement
 Created: 1/20/2022, CKunkel



Legend

- Investigation Area
- NWI Wetlands**
- PEM Wetland
- Riverine

Aerial Source: 2018 Indiana Map
 Map Source(s): National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

LOCHMUELLER GROUP

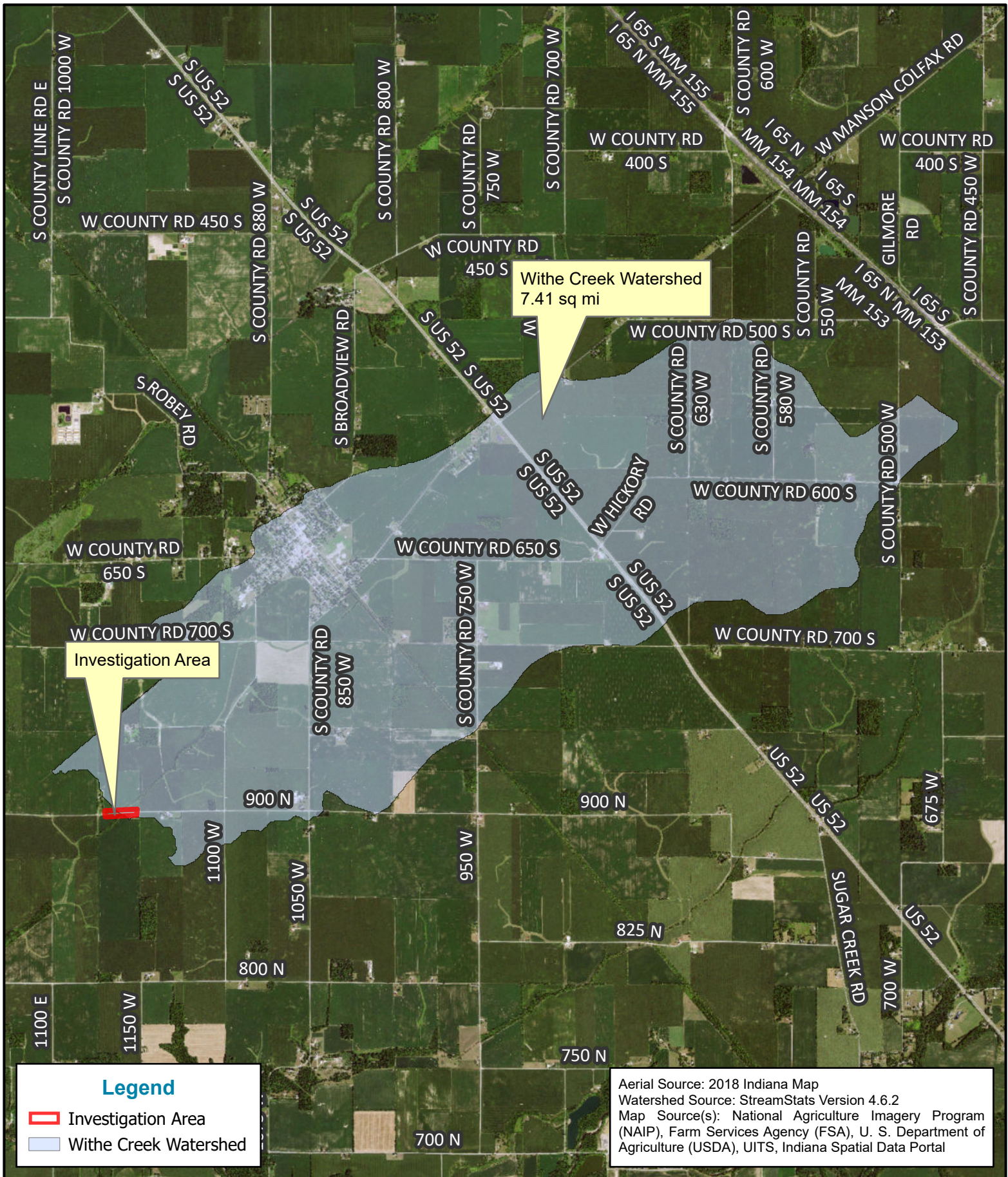
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 Fax: (317) 222-3881

USFWS NWI Map
 Waters of the U.S. Report

0 250 500
 Feet

County: Boone
 Township: Sugar Creek
 State: Indiana

CR 900 N, 0.6 mi E of CR 1100 W
 Structure Replacement
 Created: 1/24/2022, CKunkel



Legend

Investigation Area

Withe Creek Watershed

Aerial Source: 2018 Indiana Map
Watershed Source: StreamStats Version 4.6.2
Map Source(s): National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITs, Indiana Spatial Data Portal

LOCHMUELLER GROUP

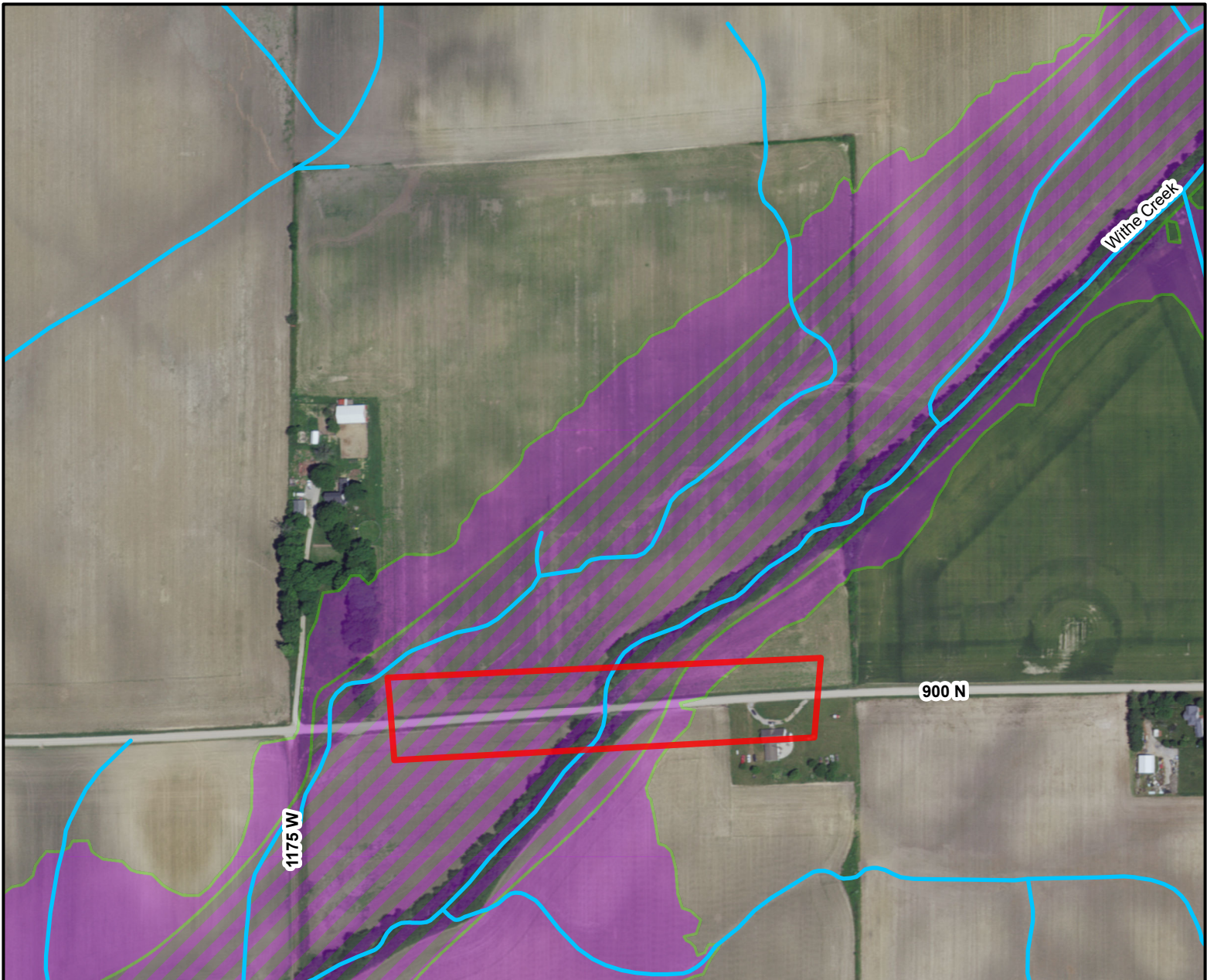
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Fax: (317) 222-3881

StreamStats Watershed Map
Waters of the U.S. Report

0 2,000 4,000
Feet

County: Boone
Township: Sugar Creek
State: Indiana

CR 900 N, 0.6 mi E of CR 1100 W
Structure Replacement
Created: 2/4/2022, CKunkel



Legend

Investigation Area	DNR Detailed Fringe
NHD Flowlines	DNR Approximate Fringe
<all other values>	Additional Floodplain Area; DNR .2 Percent Flood Hazard
FEMA Zone AE Floodway; FEMA Administrative Floodway	FEMA Protected by Levee
DNR Detailed Floodway	FEMA Floodplain - Ponding (Depth)
DNR Approximate Floodway	FEMA Floodplain - Sheet Flow (Depth)
FEMA Zone A	Not Mapped
FEMA Zone AE	

Aerial Source: 2018 Indiana Map
 Map Source(s): Indiana Department of Natural Resources, Division of Water

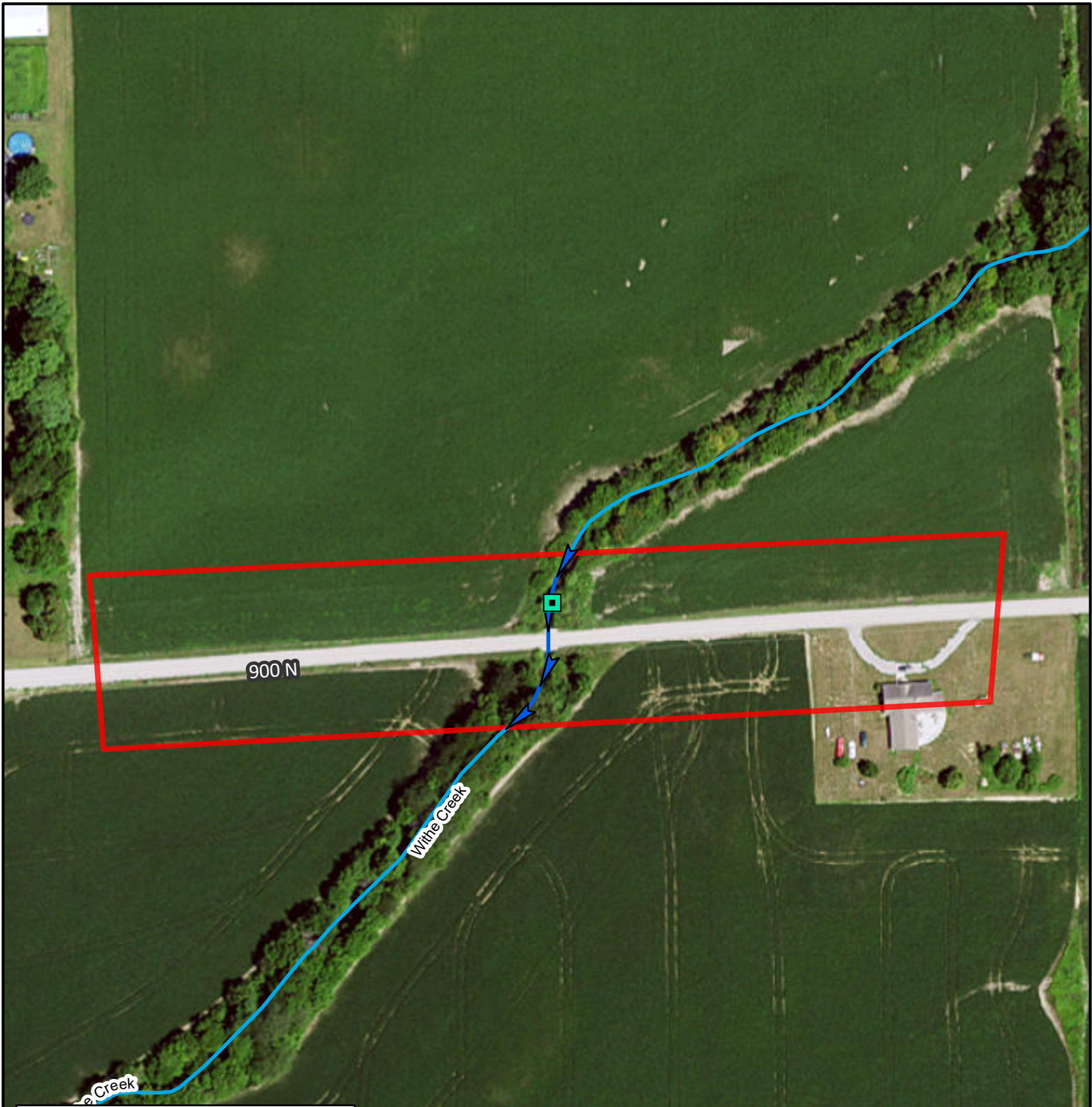
3502 Woodview Trace, Suite 150
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 Phone: (317) 222-3880
 Fax: (317) 222-3881

Best Available Flood Hazard Map
 Waters of the U.S. Report

0 200 400 Feet

County: Boone
 Township: Sugar Creek
 State: Indiana

CR 900 N, 0.6 mi E of CR 1100 W
 Structure Replacement
 Created: 1/20/2022, CKunkel



Legend

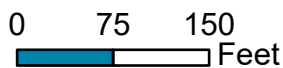
- ▭ Investigation Area
- NHD streams
- ▣ OHWM
- ← Streams

Aerial Source: 2018 NAIP
 Map Source(s): National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal



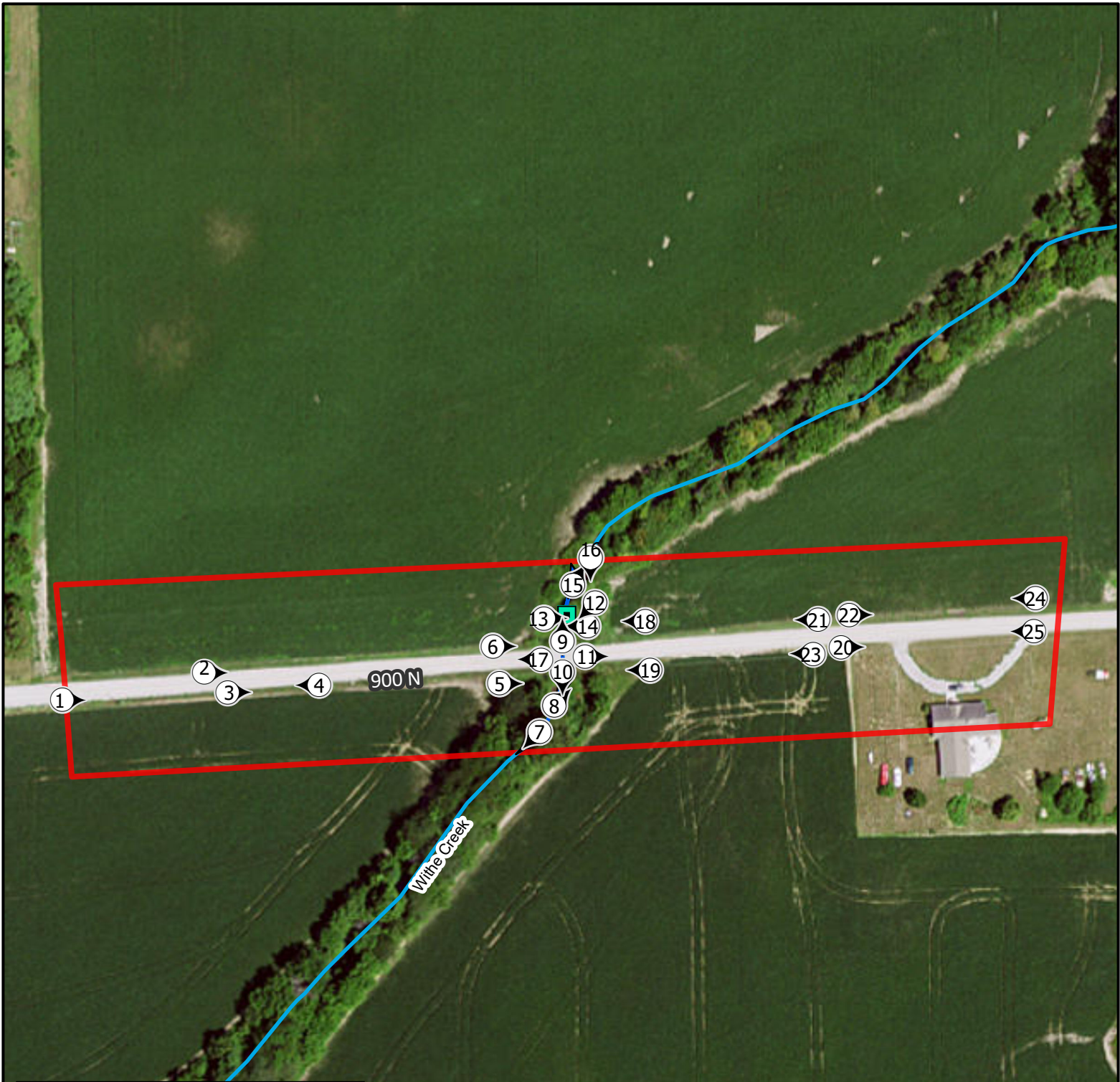
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Water Resources Map
 Waters of the U.S. Report








County: Boone
 Township: Sugar Creek
 State: Indiana

CR 900 N, 0.6 mi E of CR 1100 W
 Structure Replacement
 Created: 1/20/2022, CKunkel



Legend

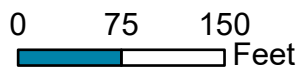
-  Photo Locations
-  OHWM
-  Streams
-  NHD streams
-  Survey Area

Aerial Source: 2018 Indiana Map
 Map Source(s): National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal



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Photo Location Map
 Waters of the U.S. Report



County: Boone
 Township: Sugar Creek
 State: Indiana

CR 900 N, 0.6 mi E of CR 1100 W
 Structure Replacement
 Created: 1/21/2022, CKunkel



1. Looking east along CR 900 N



2. Looking east along CR 900 N



3. Looking east along CR 900 N



4. Looking west along CR 900 N



5. Looking east toward Withe Creek



6. Looking east toward Withe Creek



7. Looking southwest downstream along Withe Creek



8. Looking northeast upstream along Withe Creek toward structure



9. Looking north upstream along Withe Creek from structure



10. Looking south downstream along Withe Creek from structure



11. Looking east along CR 900 N from structure



12. Looking southwest at Withe Creek



13. Looking east at left bank of Withe Creek



14. Looking west at right bank of Withe Creek



15. Looking northeast upstream along Withe Creek



16. Looking south downstream along Withe Creek



17. Looking west along CR 900 N



18. Looking west toward Withe Creek



19. Looking west toward Withe Creek



20. Looking east along CR 900 N



21. Looking west along CR 900 N



22. Looking east along CR 900 N



23. Looking west along CR 900 N



24. Looking west along CR 900 N



25. Looking west along CR 900 N

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD:

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: County/parish/borough: City:

Center coordinates of site (lat/long in degree decimal format):

Lat.: Long.:

Universal Transverse Mercator:

Name of nearest waterbody:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s):

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "*may be*" waters of the U.S. and/or that there "*may be*" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: _____.
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report. Rationale: _____.
- Data sheets prepared by the Corps: _____.
- Corps navigable waters' study: _____.
- U.S. Geological Survey Hydrologic Atlas: _____.
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: _____.
- Natural Resources Conservation Service Soil Survey. Citation: _____.
- National wetlands inventory map(s). Cite name: _____.
- State/local wetland inventory map(s): _____.
- FEMA/FIRM maps: _____.
- 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): _____.
or Other (Name & Date): _____.
- Previous determination(s). File no. and date of response letter: _____.
- Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and date of
Regulatory staff member
completing PJD

Chris Kunkel 5/6/2022

Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.



Division of Nature Preserves
402 W. Washington St., Rm W267
Indianapolis, IN 46204-2739

September 28, 2022

David Duncan
Lochmueller Group
6200 Vogel Road
Evansville, IN 47715

Dear David Duncan:

I am responding to your request for information on the threatened or endangered (T&E) species, high quality natural communities, and natural areas for the County Road 900 Bridge Replacement Project over Withe Creek in Boone County, Indiana. The Indiana Natural Heritage Data Center has been checked and there are no T&E species or significant areas documented within 0.5 mile of the project area.

If you need a general environmental review of the project from DNR, you can submit the project information to Christie Stanifer, DNR Environmental Coordinator, at environmentalreview@dnr.in.gov (preferred) or send to the street address below. For more help or guidance contact Christie Stanifer at cstanifer@dnr.in.gov.

Department of Natural Resources
Environmental Review
Division of Fish and Wildlife
402 W. Washington Street, Room W273
Indianapolis, IN 46204

The information I am providing does not preclude the requirement for further consultation with the U.S. Fish and Wildlife Service as required under Section 7 of the Endangered Species Act of 1973. If you have concerns about potential Endangered Species Act issues you should contact the Service at their Bloomington, Indiana office.

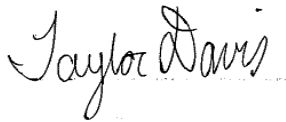
U.S. Fish and Wildlife Service
620 South Walker St.
Bloomington, Indiana 47403-2121
(812)334-4261

Please note that the Indiana Natural Heritage Data Center relies on the observations of many individuals for our data. In most cases, the information is not the result of comprehensive field surveys conducted at particular sites. Therefore, our statement that there are no documented significant natural features at a site should not be interpreted to mean that the site does not support special plants or animals.

Due to the dynamic nature and sensitivity of the data, this information should not be used for any project other than that for which it was originally intended. It may be necessary for you to request updated material from us in order to base your planning decisions on the most current information.

Thank you for contacting the Indiana Natural Heritage Data Center. You may reach me at (317)233-2558 you have any questions or need additional information.

Sincerely,

A handwritten signature in cursive script that reads "Taylor Davis". The signature is written in black ink on a white background.

Taylor Davis
Indiana Natural Heritage Data Center