



Indiana Department of Environmental Management Office of Water Quality Wetlands Section

**Publication
Date: July 10,
2024**

**Closing Date:
July 31, 2024**

PUBLIC NOTICE

**IDEM ID Number:
2024-116-5-EJW-A**

**Corps of Engineers ID Number:
LRL-2023-450-sjk**

To all interested parties:

This letter shall serve as a formal notice of the receipt of an application for **Section 401 Water Quality Certification** by the Indiana Department of Environmental Management (IDEM). The purpose of the notice is to inform the public of active applications submitted for water quality certification under Section 401 of the Clean Water Act (33 U.S.C. § 1341) and to solicit comments and information on any impacts to water quality related to the proposed project. IDEM will evaluate whether the project complies with Indiana's water quality standards as set forth at 327 IAC 2.

1. Applicant: Paul Schriver
Blackford County Drainage Board
110 West Washington Street
Hartford City, IN 47348

2. Agent: Anna Starks
Commonwealth Engineers, Inc.
7256 Company Drive
Indianapolis, IN 46237

3. Project location: Latitude: 40.429624 Longitude: -85.389326
The project is located along Big Lick Creek near the CR S 100 W bridge crossing, approximately 1.8 miles southwest of Hartford City, Blackford County, Indiana.

4. Affected waterbody: Big Lick Creek

5. Project Description: To prevent further erosional issues, the applicant proposes to hard armor 969 linear feet of Big Lick Creek with rip rap installations. Bank erosion and bridge scouring is evident. Stabilization methods include 800 linear feet of right streambank stabilization, 165 linear feet of left streambank stabilization, regrading slopes to 2:1, the installation of 135 linear feet of a J-Hook Boulder Vane, bridge scour protection, and pier protection. Due to the hazardous erosional issues and the installation of a J-Hook Boulder Vane, compensatory mitigation hasn't been proposed at this time.
Additional information may be found on line at <https://www.in.gov/idem/5474.htm>

Comment period: Any person or entity who wishes to submit comments or information relevant to the aforementioned project may do so by the closing date noted above. Only comments or information related to water quality or potential impacts of the project on water quality can be considered by IDEM in the water quality certification review process.

Public Hearing: Any person may submit a written request that a public hearing be held to consider issues related to water quality in connection with the project detailed in this notice. The request for a hearing should be submitted within the comment period to be considered timely. The request should also state the reason for the public hearing as specifically as possible to assist IDEM in determining whether a public hearing is warranted.

Questions? Additional information may be obtained from Evan White, Project Manager, by phone at 317-671-6698 or by e-mail at EVWhite@idem.in.gov. Please address all correspondence to the project manager and reference the IDEM project identification number listed on this notice. Indicate if you wish to receive a copy of IDEM's final decision. Written comments and inquiries may be forwarded to -

Indiana Department of Environmental Management
100 North Senate Avenue

MC65-42 WQS IGCN 1255
Indianapolis, Indiana 46204-2251 FAX: 317/232-8406



**SECTION 401 WQC
WETLANDS, LAKES, AND STREAMS
PRE-FILING MEETING REQUEST**

State Form 57030 (10-20)
Indiana Department of Environmental Management
Office of Water Quality

Type of Submittal (Check Appropriate Box):

Pre-Filing Early Coordination

For Agency Use Only:

IDEM Identification Number:

Note: Submission of this Pre-Filing Meeting Request a minimum of thirty (30) days prior to submission of a Section 401 Water Quality Certification Request meets the requirement under 40 CFR Part 121.4. A copy of this request must accompany any Section 401 Water Quality Certification Request for the aforementioned project per 40 CFR Part 121.5.

NAME AND LOCATION OF PROJECT

Name of Project Blackford County Board of Commissioners Big Lick Creek Streambank Stabilization Regulated Drain Improvements	County Blackford County
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Project Address (number and street, city, state, and ZIP code) (if available) or Brief Narrative Description of Project Location (cross streets or landmark)
The project is located along Big Lick Creek near the CR S 100 W bridge crossing, approximately 1.8 miles south of Hartford City, Indiana.

Latitude (decimal degrees)
40.429841

Longitude (decimal degrees)
-85.388645

SITE OWNER OF PROJECT

Name of Company (If Applicable)
Blackford County Board of Commissioners

Name of Project Site Owner (An Individual) Paul Schriver	Title / Position County Surveyor
--	--

Address (number and street)
110 W. Washington Street

City
Hartford City

State
IN

ZIP Code
47348

Telephone
765-348-1203

FAX

E-Mail Address (If Available)
pschriver@blackfordcounty.in.gov

CONTACT INFORMATION FOR PROJECT

Contact Person Andrew Cochrane, PE	Name of Company (If Applicable) Commonwealth Engineers, Inc.
--	--

Affiliation to Project Site Owner
Consultant

Address (number and street) (if different from above)
7256 Company Drive

City
Indianapolis

State
IN

ZIP Code
46237

Telephone
317-888-1177

FAX

E-Mail Address (If Available)
acochrane@contactcei.com

PROJECT INFORMATION

Project Description (Describe the proposed project and methods to be used.)

The Blackford County Drainage Board is proposing streambank stabilization and scour protection measures along a portion of Big Lick Creek within the vicinity of the CR S 100 W crossing. The stream reach within the project area continues to shift due to significant bank erosion and resultant sand bars, while scour is present on the bridge piers. The purpose of the project is to stabilize the streambanks to eliminate bank failure, reduce sedimentation and meandering, and provide adequate scour protection for the bridge crossing.

The stabilization methods proposed include the following: 1) streambank stabilization to be completed by regrading at a 2:1 slope and topping with 24" of Class I rip rap overlaid on geotextile fabric along with 24" by 24" stone filled anchor trenches at the toe and top of bank, 2) an in-stream river circulation control structure consisting of a boulder vane with J-hook along with sediment deposit removal, and 3) bridge scour protection consisting of regrading and 24" of Class I rip rap overlaid on geotextile fabric for Piers 2 and 3 along with 24" by 24" stone filled anchor trenches for Pier 3, as well as an A-Jack deflector barrier installed at the upstream round nose for pier protection.

While the project impacts exceed thresholds for mitigation (969 linear feet and 0.18 acres of total impact under the OWHM), the existing streambanks are degrading, lack native plants, contain very few trees, and sediment is

continuing to be deposited into the river. Even with the addition of rip rap, a circulation control structure, and scour protection measures below the OHWM, there is no net loss of functional ecological area due to the poor existing ecological conditions. For this reason, no mitigation is proposed. Ultimately, the stream will be restored to better condition as the result of the project.

Type of aquatic resource(s) present
Perennial stream

Wetlands:

Total Acreage: N/A Proposed impacts to wetlands (in acres): N/A Proposed mitigation (if applicable): N/A

Streams:

Total Linear Feet: 969 Proposed impacts to streams (acres and feet): 0.18 acres and 969 feet
Proposed mitigation (acres and feet): N/A acres and N/A feet

Project Duration

July 2024 to October 2024

(Continued on Reverse Side)

SUPPLEMENTAL INFORMATION

In addition to this form, the following **REQUIRED** information has been included:

- A map of the location
- Wetland delineation
- Verification of the delineation or an Approved Jurisdictional Determination by the U.S. Army Corps of Engineers
- Conceptual drawings

SITE OWNER OF PROJECT RESPONSIBILITY STATEMENT

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.

The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief. I, the project proponent, certify that I have the authority to undertake and will undertake the activities as described in this application. I am aware that there are penalties for submitting false information. I understand that any changes in project design subsequent to IDEM's granting of authorization to discharge to a water of the state are not authorized and I may be subject to civil and criminal penalties for proceeding without proper authorization. I agree to allow representatives of the IDEM 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 Project Owner

Paul Schriver

Date (month, day, year)

February 7, 2024

Printed Name of Project Owner

Paul Schriver, County Surveyor

Note:

Once your pre-certification request has been received, the responsible IDEM project manager will review the information and will be in contact if there are any questions, concerns or the need for an on-site or formal early coordination meeting.

The pre-certification request does not constitute a formal review for a Section 401 Water Quality Certification. However, a dated copy of this request must also be included with your certification request along with the other required elements. Information contained in this request will be used to determine potential project concerns and the requirement for additional information. Should a formal on-site or early coordination meeting be necessary, any formal submission of a 401 WQC application should be delayed until completion of a meeting.

Form Submittal: (Electronic submission is preferred.)

- **Electronic submission:** WetlandsProgram@idem.IN.gov
- **Mail this form to:**
Indiana Department of Environmental Management
Office of Water Quality, Section 401 WQC
IGCN, Room 1255
100 North Senate Avenue
Indianapolis, IN 46204-2251

Questions regarding the pre-filing meeting request requirement under Section 401 of the Clean Water Act may be directed to the IDEM Wetlands Project Manager assigned to your county. Project manager information can be found on IDEM's Section 401 WQC Website (<https://www.in.gov/idem/wetlands>) If you are unable to reach the specific project manager for your county you may call (317) 233-8488 or (800) 451-6027 ext.3-8488.

For information and forms visit: <https://www.in.gov/idem/forms.htm>.

Information regarding the changes to Section 401 of the Clean Water Act may be found on the U.S. Environmental Protection Agency (EPA) website (<https://www.epa.gov/cwa-401>)

Attachment B

Regulated Waters Delineation Report



Regulated Waters Delineation Report

Blackford County Drainage Board
– Big Lick Creek, Hartford City,
Blackford County, Indiana

March 2022

 **Cardno**

now

 **Stantec**

Document Information

Prepared for Commonwealth Engineers, Inc.
Client Contact Brady Dryer
Project Name Regulated Waters Delineation Report
Blackford County Drainage Board – Big Lick Creek, Hartford City,
Blackford County, Indiana
Project Number J221012300
Cardno Contact Crystal Renskers
Date March 2022

Prepared for:

Commonwealth Engineers, Inc.



7256 Company Dr. Indianapolis IN 46254

Prepared by:



now



Cardno, Inc.

3901 Industrial Boulevard, Indianapolis, Indiana 46254

Table of Contents

1	Introduction.....	5
2	Regulatory Definitions.....	6
2.1	Wetlands.....	6
2.1.1	Hydrophytic Vegetation.....	6
2.1.2	Hydric Soils.....	7
2.1.3	Wetland Hydrology.....	7
2.1.4	Wetland Definition Summary.....	8
2.2	Streams, Rivers, Watercourses & Jurisdictional Ditches.....	8
3	Background Information.....	9
3.1	Existing Maps.....	9
3.1.1	National Wetland Inventory.....	9
3.1.2	National Flood Hazard Layer.....	9
3.1.3	Stream Stats Basin Analysis.....	9
3.1.4	National Hydrography Dataset.....	9
3.1.5	Soil Survey.....	10
3.2	Climate Data.....	11
4	Methodology and Description.....	12
4.1	Regulated Waters Investigation.....	12
4.1.1	Site Photographs.....	12
4.1.2	Delineation Data Sheets.....	12
4.1.3	Stream Data Sheets.....	12
4.2	Technical Descriptions.....	13
4.2.1	Data Point Descriptions.....	13
4.2.2	Stream Descriptions.....	13
5	Jurisdictional Analysis.....	14
5.1	U.S. Army Corps of Engineers.....	14
5.2	Indiana Department of Environmental Management.....	14
5.2.1	401 Water Quality Certification.....	14
5.2.2	Isolated Wetland Law.....	14
5.3	Indiana Department of Natural Resources.....	15
6	Summary and Conclusion.....	16
6.1	Summary.....	16
6.1.1	Wetlands and Waterways.....	16
6.1.2	Floodways and Floodplains.....	16
6.2	Conclusion.....	16

7 References..... 17

Tables

Table 3-1 Soil Types Within the Blackford County Drainage Board – Big Lick Creek Study Area..... 10

Table 3-2 Calculation of Normal Weather Conditions (WET)..... 11

Table 6-1 Features Identified Within the Blackford County Drainage Board – Big Lick Creek Study Area..... 16

Appendices

Appendix A Figures

- Figure 1 Project Location
- Figure 2 NWI & Watershed
- Figure 3 Construction in a Floodway Constraints
- Figure 4 Soil Survey & NHD
- Figure 5 Delineated Features

Appendix B Site Photographs

Appendix C Wetland Delineation Data Sheets – Midwest Region

Appendix D Stream Data Sheets

Acronyms

APA	Administrative Procedure Act
BF	Bank Full
CFR	Code of Federal Regulations
CWA	Clean Water Act
DBH	Diameter at Breast Height
DNP	Division of Nature Preserves
DP	Data Point
EPA	U.S. Environmental Protection Agency
EPH	Ephemeral (Stream Type)
ETR	Endangered, Threatened, and Rare
FAC	Facultative Plant
FACU	Facultative Upland Plant
FACW	Facultative Wetland Plant
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GIS	Geographical Information System

Acronyms (continued)

HHEI	Headwater Habitat Evaluation Index
IC	Indiana Code
IDEM	Indiana Department of Environmental Management
IDNR	Indiana Department of Natural Resources
INT	Intermittent (Stream Type)
MS4	Municipal Separate Storm Water Sewer Systems
NHD	National Hydrography Dataset
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
NWI	National Wetland Inventory
NWP	Nationwide Permit
NWPL	National Wetland Plant List
OBL	Obligate Wetland Plant
OHWM	Ordinary High Water Mark
PEM	Palustrine Emergent Wetland
PER	Perennial (Stream Type)
PFO	Palustrine Forested Wetland
PSS	Palustrine Shrub Scrub Wetland
PUB	Palustrine Unconsolidated Bottom
RGP	Regional General Permit
SNE	Significant Nexus
SWANCC	Solid Waste Agency of Northern Cook County
TNW	Traditional Navigable Water
TOB	Top of Bank
UPL	Upland Plant
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WOTUS	Waters of the United States
WQC	Water Quality Certification

1 Introduction

Cardno was contracted to perform a regulated waters delineation, including wetlands and streams, which are located at the Blackford County Drainage Board – Big Lick Creek Study Area in Sections 21 & 22, Township 23 North, Range 10 East, in Blackford County, Indiana (Figure 1, Appendix A). Field work was performed on February 23, 2022. The total size of the Study Area was approximately 1.64 acres. The Study Area was primarily stream bank. One stream was identified.

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

2 Regulatory Definitions

2.1 Wetlands

Wetlands are a category of “waters of the U.S.” for which a specific identification methodology has been developed. As described in detail in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987), wetland boundaries are delineated using three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. In addition to the criteria defined in the 1987 Manual, the procedures described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Environmental Laboratory, 2010) were used to evaluate the Study Area for the presence of wetlands.

2.1.1 Hydrophytic Vegetation

On June 1, 2012, the National Wetland Plant List (NWPL), formerly called the National List of Plant Species that Occur in Wetlands (Reed 1988), went into effect after being released by the U.S. Army Corps of Engineers (USACE) as part of an interagency effort with the U.S. Fish and Wildlife Service (USFWS), the U.S. EPA, and the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) (Lichvar and Kartesz, 2009). This list is periodically updated, with the most recently published list dated 2018. The NWPL, along with the information implied by its wetland plant species status ratings, provides general botanical information about wetland plants and is used extensively in wetland delineation, restoration, and mitigation efforts. The NWPL consists of a comprehensive list of wetland plant species that occur within the United States along with their respective wetland indicator statuses by region. An indicator status reflects the likelihood that a particular plant species occurs in a wetland or upland (Lichvar et al. 2012). Definitions of the five indicator categories are presented below.

OBL (Obligate Wetland Plants): almost always occur in wetlands. With few exceptions, these plants (herbaceous or woody) are found in standing water or seasonally saturated soils (14 or more consecutive days) near the surface. These plants are of four types: submerged, floating, floating-leaved, and emergent.

FACW (Facultative Wetland Plants): usually occur in wetlands, but may occur in non-wetlands. These plants predominately occur with hydric soils, often in geomorphic settings where water saturates the soils or floods the soil surface at least seasonally.

FAC (Facultative Plants): occur in wetlands and non-wetlands. These plants can grow in hydric, mesic, or xeric habitats. The occurrence of these plants in different habitats represents responses to a variety of environmental variables other than just hydrology, such as shade tolerance, soil pH, and elevation, and they have a wide tolerance of soil moisture conditions.

FACU (Facultative Upland Plants): usually occur in non-wetlands, but may occur in wetlands. These plants predominately occur on drier or more mesic sites in geomorphic settings where water rarely saturates the soils or floods the soil surface seasonally.

UPL (Upland Plants): almost never occur in wetlands. These plants occupy mesic to xeric non-wetland habitats. They almost never occur in standing water or saturated soils. Typical growth forms include herbaceous, shrubs, woody vines, and trees.

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

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

2.1.2 **Hydric Soils**

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

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

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

2.1.3 **Wetland Hydrology**

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

2.1.4 **Wetland Definition Summary**

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

2.2 Streams, Rivers, Watercourses & Jurisdictional Ditches

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

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

Waterways were classified by the following flow regimes:

- Perennial streams have a well-defined channel and typically have water flowing in them year-round. Most of the water comes from smaller upstream waters or groundwater while runoff from rainfall or other precipitation is supplemental. A perennial stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.
- Intermittent streams have a well-defined channel and flow during certain times of the year when smaller upstream waters are flowing and when groundwater provides enough water for streamflow. Runoff from rainfall or other precipitation supplements the flow of seasonal stream. During dry periods, seasonal streams may not have flowing surface water. An intermittent stream often lacks the biological and hydrological characteristics commonly associated with the conveyance of water.
- Ephemeral streams may or may not have a well-defined channel and flow only during and for a short duration after precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Runoff from rainfall is the primary source of water for these streams. An ephemeral stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

Streams, rivers, watercourses, and ditches within the Study Area were evaluated using the above definitions and documented. Waterways that did exhibit an OHWM were recorded and evaluated using the Ohio EPA's Primary Headwater Habitat Evaluation Index (HHEI) or Qualitative Habitat Evaluation Index (QHEI) methodology. A combination of the HHEI, climate data, stream basin analysis, and the field conditions were utilized to determine the stream flow type. If applicable, the results of the stream assessments are presented in section 4.2 and the summary table; the datasheets are provided in Appendix D.

3 Background Information

3.1 Existing Maps

Several sources of information were consulted to identify potential wetlands and wetland soil units within the Study Area. These include the USFWS's *National Wetland Inventory* (NWI), the USGS's *National Hydrography Dataset* (NHD), and the NRCS *Soil Survey* for this county. These maps identify potential wetlands and wetland soil units within the Study Area. The NHD maps are used to identify low-lying areas, historical waterways, drainage patterns, and potential surface waters. The NHD maps are not field verified, and do not always account for human alteration such as ditching and tiling. The NWI maps were prepared from high altitude photography and in most cases were not field checked. Because of this, wetlands are sometimes erroneously identified, missed, or misidentified. Additionally, the criteria used in identifying these wetlands were different from those currently used by the USACE. The county soil maps, on the other hand, were developed from actual field investigations. However, they address only one of the three required wetland criteria and may reflect historical conditions rather than current site conditions. The resolution of the soil maps limits their accuracy as well. The mapping units are often generalized based on topography and many mapping units contain inclusions of other soil types for up to 15 percent of the area of the unit. The USACE does not accept the use of either of these maps to make wetland determinations. Additional data sources utilized to support analysis of streams and wetlands included the National Flood Hazard Layer, compiled by the Federal Emergency Management Agency (FEMA) and StreamStats, a spatial analysis tool provided by USGS.

3.1.1 National Wetland Inventory

The NWI map of the area (Figure 2) identified one wetland complex within the Study Area, associated with Big Lick Creek.

3.1.2 National Flood Hazard Layer

The FEMA floodplain digital mapping of the area (Figure 3) identified a regulated floodway and a 100-year floodplain within the Study Area.

3.1.3 Stream Stats Basin Analysis

The drainage basin of Big Lick Creek was calculated using StreamStats (Figure 3). The drainage basin was 52.3 square miles.

3.1.4 National Hydrography Dataset

The NHD map of the area (Figure 4) identified one surface waters within the Study Area.

3.1.5 **Soil Survey**

The NRCS Soil Survey of Blackford County identified one soil series within the Study Area (Figure 4). The following table identifies the soil unit symbol, soil unit name, and whether or not the soil type contains components that meet the hydric soil criteria.

Table 3-1 Soil Types Within the Blackford County Drainage Board – Big Lick Creek Study Area

Symbol	Description	Hydric
St	Saranac silty clay, 0 to 2 percent slopes, frequently flooded	Yes

3.2 Climate Data

A “typical year” considers the normal periodic range of precipitation and other climactic variables for that waterbody. Factors utilized in determining if conditions meet the definition of “typical year” includes comparing precipitation, drought and other climatic factors from a period of interest (e.g., from the past season or year) with the normal range of those factors that would be expected, based on the past 30 years of data. The data below provides information on drought conditions at the time of the field survey and antecedent precipitation.

The February 24, 2022 US Drought Monitor map for Indiana indicated that the Study Area was not exhibiting drought conditions during the February 23, 2022 field survey (US Drought Monitor 2021).

The USACE’s Antecedent Precipitation Tool (version 1.0.19) compiles information from weather stations within 30 miles of the Study Area to determine if conditions were dry, normal, or wet using antecedent precipitation conditions

Table 3-2 Calculation of Normal Weather Conditions (WET)

30 Days Ending	<30%	>30%	Actual	Condition	Condition Value	Month Weight Value	Condition Value X Month Weight
2022-02-23	1.49	2.70	3.33	Wet	3	3	9
2022-01-24	1.75	3.80	2.59	Normal	2	2	4
2021-12-25	2.10	3.48	2.29	Normal	2	1	2
*6 to 9: drier than normal 10 to 14: normal 15 to 18: wetter than normal							
<u>condition values:</u> (1) Dry (2) Normal (3) Wet							
*Sum:							15

A total of 0.14 inches of precipitation were recorded on the date of the field survey, February 23, 2022. A total of 1.78 inches of precipitation occurred the seven (7) days prior to the field survey and the most recent rain event (0.24 inches) occurred on February 22, 2022.

Conditions observed within the Study Area during the delineation completed on February 23, 2022 were considered to be wetter than normal for this time of year.

4 Methodology and Description

4.1 Regulated Waters Investigation

The delineation of regulated waters within the Study Area was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Environmental Laboratory, 2010) as required by current USACE policy.

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

4.1.1 Site Photographs

Photographs of the site are located in Appendix B. These photographs are the visual documentation of site conditions at the time of inspection. The photographs are intended to provide representative visual samples of any wetlands or other special features identified within the Study Area.

4.1.2 Delineation Data Sheets

Where stations represent a wetland boundary point they are typically presented as paired data points, one each documenting the wetland and upland sides of the wetland boundary. The routine wetland delineation data sheets used in the jurisdictional delineation process are located in Appendix C. These forms are the written documentation of how representative sample stations met or did not meet each of the wetland criteria. For plant species included on the National Wetlands Plant List, nomenclature will follow their lead. For all other plants not listed in the NWPL, nomenclature will follow the USDA's Plants Database. Data point locations are shown on Figure 5.

4.1.3 Stream Data Sheets

Waterways that exhibited an OHWM were recorded and evaluated using the Ohio EPA's Primary Headwater Habitat Evaluation Index (HHEI) or Qualitative Habitat Evaluation Index (QHEI) methodology. A combination of the HHEI, climate data, stream basin analysis, and the field conditions were utilized to determine the stream flow type. If applicable, the results of the stream assessments are presented in section 4.2 and the summary table; the datasheets are provided in Appendix D.

4.2 Technical Descriptions

Complete field data sheets from the site investigation are located in Appendix C. The site is located in Blackford County, Indiana, where South County Road 100W crosses Big Lick Creek (Figure 1). The area investigated was approximately 1.64 acres. The Study Area was primarily stream bank.

4.2.1 Data Point Descriptions

Upland Data Point

Data Point 01 (dp01)

Dominant vegetation in the vicinity of dp01 included Reed Canary Grass (*Phalaris arundinacea*, FACW). In addition, non-dominant vegetation observed included Poison-Hemlock (*Conium maculatum*, FACW). The plants at this data point qualified as hydrophytic vegetation. The soil from 0 to 20 inches had a matrix soil color of 10YR 3/2 with a texture of Silty Clay Loam. The soil at the data point was mapped as Saranac silty clay, 0 to 2 percent slopes, frequently flooded (St), and did not meet any hydric soil criteria. The primary indicator of hydrology observed was Drift Deposits (B3), and the secondary indicator of hydrology, the FAC-Neutral Test (D5). This data point did not meet wetland criteria.

4.2.2 Stream Descriptions

Stream 01 (Big Lick Creek) (957 Linear Feet)

Big Lick Creek was a perennial stream that flowed southwest through the study area. The dominant substrate was silt. Ordinary High Water Mark width was 40 feet and depth was 2 feet. Big Lick Creek had a drainage area of approximately 52.3 square miles within the study area. Big Lick Creek flows into the Wabash River, a Traditional Navigable Water. Due to this connection, this stream should be considered a "waters of the United States".

5 Jurisdictional Analysis

5.1 U.S. Army Corps of Engineers

The USACE has authority over the discharge of fill or dredged material into “waters of the U.S.”. This includes authority over any filling, mechanical land clearing, or construction activities that occur within the boundaries of any “waters of the U.S.”. A permit must be obtained from the USACE under Section 404 of the CWA before any of these activities occur. Permits can be divided into three general categories: Individual Permits, Nationwide Permits (NWP), and the Regional General Permits for Indiana.

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

NWP have been developed for projects which meet specific criteria and are deemed to have minimal impact on the aquatic environment. In Indiana, however, most NWP's have been rescinded and replaced by the RGP.

The RGP for Indiana authorizes activities associated with the construction or installation of new facilities or structures as well as for agriculture or mining. Proposed wetland impacts must be less than 1 acre and meet specific criteria in order to qualify for these permits. Section 401 WQC must be obtained from IDEM before the USACE will finalize their permit review.

5.2 Indiana Department of Environmental Management

5.2.1 401 Water Quality Certification

IDEM is responsible for issuing CWA Section 401 WQCs in conjunction with the USACE Section 404 permits. IDEM requires notification for all permanent non-isolated wetland impacts less than 0.10 acre, which entails a brief notification form that must be signed by the applicant. If only temporary wetland impacts are proposed, then notification is also required for the cumulative wetland temporary impacts that exceed 0.10 acre. However, for non-isolated wetland impacts greater than 0.10 acre, an application for WQC must be submitted concurrently with a wetland mitigation plan. IDEM will not initiate their review process until both the application and wetland mitigation plan have been submitted.

5.2.2 Isolated Wetland Law

Applicants proposing an impact to an “isolated wetland,” which is a wetland that the USACE has determined to be a non-federally jurisdictional wetland, are required to apply for and obtain Isolated Wetland Permits from IDEM. Isolated wetland permits are required under Indiana’s State Isolated Wetland Law (Indiana Code 13-18-22 and 327 Indiana Administrative Code 17). Under Indiana’s Isolated Wetlands Law, certain activities are exempt from permitting, and certain wetlands are considered to be “exempt isolated wetlands”. Actions exempt from permitting are explained under 327 IAC 17-1-7 and wetlands exempt from permitting are defined under IC 13-11-2-74.5, as amended by P.L.113-2014, Section 47, [EFFECTIVE JULY 1, 2021]

5.3 Indiana Department of Natural Resources

Indiana Department of Natural Resources (IDNR) has jurisdiction over mapped floodways, floodplains where there is no mapped floodway (Figure 3), and the floodway of ditches and streams with a watershed greater than one (1) square mile (Figure 3). If impacts are proposed to jurisdictional floodways, a Construction-In-A-Floodway Permit may be required from IDNR.

6 Summary and Conclusion

6.1 Summary

Cardno inspected the Blackford County Drainage Board – Big Lick Creek Study Area on February 23, 2022. Delineated features are shown on Figure 5 and in Table 6-1. One stream was identified.

6.1.1 Wetlands and Waterways

Table 6-1 Features Identified Within the Blackford County Drainage Board – Big Lick Creek Study Area

Feature Name	USGS/NWI Identified	Feature Class ¹	Regulatory Status ²	Dimensions (FT)		QHEI Score	Linear Feet (LF)	Acreage (AC)
				Width	Depth			
Stream 01	Yes	PER	WOTUS	40	2	38.5	957	0.88

¹ Feature Class is based on our professional judgement and experience, however, the USAC makes the final determination on stream classes and non-isolated wetland classes, and IDEM makes the final determination on isolated wetland classes.

² Regulatory Status is based on our professional judgment and experience; however, the USACE makes the final determination

6.1.2 Floodways and Floodplains

Big Lick Creek has a regulated floodway, a 100-year floodplain, and a drainage basin greater than a square mile.

6.2 Conclusion

One stream was identified. While this report represents our best professional judgment based on our knowledge and experience, it is important to note that the Louisville District of the U.S. Army Corps of Engineers has final discretionary authority over all jurisdictional determinations of ‘waters of the U.S.’ including wetlands under Section 404 of the CWA in this region. It is therefore, recommended that a copy of this report be furnished to the Louisville District of the U.S. Army Corps of Engineers to confirm the results of our findings.

7 References

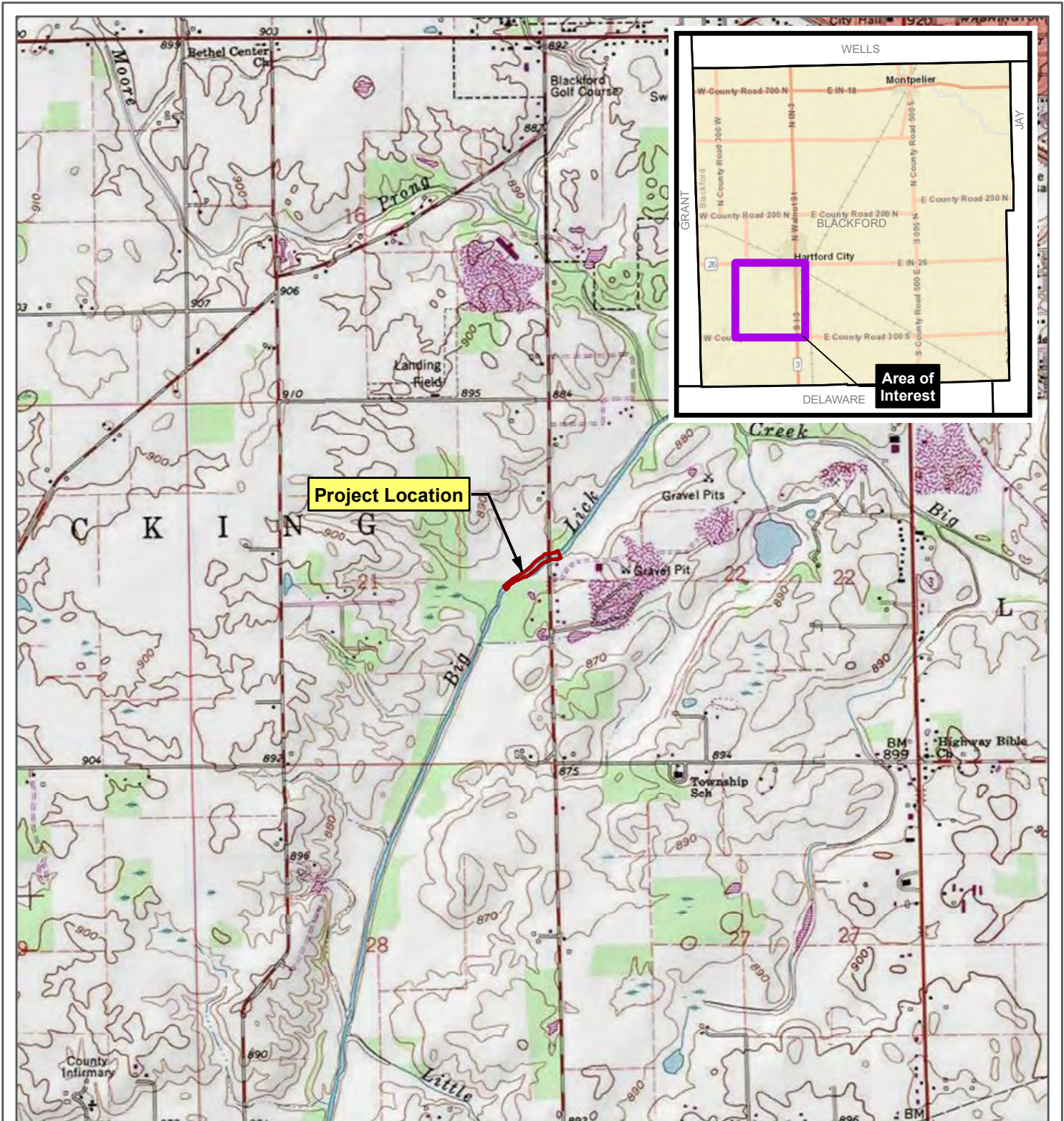
- Environmental Laboratory. 1987. U.S. Army Corps of Engineers' Wetland Delineation Manual, Technical Report Y-87-1, U.S. Waterways Experiment Station, Vicksburg, MS.
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- U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4 <http://wetland-plants.usace.army.mil/> U.S. Army Corps of Engineers Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, Hanover, NH
- U.S. Drought Monitor. 2021. U.S. Drought Monitor. Website: <http://droughtmonitor.unl.edu/>. Site Accessed [3/14/2022].

Blackford County Drainage Board –
Big Lick Creek, Hartford City,
Blackford County, Indiana

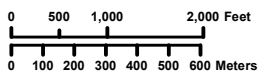
APPENDIX

A

FIGURES



Project Location



 Project Location

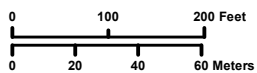
7.5' Quadrangle:
HARTFORD CITY WEST
T23n R10e Sec21
Project No.
j221012300

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.


Figure 1: Project Location
Blackford County Drainage Board – Big Lick Creek Regulated Waters Delineation Report
Commonwealth Engineers, Inc.
Blackford County, Indiana



3901 Industrial Blvd., Indianapolis, IN 46254
 Phone (+1) 317-388-1982 Fax (+1) 317-388-1986
 www.cardno.com



- Data Point
- ▭ Project Location
- Delineated Stream


7.5' Quadrangle:
HARTFORD CITY WEST
T23n R10e Sec21
Project No.
j221012300

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Figure 5: Fieldwork Results
Blackford County Drainage Board – Big Lick Creek
Regulated Waters Delineation Report
Commonwealth Engineers, Inc.
Blackford County, Indiana



3901 Industrial Blvd., Indianapolis, IN 46254
 Phone (+1) 317-388-1982 Fax (+1) 317-388-1986
 www.cardno.com

Blackford County Drainage Board –
Big Lick Creek, Hartford City,
Blackford County, Indiana

APPENDIX

B

SITE PHOTOGRAPHS



DP01, View Looking North



DP01, View Looking East



DP01, View Looking South



DP01, View Looking West

Site Photographs

Blackford County Drainage Board—Big Lick Creek
Regulated Waters Delineation Report
Commonwealth Engineers, Inc.
Blackford County, Indiana

Project Number:
J221012300



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S01, View Looking Upstream



S01, View Looking Downstream



S01, View Looking Upstream



S01, View Looking Downstream

Site Photographs

Blackford County Drainage Board—Big Lick Creek
Regulated Waters Delineation Report
Commonwealth Engineers, Inc.
Blackford County, Indiana

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Blackford County Drainage Board –
Big Lick Creek, Hartford City,
Blackford County, Indiana

APPENDIX

C

WETLAND DELINEATION DATA
SHEETS – MIDWEST REGION

WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: Big Lick Creek City/County: Hartford City/Blackford Sampling Date: 2/23/2022
 Applicant/Owner: Commonwealth State: IN Sampling Point: dp01
 Investigator(s): Ben Hess and Drew Goodspeed Section, Township, Range: S21, T23N, R10E
 Landform (hillslope, terrace, etc.): Stream Terrace Local relief (concave, convex, none): concave
 Slope (%): 0% Lat: 40.429899 Long: -85.389107 Datum: NAD83 UTM16N
 Soil Map Unit Name: Saranac silty clay, 0 to 2 percent slopes, frequently flooded (St) NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u> </u>	No <u>X</u>
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>			
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>			

Remarks:

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
= Total Cover				

Sapling/Shrub Stratum (Plot size: 15' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ That Are OBL, FACW, or FAC: _____ A/B OBL species _____ x1 = _____ FACW species <u>105%</u> x2 = <u>2.10</u> FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: <u>105%</u> (A) <u>2.10</u> (B) Prevalence Index = B/A = <u>2.00</u>
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
= Total Cover				

Herb Stratum (Plot size: 5' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <u>X</u> 1-Rapid Test for Hydrophytic Vegetation <u>X</u> 2-Dominance Test is >50% <u> </u> 3-Prevalence Index is ≤3.0 ¹ <u> </u> 4-Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <i>Phalaris arundinacea</i>	100%	Yes	FACW	
2. <i>Conium maculatum</i>	5%	No	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
13. _____				
14. _____				
15. _____				
16. _____				
17. _____				
18. _____				
19. _____				
20. _____				
105% = Total Cover				

Woody Vine Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. _____				
2. _____				
= Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: dp01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20"	10YR 3/2	100					Silty Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators ³ :	Test Indicators of Hydric Soils:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	
<input type="checkbox"/> Stratified Layers (A5)	
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³The hydric soil indicators have been updated to comply with the *Field Indicators of Hydric Soils in the United States*, Version 8.0, 2016.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input checked="" type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)

<p>Field Observations:</p> <p>Surface Water Present? Yes _____ No <u>X</u> Depth (inches): <u>N/A</u></p> <p>Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>>18"</u></p> <p>Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>>18"</u></p> <p>(includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes <u>X</u> No _____</p>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Blackford County Drainage Board –
Big Lick Creek, Hartford City,
Blackford County, Indiana

APPENDIX

D

STREAM DATA SHEETS



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 38.50

Stream & Location: s01 **RM:** _____ **Date:** 2/23/2022
Scorers Full Name & Affiliation: Cardno **Office verified**
River Code: _____ **STORET #:** _____ **Lat/ Long:** 40.4299 / -85.3891 **location**

1] SUBSTRATE Check **ONLY Two** substrate **TYPE BOXES**; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE	ORIGIN	QUALITY	
<input type="checkbox"/> BLDR / SLABS [10]			<input type="checkbox"/> HARDPAN [4]			<input type="checkbox"/> LIMESTONE [1]	<input checked="" type="checkbox"/> HEAVY [-2]	1.0
<input type="checkbox"/> BOULDER [9]			<input type="checkbox"/> DETRITUS [3]			<input checked="" type="checkbox"/> TILLS [1]	<input type="checkbox"/> MODERATE [-1]	
<input type="checkbox"/> COBBLE [8]			<input type="checkbox"/> MUCK [2]			<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> NORMAL [0]	
<input type="checkbox"/> GRAVEL [7]			<input checked="" type="checkbox"/> SILT [2]	100		<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> FREE [1]	
<input type="checkbox"/> SAND [6]			<input checked="" type="checkbox"/> ARTIFICIAL [0]			<input type="checkbox"/> SANDSTONE [0]	<input checked="" type="checkbox"/> EXTENSIVE [-2]	
<input type="checkbox"/> BEDROCK [5]						<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> MODERATE [-1]	
NUMBER OF BEST TYPES:			4 or more [2]		ignore sludge from point-sources)		<input type="checkbox"/> NORMAL [0]	1.0
Comments			<input checked="" type="checkbox"/> 3 or less [0]				<input type="checkbox"/> NONE [1]	

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

1 UNDERCUT BANKS [1]	1 POOLS > 70cm [2]	0 OXBOWS, BACKWATERS [1]	6.0
1 OVERHANGING VEGETATION [1]	0 ROOTWADS [1]	1 AQUATIC MACROPHYTES [1]	
0 SHALLOWS (IN SLOW WATER) [1]	0 BOULDERS [1]	0 LOGS OR WOODY DEBRIS [1]	
0 ROOTMATS [1]			

Comments

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	7.0
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	
<input checked="" type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input checked="" type="checkbox"/> LOW [1]	
<input type="checkbox"/> NONE [1]	<input checked="" type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		

Comments

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

EROSION	RIPARIAN WIDTH	FLOOD PLAIN QUALITY	CONSERVATION TILLAGE	1.5
<input type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]	
<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> MODERATE 10-50m [3]	<input checked="" type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MINING / CONSTRUCTION [0]	
<input checked="" type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]		
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]		
	<input checked="" type="checkbox"/> NONE [0]	<input checked="" type="checkbox"/> OPEN PASTURE, ROWCROP [0]		

Comments

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH	CHANNEL WIDTH	CURRENT VELOCITY	9.0
Check ONE (ONLY!)	Check ONE (Or 2 & average)	Check ALL that apply	
<input checked="" type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]	
<input type="checkbox"/> 0.7-<1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> VERY FAST [1]	
<input type="checkbox"/> 0.4-<0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<input type="checkbox"/> FAST [1]	
<input type="checkbox"/> 0.2-<0.4m [1]		<input type="checkbox"/> MODERATE [1]	
<input type="checkbox"/> < 0.2m [0]		<input type="checkbox"/> SLOW [1]	
		<input type="checkbox"/> INTERSTITIAL [-1]	
		<input type="checkbox"/> INTERMITTENT [-2]	
		<input type="checkbox"/> EDDIES [1]	

Comments

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS	4.0
<input checked="" type="checkbox"/> BEST AREAS > 10cm [2]	<input checked="" type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]	
<input type="checkbox"/> BEST AREAS 5-10cm [1]	<input type="checkbox"/> MAXIMUM < 50cm [1]	<input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]	
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]	
			<input checked="" type="checkbox"/> EXTENSIVE [-1]	

Comments

6] GRADIENT DRAINAGE AREA

(10.0 ft/mi)	<input type="checkbox"/> VERY LOW - LOW [2-4]	%POOL: 30%	%GLIDE: 0%	10.0
(52.3 mi ²)	<input checked="" type="checkbox"/> MODERATE [6-10]	%RUN: 50%	%RIFFLE: 20%	
	<input type="checkbox"/> HIGH - VERY HIGH [10-6]			

AJ SAMPLED REACH

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Check ALL that apply

METHOD

- BOAT
- WADE
- L. LINE
- OTHER

STAGE

- HIGH
- UP
- NORMAL
- LOW
- DRY

DISTANCE

- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER

_____ meters

CLARITY

- | | | |
|-------------------------------------|-----------------|--------------------------|
| 1st | --sample pass-- | 2nd |
| <input checked="" type="checkbox"/> | <20 cm | <input type="checkbox"/> |
| <input type="checkbox"/> | 20 - <40 cm | <input type="checkbox"/> |
| <input type="checkbox"/> | 40 - 70 cm | <input type="checkbox"/> |
| <input type="checkbox"/> | > 70 cm/ CTB | <input type="checkbox"/> |

SECCHI DEPTH

- | | |
|-----------------|----------|
| 1st | _____ cm |
| --sample pass-- | |
| 2nd | _____ cm |

BJ AESTHETICS

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

CJ RECREATION

- | | | |
|-------|--|-------------------------------|
| | AREA | DEPTH |
| POOL: | <input type="checkbox"/> >100ft ² | <input type="checkbox"/> >3ft |

Highlight some & COMMENT

DJ MAINTENANCE

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMoured / SLUMPS
- ISLANDS / SCoured
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

EJ ISSUES

- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H20 / TILE / H20 TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

FJ MEASUREMENTS

- 40' \bar{x} width (ft)
- 2' \bar{x} depth
- max. depth
- 44' \bar{x} bankfull width (ft)
- 3' bankfull \bar{x} depth (ft)
- ## W/D ratio
- bankfull max. depth
- floodprone x^2 width (ft)
- entrench. ratio

Legacy Tree:

Stream Drawing: (see associated waters delineation report figures and photo pages)

About Cardno

Cardno is an ASX-200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage, and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

Cardno Zero Harm

Cardno
**ZERO
HARM**
EVERY JOB. EVERY DAY.

At Cardno, our primary concern is to develop and maintain safe and healthy conditions for anyone involved at our project worksites. We require full compliance with our Health and Safety Policy Manual and established work procedures and expect the same protocol from our subcontractors. We are committed to achieving our Zero Harm goal by continually improving our safety systems, education, and vigilance at the workplace and in the field.

Safety is a Cardno core value and through strong leadership and active employee participation, we seek to implement and reinforce these leading actions on every job, every day.

Attachment C

SEA 368 Correspondence

Division of Water
402 W. Washington Street
Room W264
Indianapolis, IN 46204
Phone (317) 232-4160
Toll-free (877) 928-3755
Fax (317) 233-4579
www.in.gov/dnr/water/

June 30, 2023

Paul Schriver
Blackford County Surveyor
110 W. Washington Street
Hartford City, IN 47348

Re: SEA #1129, Big Lick Creek, Blackford County

Dear Mr. Schriver:

This letter is written as a follow up to the May 18, 2023, request for a desktop review of a bank stabilization project on Big Lick Creek. Due to the nature of the project a field meeting was not held, and a desktop review was conducted. Consulted individuals included Evan White, Office of Water Quality, Indiana Department of Environmental Management; Paul Brayton, Engineering Services Section, Division of Water; Nick Haurert, Division of Fish and Wildlife; and yourself. An inspection report was sent to you on June 16, 2023, for review. A copy of the report with your signature was received by the Division of Fish and Wildlife on June 19, 2023. A copy of the SEA 368 Inspection Report is enclosed.

IC 36-9-27-53.5 requires that prior to initiating work on a drainage project, which is subject to regulation under certain State and/or Federal environmental regulations, an on-site field or desktop review must occur. Within 30 days of the field review or initiation of a desktop review, the Department of Natural Resources is required to provide the county drainage board with a list of conditions that the Department of Environmental Management and the Department of Natural Resources would place on any permit for the proposed work. The Department of Natural Resources' conditions are valid for up to 2 years after an on-site field review or desktop review provided a permit application is submitted within that time frame.

This letter is not approval for construction under any State or Federal Law.

Description: The project is sponsored by the Blackford County Drainage Board. Big Lick Creek is experiencing severe erosion of its northern embankment for approximately 750 feet downstream of the CR S 100 W bridge. The bridge is at risk of being adversely affected and large deposits of sediment have accumulated near the southern embankment. This project consists of clearing the sediment and stabilizing the embankments where it is necessary.

Location: The project begins approximately 750' downstream of the South County Road 100 West stream crossing and extends approximately 1,000' upstream in Sections 21 and 22, Township 23 North, Range 10 East, Licking Civil Township, Blackford County.

UTM Coordinates: Downstream North = 4476581, East = 636450
Upstream North = 4476749, East = 636705
(Hartford City West Quadrangle Map)

DEPARTMENT OF NATURAL RESOURCES COMMENTS

A desktop review was completed for this project. Because the total stream length of Big Lick Creek is greater than 10 miles, **a Construction in a Floodway Permit is required** for this project from the Indiana Department of Natural Resources (IDNR) under IC 14-28-1. The following are the Department of Natural Resources' comments as they would appear as conditions on a Construction in a Floodway Permit or in response to the Corps of Engineers as a result of a Section 404 review. Your concurrence regarding these comments was received at the Division of Water on June 19, 2023.

1. Revegetate all bare and disturbed areas, except for land that will be used for crop production in the next growing season, with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion. Low endophyte tall fescue may be used in the ditch bottom and side slopes only.
2. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife's Environmental Unit.
3. Do not excavate or place spoil in any riparian wetland.
4. Stabilize banks as work progresses so that no more than 200 lineal feet are left disturbed at the completion the workday.
5. Revegetate all spoil materials deposited in areas not used for crop production.
6. A representative of the Surveyor's Office or their contractor shall inspect erosion and sediment control practices daily and repair as necessary until all construction is complete and disturbed areas are permanently stabilized.
7. All work must conform with the existing bank at the upstream and downstream limits of the project site.
8. Except for trees cabled in-place for bank protection, do not leave felled trees, brush, or other debris in the floodway.
9. Place all excavated materials at least 10 feet landward of the top of the ditch bank; spread all excavated materials evenly to a thickness not to exceed 12 inches and slope landward from the channel or completely remove from the floodway.

10. Do not use broken concrete as riprap unless it is unpainted and free of soil, fine material, metal, bricks, blocks, asphalt, or other construction debris. Exposed rebar or other reinforcing material must be cut flush with the surface and removed from the floodway. Concrete must not be contaminated with oil or other toxic substances. The clean broken concrete must be a minimum average 6 inch graded pieces with no pieces larger than 2 feet in any dimension.
11. Use minimum average 6 inch graded riprap stone (if used) extended below the normal water level to provide habitat for aquatic organisms in the voids.
12. Minimize the movement of resuspended bottom sediment from the immediate project area.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT COMMENTS

The following comments are directed toward the above-referenced project and are specific to the sections of the proposed project reviewed by IDEM.

1. Avoid and minimize impacts (filling or mechanical clearing) of jurisdictional wetlands to the greatest extent possible, and provide acceptable compensatory mitigation for all unavoidable impacts to jurisdictional wetlands greater than 0.1 acre.
2. Limit the physical disturbance of banks, other soils, and existing vegetation to that which is necessary to achieve the purpose of the project.
3. Deposit dredged material on upland, or old spoils that are considered upland.
4. Revegetate all bare and disturbed areas, except for land that will be used for crop production in the next growing season, with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion. Low endophyte tall fescue may be used in the ditch bottom and side slopes only.
5. Work from only one side of the stream, and where possible, from the side of the stream which does not have adjacent wetlands. If no wetlands are present, work from the side with the fewest trees and woody vegetation. If both banks are equally vegetated, work only from the north or east side, whichever is appropriate.

If you have any questions about the Department of Environmental Management's comments, please contact Evan White at (317) 671-6698. You can also contact the Office of Water Management through IDEM's Environmental Helpline at 1-800-451-6027.

In accordance with IC 36-9-27-53.5(g) a county surveyor or board that is aggrieved by the permit conditions disclosed under subsection (d)(3) has the right to enter into further negotiations with the Department of Natural Resources and the Department of Environmental Management in order to obtain a mutually agreeable set of permit conditions. To initiate the negotiations, please write a letter to the Director of the Division of Water addressing the aggrieved portions of the comments and conditions included in this letter.

Paul Schriver (SEA #1129)

June 30, 2023

Page 4

Thank you for your cooperation in this matter. If you should have any questions or would like to discuss modifications to the above comments, please contact me at our toll free number, 1-877-WATER55 (1-877-928-3755) or at (317) 234-1121.

Sincerely,

A handwritten signature in black ink that reads "Adam M. Bales". The letters are cursive and somewhat stylized, with the first letters being larger and more prominent.

Adam M. Bales
Engineering Section Manager
Division of Water

AMB/NWH

pc: Evan White, Office of Water Quality, IDEM

Enclosures: SEA 368 Inspection Report
Permit application and instructions



SEA 368 INSPECTION REPORT

State Form 51594 (2-04)

Indiana Department of Natural Resources,
Division of Water
402 West Washington Street, Room W264
Indianapolis, IN 46204
ph. (317) 232-4160 or toll free 1-877-928-3755
Fax (317) 233-4579

SEA # 1129

DATE 05/18/2023

PROJECT INFORMATION

STREAM/LAKE Big Lick Creek

LOCATION

The project begins approximately 750' downstream of the South County Road 100 West stream crossing and extends approximately 1,000' upstream.

DOWNSTREAM

Section 21 NW / NE / SW / SE; Township 23 N / S; Range 10 E / W
Quadrangle Hartford City West UTM 4476581 N 636450 E
City/Town Hartford City Civil Township Licking County Blackford

UPSTREAM

Section 22 NW / NE / SW / SE; Township 23 N / S; Range 10 E / W
Quadrangle Hartford City West UTM 4476749 N 636705 E
City/Town Hartford City Civil Township Licking County Blackford

DESCRIPTION:

One sided construction: Yes No Vegetated buffer strip: Yes No, If "yes", strip width _____ feet

Big Lick Creek is experiencing severe erosion of its northern embankment for approximately 750 feet downstream of the South County Road 100 West bridge. The bridge is at risk of being adversely affected by the erosion and large deposits of sediment have accumulated near the southern embankment. This project consists of clearing the sediment and stabilizing the banks where it is necessary.

ATTENDEES

	phone	fax
Water <u>Paul Brayton</u>	() <u>317-234-4106</u> () _____	_____
Fish & Wildlife <u>Nick Haurert</u>	() <u>317-234-0586</u> () _____	_____
Soil Conservation _____	() _____ () _____	_____
IDEM <u>Evan White</u>	() <u>317-671-6698</u> () _____	_____
County _____	() _____ () _____	_____
SWCD _____	() _____ () _____	_____
USF&WS _____	() _____ () _____	_____
USACE _____	() _____ () _____	_____
Other _____	() _____ () _____	_____

FINDINGS

- Construction in a Floodway Permit is required for the project.
- Desktop review requested on 05/18/2023.
- On-site early coordination meeting was conducted on 03/29/2022.
- Environmental Review for this project was conducted under ER-24604.

IDNR-SEA 368 FIELD REVIEW CONDITIONS

The following checked-off items are the Department of Natural Resources' comments in the form of conditions, as they would appear on a Construction in a Floodway Permit or a Ditch Reconstruction Permit for the project, or in response to the Corps of Engineers as a result of a Section 404 review.

Reference	Condition
<input checked="" type="checkbox"/> ER11	Revegetate all bare and disturbed areas, except for land that will be used for crop production in the next growing season, with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion. Low endophyte tall fescue may be used in the ditch bottom and side slopes only
<input checked="" type="checkbox"/> ER16	Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish & Wildlife's Environmental Unit
<input type="checkbox"/> ER17	For salmonid streams, do not work in the waterway from March 15 through June 15 and from July 15 through November 30 without the prior written approval of the Division of Fish & Wildlife's Environmental Unit
<input type="checkbox"/> ER19	Do not cut any trees suitable for Indiana bat and Northern Long Eared bat roosting (greater than 5 inches in diameter, living or dead, with loose hanging bark, or with cracks crevices or cavities) from 4/1 through 9/30
<input checked="" type="checkbox"/> ER20	Do not excavate or place spoil in any riparian wetland
<input type="checkbox"/> ER31	Limit any channel widening and bank disturbance to the (north/south/east/west) side of the waterway
<input checked="" type="checkbox"/> ER65	Stabilize banks as work progresses so that no more than 200 lineal feet are left disturbed at the completion of the workday
<input type="checkbox"/> ER66	Revegetate all areas disturbed during debris and sediment removal. Permanent seed and fertilize disturbed ditch banks at the end of each day. Revegetate areas with one of the seeding mixtures or species listed in the VEGETATIVE STABILIZATION AND SEEDING PRACTICE of the INDIANA DRAINAGE HANDBOOK from the Division of Water, Indiana Department of Natural Resources (October 1996) or other species that are approved by the Department as being suitable to site and climate conditions. At the completion of the project, re-seed and fertilize areas that do not have sufficient vegetative cover to control erosion
<input type="checkbox"/> ER67	Protect newly seeded areas with anchored mulch at specified locations as listed under Special Conditions (page 7 of this form). Mulch materials, application rates, and anchoring methods must meet the criteria set forth in the INDIANA DRAINAGE HANDBOOK, Section 5.11 from the Division of Water, Indiana Department of Natural Resources (October 1996) or INDIANA HANDBOOK FOR EROSION CONTROL IN DEVELOPING AREAS, Sub-Section 3.1 from the Division of Soil Conservation, Indiana Department of Natural Resources (October 1992)
<input checked="" type="checkbox"/> ER70	Revegetate all spoil materials deposited in areas not used for crop production
<input type="checkbox"/> ER72	Use appropriate structural armament in channel straightening transition areas to blend with the existing channel. Use one of the appropriate structural armament practices listed in Section 5.5 of the INDIANA DRAINAGE HANDBOOK from the Division of Water, Indiana Department of Natural Resources (October 1996)
<input type="checkbox"/> ER73	Install appropriate armament below pipe outfalls
<input type="checkbox"/> ER74	Install drop structures where needed to convey runoff from adjacent areas to the channel without causing erosion
<input type="checkbox"/> ER75	Where vegetation alone is not sufficient to prevent erosion in channel bends, use one of the appropriate structural armament practices listed in Section 5.5 of the INDIANA DRAINAGE HANDBOOK from the Division of Water, Indiana Department of Natural Resources (October 1996)
<input checked="" type="checkbox"/> ER76	A representative of the Surveyor's Office or their contractor shall inspect erosion and sediment control practices daily and repair as necessary until all construction is complete and disturbed areas are permanently stabilized

IDNR-SEA 368 FIELD REVIEW CONDITIONS (continued)

The following checked-off items are the Department of Natural Resources' comments in the form of conditions, as they would appear on a Construction in a Floodway Permit or a Ditch Reconstruction Permit for the project, or in response to the Corps of Engineers as a result of a Section 404 review.

Reference	Condition
<input type="checkbox"/> ER78	Install appropriate sediment control measures to prevent the flow of sediment laden water, resulting from dredging operations, back into the watercourse
<input checked="" type="checkbox"/> FW02	All work must conform with the existing bank at the upstream and downstream limits of the project site
<input checked="" type="checkbox"/> FW03	Except for trees cabled in-place for bank protection, do not leave felled trees, brush, or other debris in the floodway
<input type="checkbox"/> FW21	Align spoil piles parallel to flow; the toe of the spoil piles must be located at least 10 feet landward of the top of the streambank; and a _____-foot opening must be provided every _____-feet along the spoil piles' length
<input type="checkbox"/> FW33	The plans for the project must include information that demonstrates that the project will not result in the lowering of _____ Lake, below its: 1) legally established water level of _____ feet, NGVD 2) average normal water level of _____ feet, NGVD, as determined from USGS lake level records, or 3) average water level of _____ feet, NGVD, as determined by the action of the water that has marked upon the soil of the bed of the lake a character distinct from that of the bank with respect to vegetation as well as the nature of the soil
<input type="checkbox"/> FW34	Do not alter the average normal water level of _____ Lake; if the average normal water level of the lake is altered, it will be the responsibility of the _____ County Drainage Board to take corrective actions to restore the average normal water level of the lake and to mitigate for any damages incurred
<input checked="" type="checkbox"/> FW35	Place all excavated materials at least 10 feet landward of the top of the ditch bank; spread all excavated materials evenly to a thickness not to exceed <u>12 inches</u> and slope landward from the channel or completely remove from the floodway
<input type="checkbox"/> NP01	Avoid adverse impacts to the following state listed species: _____ _____
<input type="checkbox"/> OR03	This project will occur within a section of _____ that has been designated as a _____ under the Indiana Natural, Scenic, and Recreational River System (IC 14-29-6). The applicant must contact _____ at 317-232-4070 for more information regarding this permit

IDEM-SEA 368 FIELD REVIEW CONDITIONS

The following checked-off items are the Department of Environmental Management's comments which, if a Department of the Army Section 404 permit is required, may appear as conditions on an IDEM Section 401 Water Quality Certification. These conditions may be subject to change following the receipt of a complete application.

Reference	Condition
<input type="checkbox"/> IDEM01	Submit an application to IDEM for Section 401 Water Quality Certification if the Corps requires an individual Section 404 permit, a Regional General Permit ¹ for impacts greater than 0.1 acre, or a Nationwide Permit for which IDEM has denied Water Quality Certification. Application forms are available through the IDEM office. ¹ The activity will impact (fill) more than one-tenth (0.1) of an acre of Waters of the United States, including wetlands, special aquatic sites, creeks, ditches, streams, rivers, deep water areas, or open water areas; or the activity will impact (fill) more than 300 linear feet of stream channel or shoreline.
<input checked="" type="checkbox"/> IDEM02	Avoid and minimize impacts (filling or mechanical clearing) ² of jurisdictional wetlands to the greatest extent possible, and provide acceptable compensatory mitigation for all unavoidable impacts to jurisdictional wetlands greater than 0.1 acre. ² Mechanical clearing is the use of heavy equipment to push, pull, scrape, or excavate woody vegetation in order to remove it.
<input type="checkbox"/> IDEM03	Field mark the area where the filling or mechanical clearing of wetlands is unavoidable.
<input type="checkbox"/> IDEM04	Use solid tile and anti-seep collars on the portion of the tile line that transects the wetland.
<input type="checkbox"/> IDEM05	Install appropriate sediment control measures to prevent the flow of sediment laden water, resulting from dredging operations, back into the watercourse.
<input checked="" type="checkbox"/> IDEM06	Limit the physical disturbance of banks, other soils, and existing vegetation to that which is necessary to achieve the purpose of the project.
<input checked="" type="checkbox"/> IDEM07	Deposit dredged material on upland, or old spoils that are considered upland.
<input checked="" type="checkbox"/> IDEM08	Revegetate all bare and disturbed areas, except for land that will be used for crop production in the next growing season, with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion. Low endophyte tall fescue may be used in the ditch bottom and side slopes only.
<input type="checkbox"/> IDEM09	Perform daily seeding of the ditch banks if the project is conducted during the agricultural growing season; seed the ditch banks as soon as possible if the project activity occurs during the dormant season.
<input type="checkbox"/> IDEM10	Conduct logjam removal and tree preservation consistent with the practices established in the <i>Indiana Drainage Handbook</i> . The handbook was prepared in accordance with State of Indiana Public Law 329-1995 to serve as an administrative and technical guide for drainage activities within Indiana streams and ditches.
<input type="checkbox"/> IDEM11	Encourage landowners affected by this project to place grassed filter strips on land immediately bordering the stream. The federal <i>Conservation Reserve Program</i> offers competitive annual payments for this practice on a continual sign-up basis. In addition, certain areas may qualify for special cost share or incentive programs for the establishment of filter strips. Contact the local county Soil and Water Conservation District or the Natural Resources Conservation Service for program and practice specific information.
<input type="checkbox"/> IDEM12	Spread dredged material, where possible, in a manner that will not impede overland flow to the stream. This will help eliminate adjacent berm buildup and associated "points of concentrated flow" that are erosive and require expensive land treatment practices.
<input checked="" type="checkbox"/> IDEM13	Work from only one side of the stream, and where possible, from the side of the stream which does not have adjacent wetlands. If no wetlands are present, work from the side with the fewest trees and woody vegetation. If both banks are equally vegetated, work only from the north or east side, whichever is appropriate.

IDEM-SEA 368 FIELD REVIEW CONDITIONS (continued)

The following checked-off items are the Department of Environmental Management's comments which, if a Department of the Army Section 404 permit is required, may appear as conditions on an IDEM Section 401 Water Quality Certification. These conditions may be subject to change following the receipt of a complete application.

Reference	Condition
<input type="checkbox"/> IDEM14	Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish & Wildlife's Environmental Unit.
<input type="checkbox"/> IDEM15	For salmonid streams, do not work in the waterway from March 15 through June 15 and from July 15 through November 30 without the prior written approval of the Division of Fish & Wildlife's Environmental Unit.
<input type="checkbox"/> IDEM16	Do not cut any trees suitable for Indiana bat and Northern Long Eared bat roosting (greater than 5 inches in diameter, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from 4/1 through 9/30.
<input type="checkbox"/> IDEM17	Ensure that the contractor performing the work complies with Section 311 of the Federal Clean Water Act and with 327 IAC 2-6.1 concerning spills of oil and/or hazardous materials.

SEA 368 FIELD REVIEW SPECIAL CONDITIONS

The following checked-off items are:

IDNR — The Department of Natural Resources' comments in the form of conditions, as they would appear on a Construction in a Floodway Permit or a Ditch Reconstruction Permit for the project, or in response to the Corps of Engineers as a result of a Section 404 review.

IDEM — The Department of Environmental Management's comments which, if a Department of the Army Section 404 permit is required, may appear as conditions on an IDEM Section 401 Water Quality Certification. These conditions may be subject to change following the receipt of a complete application.

Agency	Reference	Condition
<input checked="" type="checkbox"/> IDNR <input type="checkbox"/> IDEM	(SP01)- _____	Do not use broken concrete as riprap unless it is unpainted and free of soil, fine material, metal, bricks, blocks, asphalt, or other construction debris. Exposed rebar or other reinforcing material must be cut flush with the surface and removed from the floodway. Concrete must not be contaminated with oil or other toxic substances. The clean broken concrete must be a minimum average 6 inch graded pieces with no pieces larger than 2 feet in any dimension.
<input checked="" type="checkbox"/> IDNR <input type="checkbox"/> IDEM	(SP02)- _____	Use minimum average 6 inch graded riprap stone (if used) extended below the normal water level to provide habitat for aquatic organisms in the voids.
<input checked="" type="checkbox"/> IDNR <input type="checkbox"/> IDEM	(SP03)- _____	Minimize the movement of resuspended bottom sediment from the immediate project area.
<input type="checkbox"/> IDNR <input type="checkbox"/> IDEM	(SP04)- _____	

ATTENDEE RECOMMENDATION

<i>Signature of Attendee</i>	Agree with all project conditions checked	Agree with all project conditions except the following	Disagree with all project conditions checked
Nicholas W. Haurert <input type="checkbox"/> WATER <input checked="" type="checkbox"/> FISH & WILDLIFE <input type="checkbox"/> SOIL CONSERVATION <input type="checkbox"/> IDEM <input type="checkbox"/> COUNTY <input type="checkbox"/> SWCD <input type="checkbox"/> USF&WS <input type="checkbox"/> USACE <input type="checkbox"/> OTHER _____	<input checked="" type="checkbox"/>	_____	<input type="checkbox"/>
Paul Brayton, EI <small>Digitally signed by Paul Brayton, EI Date: 2023.06.02 14:04:37 -04'00'</small> <input checked="" type="checkbox"/> WATER <input type="checkbox"/> FISH & WILDLIFE <input type="checkbox"/> SOIL CONSERVATION <input type="checkbox"/> IDEM <input type="checkbox"/> COUNTY <input type="checkbox"/> SWCD <input type="checkbox"/> USF&WS <input type="checkbox"/> USACE <input type="checkbox"/> OTHER _____	<input checked="" type="checkbox"/>	_____	<input type="checkbox"/>
Evan White <small>Digitally signed by Evan White Date: 2023.06.16 16:28:28 -04'00'</small> <input type="checkbox"/> WATER <input type="checkbox"/> FISH & WILDLIFE <input type="checkbox"/> SOIL CONSERVATION <input checked="" type="checkbox"/> IDEM <input type="checkbox"/> COUNTY <input type="checkbox"/> SWCD <input type="checkbox"/> USF&WS <input type="checkbox"/> USACE <input type="checkbox"/> OTHER _____	<input checked="" type="checkbox"/>	_____	<input type="checkbox"/>
Paul Schriver <small>Digitally signed by Paul Schriver Date: 2023.06.19 08:23:49 -04'00'</small> <input type="checkbox"/> WATER <input type="checkbox"/> FISH & WILDLIFE <input type="checkbox"/> SOIL CONSERVATION <input type="checkbox"/> IDEM <input checked="" type="checkbox"/> COUNTY <input type="checkbox"/> SWCD <input type="checkbox"/> USF&WS <input type="checkbox"/> USACE <input type="checkbox"/> OTHER _____	<input checked="" type="checkbox"/>	_____	<input type="checkbox"/>
_____ <input type="checkbox"/> WATER <input type="checkbox"/> FISH & WILDLIFE <input type="checkbox"/> SOIL CONSERVATION <input type="checkbox"/> IDEM <input type="checkbox"/> COUNTY <input type="checkbox"/> SWCD <input type="checkbox"/> USF&WS <input type="checkbox"/> USACE <input type="checkbox"/> OTHER _____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____ <input type="checkbox"/> WATER <input type="checkbox"/> FISH & WILDLIFE <input type="checkbox"/> SOIL CONSERVATION <input type="checkbox"/> IDEM <input type="checkbox"/> COUNTY <input type="checkbox"/> SWCD <input type="checkbox"/> USF&WS <input type="checkbox"/> USACE <input type="checkbox"/> OTHER _____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____ <input type="checkbox"/> WATER <input type="checkbox"/> FISH & WILDLIFE <input type="checkbox"/> SOIL CONSERVATION <input type="checkbox"/> IDEM <input type="checkbox"/> COUNTY <input type="checkbox"/> SWCD <input type="checkbox"/> USF&WS <input type="checkbox"/> USACE <input type="checkbox"/> OTHER _____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____ <input type="checkbox"/> WATER <input type="checkbox"/> FISH & WILDLIFE <input type="checkbox"/> SOIL CONSERVATION <input type="checkbox"/> IDEM <input type="checkbox"/> COUNTY <input type="checkbox"/> SWCD <input type="checkbox"/> USF&WS <input type="checkbox"/> USACE <input type="checkbox"/> OTHER _____	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____ <input type="checkbox"/> WATER <input type="checkbox"/> FISH & WILDLIFE <input type="checkbox"/> SOIL CONSERVATION <input type="checkbox"/> IDEM <input type="checkbox"/> COUNTY <input type="checkbox"/> SWCD <input type="checkbox"/> USF&WS <input type="checkbox"/> USACE <input type="checkbox"/> OTHER _____	<input type="checkbox"/>	_____	<input type="checkbox"/>

ADDITIONAL COMMENTS

DISPUTED CONDITIONS

CODE	REASON
_____	_____
_____	_____
_____	_____
_____	_____

June 14, 2022

Paul Schriver
Blackford County Surveyor
110 West Washington Street
Hartford City, IN 47348

Re: ER-24604, Big Lick Creek, Blackford County

Dear Mr. Schriver:

This letter is written as a follow up to the March 29, 2022, field meeting associated with the proposed bank stabilization project along Big Lick Creek. Attendees included Paul Brayton, Engineering Services Section, Division of Water; Amanda Evans, Technical Services, Division of Water; Matt Buffington and Nick Haurert, Division of Fish and Wildlife; William Robinson, Indiana Department of Environmental Management; Andrew Cochrane and Katy Smith, Commonwealth Engineers, Inc.; and yourself.

Andrew Cochrane requested that the Indiana Department of Natural Resources provide comments on this project as an environmental review. A field meeting was held with your Office on March 29, 2022, to conduct an early coordination review on this project. Because the total stream length of Big Lick Creek is greater than 10 miles, a Construction in a Floodway Permit will be required for this project from the Indiana Department of Natural Resources (IDNR) under IC 14-28-1. Additionally, because the work is not located within one-half (½) mile of a freshwater lake greater than 10-acres in size, a Ditch Reconstruction permit will not be required from the Indiana Department of Natural Resources under IC 14-26-5, Lowering of the Ten Acre Lakes Act. An SEA 368 review from the Indiana Department of Natural Resources will be required once more project details are available.

IC 36-9-27-53.5 requires that prior to initiating work on a drainage project, which is subject to regulation under certain State and/or Federal environmental regulations, an on-site field review must occur. However, the early coordination meeting can serve as the on-site field review for the project. The Blackford County Surveyor's Office can request the project to be conducted as a desktop review once more details are available. Within 30 days of the receiving the formal plans for the project, the Department of Natural Resources is required to provide the county surveyor's office or drainage board with a list of conditions that the Department of Environmental Management and the Department of Natural Resources would place on any permit for the proposed work. The Department of Natural Resources' conditions are valid for up to 2 years after the on-site field review provided a permit application is submitted within that time frame.

This letter is not approval for construction under any State or Federal Law. The project must be submitted to the Indiana Department of Natural Resources for an SEA 368 review prior to construction.

Description: The project is sponsored by the Blackford County Drainage Board. Big Lick Creek is experiencing severe erosion of its northern embankment for approximately 700 feet downstream of the South County Road 100 West bridge. The bridge piers in the northern embankment are at risk of being adversely affected and large deposits of sediment have accumulated near the southern embankment. This project consists of clearing the sediment and stabilizing the embankments where it is necessary. Broken concrete will be used for armoring. Spoil will be placed within the agricultural field north of the project site.

Location: Beginning at the South County Road 100 West stream crossing in Section 21, Township 23 North, Range 10 East, and extending downstream approximately 700' in Section 21, Township 23 North, Range 10 East, Licking Township, Blackford County.

UTM Coordinates: Downstream North = 4476585, East = 636452
Upstream North = 4476708, East = 636624
(Hartford City West Quadrangle Map)

DEPARTMENT OF NATURAL RESOURCES COMMENTS

Division of Water Comments:

On March 29, 2022, the Blackford County Surveyor expressed the desire to remove sediment from under a bridge on Big Lick Creek where County Road South 100 West crosses the stream and perform channel repair and bank stabilization. This memo will serve to address the best practices for the Surveyor to follow. All work under a bridge, not covered by the Expansion or Contraction Reach, within the jurisdiction of the Department will be permitted by either a model justifying the minimal impacts to the floodway or a Bridge Non-Modeling Worksheet (Form 55233) and Bridge Non-Modeling Worksheet Companion Worksheet B (Form 55234). To document the work that is returning the effective cross-sectional area to the original condition, use the Scour evaluation on the Companion B Worksheet. If the original effective cross-sectional area is not immediately known, previous permits can be researched at the Division's Online Permit Application Database: <https://dowunity.dnr.in.gov/>. Previous computational modeling can also be used to calculate the effective area which can be found in the Indiana Hydrologic and Hydraulic Model Library: <https://dnrmmaps.dnr.in.gov/appsphp/model/index.php>. General resources for floodplain mapping can be found at: <https://www.in.gov/dnr/water/surface-water/indiana-floodplain-mapping/>. Regulatory information needed for application submittal can be found at: <https://www.in.gov/dnr/water/surface-water/indiana-floodplain-mapping/indiana-floodplain-information-portal/>. Further, there is an extensive Permit Application Assistance Manual that can be utilized: <https://www.in.gov/dnr/water/regulatory-permit-programs/permit-application-assistance-manual/>. Work being done to the channel under the Effective Base Flood Elevation or within the lateral Floodway Delineation within the Department's jurisdiction will be permitted by either a No Change in Effective Cross Sectional Area (Form 55238), Change in Effective Cross-Sectional Area (Form 55236), or Ineffective Area of Contraction or Expansion Reach of a Stream Crossing (Form 55235). If the original effective cross-sectional area is not immediately known, previous permits can be researched at the Division's Online Permit Application Database: <https://dowunity.dnr.in.gov/>. Previous computational modeling can also be used to calculate the effective area which can be found in the Indiana Hydrologic and Hydraulic Model Library: <https://dnrmmaps.dnr.in.gov/appsphp/model/index.php>. General resources for floodplain mapping can be found at: <https://www.in.gov/dnr/water/surface-water/indiana-floodplain-mapping/>. Regulatory information needed for application submittal can be found at: <https://www.in.gov/dnr/water/surface-water/indiana-floodplain-mapping/indiana-floodplain-information-portal/>. Further, there is an extensive Permit Application Assistance

Manual that can be utilized: <https://www.in.gov/dnr/water/regulatory-permit-programs/permit-application-assistance-manual/>. Industry best practices for channel maintenance and streamflow design can be found at: <https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=21429> and <https://www.in.gov/dnr/water/publications/indiana-drainage-handbook/indiana-drainage-handbook/>.

Note: The Division will not recommend or promote specific designs as a matter of conflict of interest. It is the responsibility of the Applicant and/or their Agent to provide sound engineering proposals and the Division's responsibility to review the reasonableness of those proposal's compliance with the Statutes and Practices which guide the Department's practices.

Division of Fish and Wildlife Comments:

1) Terrestrial Wildlife Impacts:

Terrestrial wildlife may be temporarily disturbed during construction, though it is anticipated that individuals may relocate and/or avoid the area during construction and return upon completion. Agricultural fields and mowed grass areas will be disturbed during construction. However, the disturbances of these features will likely have no impact on terrestrial wildlife, as they have lower habitat values. No tree clearings will be required for this project. There are numerous forested/shrub wetlands near the project site according to the USFWS National Wetland Inventory (NWI). No impacts to these wetlands are anticipated, as they outside of the project limits.

2) Stream Impacts:

Construction in or near streams may cause aquatic organisms to avoid areas where the activities are occurring. Mussel presence within the project area is likely limited, as the silty substrate in Big Lick Creek is not optimal habitat. The negative impact of working in or near the stream can be minimized by limiting the spatial and temporal extent of in-stream activity and restricting the timing to occur only outside of fish spawning and crayfish mating seasons. Additionally, excavation in streams and along the banks can increase sediment dispersal, which increases stream turbidity. Increasing turbidity levels in a stream affects water temperature, dissolved oxygen levels, and predator/prey interactions, all of which can negatively impact aquatic organisms in that system. Installing silt fencing and seeding the banks with fast-growing species can limit sediment dispersal where riprap is not installed. To prevent erosion, more permanent bank stabilization methods should be implemented, such as native vegetation plantings, erosion control blankets, and hard armoring if absolutely necessary. The proposed seeding and armoring of the disturbed areas should reduce the amount of dispersed sediment into the Big Lick Creek.

3) Fish and Wildlife Passage Impacts:

The project should not limit fish and wildlife passage more than the current conditions. The addition of riprap or broken concrete along the banks of Big Lick Creek may pose difficulty for some terrestrial wildlife species to traverse. However, the current conditions are not favorable for wildlife passage with the existing steep and eroded banks along this section of stream. Fish and wildlife can travel unimpeded under the South County Road 100 West bridge. Maintaining or improving wildlife movement under roads is a priority concern for the Division of Fish & Wildlife (DFW) for the ecological health of wildlife populations in terms of movement and dispersal, habitat connectivity, and to avoid unnecessary wildlife mortality on roads. Facilitating wildlife passage ability under roads means less wildlife crossing traffic lanes and consequently reduced driving hazards. We encourage improving fish and wildlife passage conditions, when possible.

DFW has outlined different requirements for different types of crossing structure impacts. Minimum structure dimensions for white-tailed deer passage are 20 feet of width clearance (overall size of the structure span) and 8 feet of height clearance measured from the ordinary high water mark (OHWM) to the low chord elevation and where deer passage is provided. White-tailed deer passage is possible with the existing structure, deer passage still needs to be considered when reconstructing the banks under the bridge and at minimum the bank lines must

be restored within structures to allow for smaller wildlife passage above the ordinary high water mark. All wildlife passage designs must include a smooth level pathway that is a minimum of 2 feet in width and composed of natural substrate (soil, sand, gravel, etc.) or compacted aggregate fill over riprap (#2, #53, #73, etc.) that is tied into existing elevations both upstream and downstream. The stream crossing repairs or modifications, and any bank stabilization under or around the structure, must not create conditions that are less favorable for wildlife passage when compared to existing conditions. Upgrading wildlife passage for rehabilitated/modified structures is encouraged whenever possible to improve wildlife/vehicle safety.

The following are comments as they would appear as conditions on a Construction in the Floodway Permit.

1. Revegetate all bare and disturbed areas, except for land that will be used for crop production in the next growing season, with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion. Low endophyte tall fescue may be used in the ditch bottom and side slopes only.
2. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife's Environmental Unit.
3. Do not excavate or place spoil in any riparian wetland.
4. Stabilize banks as work progresses so that no more than 200 lineal feet are left disturbed at the completion of the workday.
5. Revegetate all spoil materials deposited in areas not used for crop production.
6. A representative of the Surveyor's Office or their contractor shall inspect erosion and sediment control practices daily and repair as necessary until all construction is complete and disturbed areas are permanently stabilized.
7. Install appropriate sediment control measures to prevent the flow of sediment laden water, resulting from dredging operations, back into the watercourse.
8. Do not use broken concrete as riprap unless it is unpainted and free of soil, fine material, metal, bricks, blocks, asphalt, or other construction debris. Exposed rebar or other reinforcing material must be cut flush with the surface and removed from the floodway. Concrete must not be contaminated with oil or other toxic substances. The clean broken concrete must be a minimum average 6 inch graded pieces with no pieces larger than 2 feet in any dimension.
9. Use minimum average 6 inch graded riprap stone (if used) extended below the normal water level to provide habitat for aquatic organisms in the voids.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT COMMENTS

The Department of Environmental Management will require an individual permit due to the scope of the project. The proposed bank stabilization plans will need to be included in the permit application. The following comments are directed toward the above-referenced project and are specific to the sections of the proposed project reviewed by IDEM.

1. Submit an application to IDEM for Section 401 Water Quality Certification if the Corps requires an

Individual Section 404 permit, a Regional General Permit for impacts greater than 0.1 acre, or a Nationwide Permit for which IDEM has denied Water Quality Certification. Application forms are available through the IDEM office.

2. Install appropriate sediment control measures to prevent the flow of sediment laden water, resulting from dredging operations, back into the watercourse.
3. Limit the physical disturbance of banks, other soils, and existing vegetation to that which is necessary to achieve the purpose of the project.
4. Deposit dredged material on upland, or old spoils that are considered upland.
5. Revegetate all bare and disturbed areas, except for land that will be used for crop production in the next growing season, with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion. Low endophyte tall fescue may be used in the ditch bottom and side slopes only.
6. Perform daily seeding of the ditch banks if the project is conducted during the agricultural growing season; seed the ditch banks as soon as possible if the project activity occurs during the dormant season.
7. Conduct logjam removal and tree preservation consistent with the practices established in the Indiana Drainage Handbook. The handbook was prepared in accordance with State of Indiana Public Law 329-1995 to serve as an administrative and technical guide for drainage activities within Indiana streams and ditches.
8. Encourage landowners affected by this project to place grassed filter strips on land immediately bordering the stream. The federal Conservation Reserve Program offers competitive annual payments for this practice on a continual sign-up basis. In addition, certain areas may qualify for special cost share or incentive programs for the establishment of filter strips. Contact the local county Soil and Water Conservation District or the Natural Resources Conservation Service for program and practice specific information.
9. Spread dredged material, where possible, in a manner that will not impede overland flow to the stream. This will help eliminate adjacent berm buildup and associated "points of concentrated flow" that are erosive and require expensive land treatment practices.
10. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish & Wildlife's Environmental Unit.
11. For salmonid streams, do not work in the waterway from March 15 through June 15 and from July 15 through November 30 without the prior written approval of the Division of Fish & Wildlife's environmental Unit.
12. Do not cut any trees suitable for Indiana bat and Northern Long Eared bat roosting (greater than 5 inches in diameter, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from 4/1 through 9/30.
13. Ensure that the contractor performing the work complies with Section 311 of the Federal Clean Water Act and with 327 IAC 2-6.1 concerning spills of oil and/or hazardous materials.

Paul Schriver (ER-24604)

June 14, 2022

Page 6

If you have any questions about the Department of Environmental Management's comments, please contact William Robinson at (317) 460-6530. You can also contact the Office of Water Management through IDEM's Environmental Helpline at 1-800-451-6027.

Thank you for your cooperation in this matter. If you should have any questions or would like to discuss the Indiana Department of Natural Resources' comments above comments, please contact me at (317) 243-0586 or NHaurert@dnr.IN.gov.

Sincerely,



Nicholas W. Haurert

Statewide Environmental Biologist
Division of Fish and Wildlife

Attachment D

USACE Correspondence

Anna Starks

From: Keller, Sarah J CIV USARMY CELRL (USA) <Sarah.J.Keller@usace.army.mil>
Sent: Wednesday, January 3, 2024 12:53 PM
To: Anna Starks; White, Evan
Cc: Gina Weilbaker, PE, CFM; Andrew Cochrane, PE, CFM
Subject: RE: [Non-DoD Source] RE: LRL-2023-450-sjk, Big Lick Creek Stream Stabilization Project, Blackford County, IN, SEA 368

Anna,

After looking at the plans, any pier protection could be authorized under NWP 14, and bank protection under NWP 13 (with a waiver, if needed). Otherwise, we can use the RGP which expires 12/15/2024 (there is an automatic one-year extension if the project is under contract, but it must be completed by 12/15/2025 because no further extension are allowed).

Mitigation would not be required if there is no ecologic or physical loss of stream; however, once the mitigation threshold is crossed, you must provide a justification as to why you are not proposing mitigation in the permit application. I'm also curious about the proposed a-jacks. We usually don't see them used in small stream environments like this one (usually they are used in major rivers or coastal regions). The application should provide a reason a-jacks are appropriate for the pier protection (rather than large stone, etc).

Sarah

From: Anna Starks <astarks@contactcei.com>
Sent: Thursday, December 21, 2023 2:42 PM
To: Keller, Sarah J CIV USARMY CELRL (USA) <Sarah.J.Keller@usace.army.mil>; White, Evan <EVWhite@idem.IN.gov>
Cc: Gina Weilbaker, PE, CFM <gweilbaker@contactcei.com>; Andrew Cochrane, PE, CFM <acochrane@contactcei.com>
Subject: RE: [Non-DoD Source] RE: LRL-2023-450-sjk, Big Lick Creek Stream Stabilization Project, Blackford County, IN, SEA 368

Hi Sarah,

Apologies for such a delayed response on this. Thanks for the previous clarification. I have a couple of questions based on this info.

1. For you to review it under the RGP, would the project need to be completed by December 15, 2024, or just initiated by that time?
2. Regarding compensatory mitigation:
The project will require placement of fill both in stream (pier protection including rip rap and A-jack deflection barrier) and along the streambanks (rip rap, as well as a boulder vane with a J-hook associated with the mandatory alternate). I've linked the most recent plans below for your reference. The link below also contains correspondence regarding the SEA 368 process. USACE did not attend the field meeting, but we did receive comments from IDEM. The link also contains the regulated waters delineation that was completed. There are no wetlands present. Would the proposed stream restoration meet IDEM/USACE requirements given it's a SEA project?

Submittal 12.15.23

Password: VXyiwUg3UrZ5

<https://commonwealthengineers.egnyte.com/fl/xbHWIY4ThY>

Thank you,

Anna Starks | Environmental Scientist

T: 800-289-1177 | D: 317-981-1995

Corporate Office: 7256 Company Dr., Indianapolis, IN, 46237, USA

Regional Offices: Crown Point, Evansville, Fort Wayne, Indianapolis North, and South Bend, IN | Bowling Green, KY



From: Keller, Sarah J CIV USARMY CELRL (USA) <Sarah.J.Keller@usace.army.mil>

Sent: Thursday, October 12, 2023 8:25 AM

To: Anna Starks <astarks@contactcei.com>; White, Evan <EVWhite@idem.IN.gov>

Cc: Gina Weilbaker, PE, CFM <gweilbaker@contactcei.com>

Subject: RE: [Non-DoD Source] RE: LRL-2023-450-sjk, Big Lick Creek Stream Stabilization Project, Blackford County, IN, SEA 368

Anna,

There's a couple options related to the Section 404 permit, but I think reviewing it under the RGP would be easier since it allows for up to 1,500 feet of bank stabilization without a waiver. However, it is set to expire December 15, 2024. If you think the project won't be constructed by then, we can process it under NWP 13 with a request to waive the 500 foot limit. Compensatory mitigation would not be required unless they ork results in loss of ecologic function or physical loss of stream (for example, placement of riprap results in clearing riparian habitat).

Regarding the 401 WQC, it looks like you may need an individual 401 regardless of the permitting mechanism (Evan will correct me if I'm wrong).

Sarah

From: Anna Starks <astarks@contactcei.com>

Sent: Monday, October 9, 2023 9:55 AM

To: Keller, Sarah J CIV USARMY CELRL (USA) <Sarah.J.Keller@usace.army.mil>; White, Evan <EVWhite@idem.IN.gov>

Cc: Gina Weilbaker, PE, CFM <gweilbaker@contactcei.com>

Subject: [Non-DoD Source] RE: LRL-2023-450-sjk, Big Lick Creek Stream Stabilization Project, Blackford County, IN, SEA 368

Hello Ms. Keller/Mr. White,

I know it's been several months since we last spoke on this project. Apologies it was put on the back burner for a while, but we are now hoping to submit the 401/404 application very soon and are looking at the proposed impacts again.

The project will be below the 1 cys/1 ft of fill threshold for NWP 13. It will be approximately 592 cys/969 ft, which is about 0.6 cys/ft. However, I realized I forgot to account for the linear feet of impact in my original question. To my knowledge, 969 linear feet of impact exceeds the threshold for NWP 13 and exceeds IDEM's conditions on the RGP.

Would we need to request a waiver from the Corps during the application process, and would this fall under an individual permit from IDEM? In addition, will there be any mitigation required for the project?

Thank you,

Anna Starks | Environmental Scientist

T: 800-289-1177 | D: 317-981-1995

Corporate Office: 7256 Company Dr., Indianapolis, IN, 46237, USA

Regional Offices: Crown Point, Evansville, Fort Wayne, Indianapolis North, and South Bend, IN | Bowling Green, KY



From: Keller, Sarah J CIV USARMY CELRL (USA) <Sarah.J.Keller@usace.army.mil>

Sent: Tuesday, May 23, 2023 2:46 PM

To: Anna Starks <astarks@contactcei.com>; White, Evan <EVWhite@idem.IN.gov>

Cc: Gina Weilbaker, PE, CFM <gweilbaker@contactcei.com>

Subject: LRL-2023-450-sjk, Big Lick Creek Stream Stabilization Project, Blackford County, IN, SEA 368

Anna,

I have assigned this project Corps ID No. LRL-2023-450-sjk.

The project could be authorized under NWP 14 for the work related to CR 100 W and NWP 13 for the bank stabilization as long as it does not exceed 1 cubic yard per running foot of fill below the ordinary high water mark of Big Lick Creek. If it does exceed 1cy/ft, we can review it under the Regional General Permit for up to 2 cys/ft. If it is larger than that, you would need to request a waiver during the application process to exceed that limitation.

Let me know if you have any other questions.

Sincerely,

Sarah Keller
Team Leader
Indianapolis Regulatory Office
Louisville District, USACE
Phone: (317) 543-9424 Ext. 3
Sarah.J.Keller@usace.army.mil

From: Anna Starks <astarks@contactcei.com>

Sent: Monday, May 22, 2023 5:03 PM

To: CELRL.Door.To.The.Corps <CELRL.Door.To.The.Corps@usace.army.mil>; White, Evan <EVWhite@idem.IN.gov>

Cc: Gina Weilbaker, PE, CFM <gweilbaker@contactcei.com>

Subject: [URL Verdict: Neutral][Non-DoD Source] Big Lick Creek Stream Stabilization Project, Blackford County, IN, SEA 368

Hello,

I am emailing to inquire about a stream stabilization project along Big Lick Creek in Blackford County, Indiana. This project is being completed on behalf of the Blackford County Surveyor's Office and therefore falls under the SEA 368 review process. A SEA 368 request was filed with IDNR on May 18, 2023. IDNR assigned SEA #1129 on May 19, 2023, and suggested that the Corps be contacted about their jurisdiction and any required permits. It is anticipated the project will impact greater than a tenth of an acre of stream under the OHWM.

Can you please provide instruction on how to proceed with permitting the project in terms of the IDEM 401 WQC and USACE 404 permitting?

Please see the following link for the project description, project plans, previous SEA 368 correspondence with IDNR, and the regulated waters delineation.

IDEM & USACE Correspondence 5.22.2023

Password: wSpGNM8jhX8Z

<https://commonwealthengineers.egnyte.com/fl/EKpzjwBxi>

Please let us know if you require any additional information or have any questions.

Thank you,

Anna Starks | Environmental Scientist

T: 800-289-1177 | D: 317-981-1995

Corporate Office: 7256 Company Dr., Indianapolis, IN, 46237, USA

Regional Offices: Crown Point, Evansville, Fort Wayne, Indianapolis North, and South Bend, IN | Bowling Green, KY



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Attachment E

Project Plans

BLACKFORD COUNTY BOARD OF COMMISSIONERS

BLACKFORD COUNTY, INDIANA

BIG LICK CREEK STREAMBANK STABILIZATION REGULATED DRAIN IMPROVEMENTS

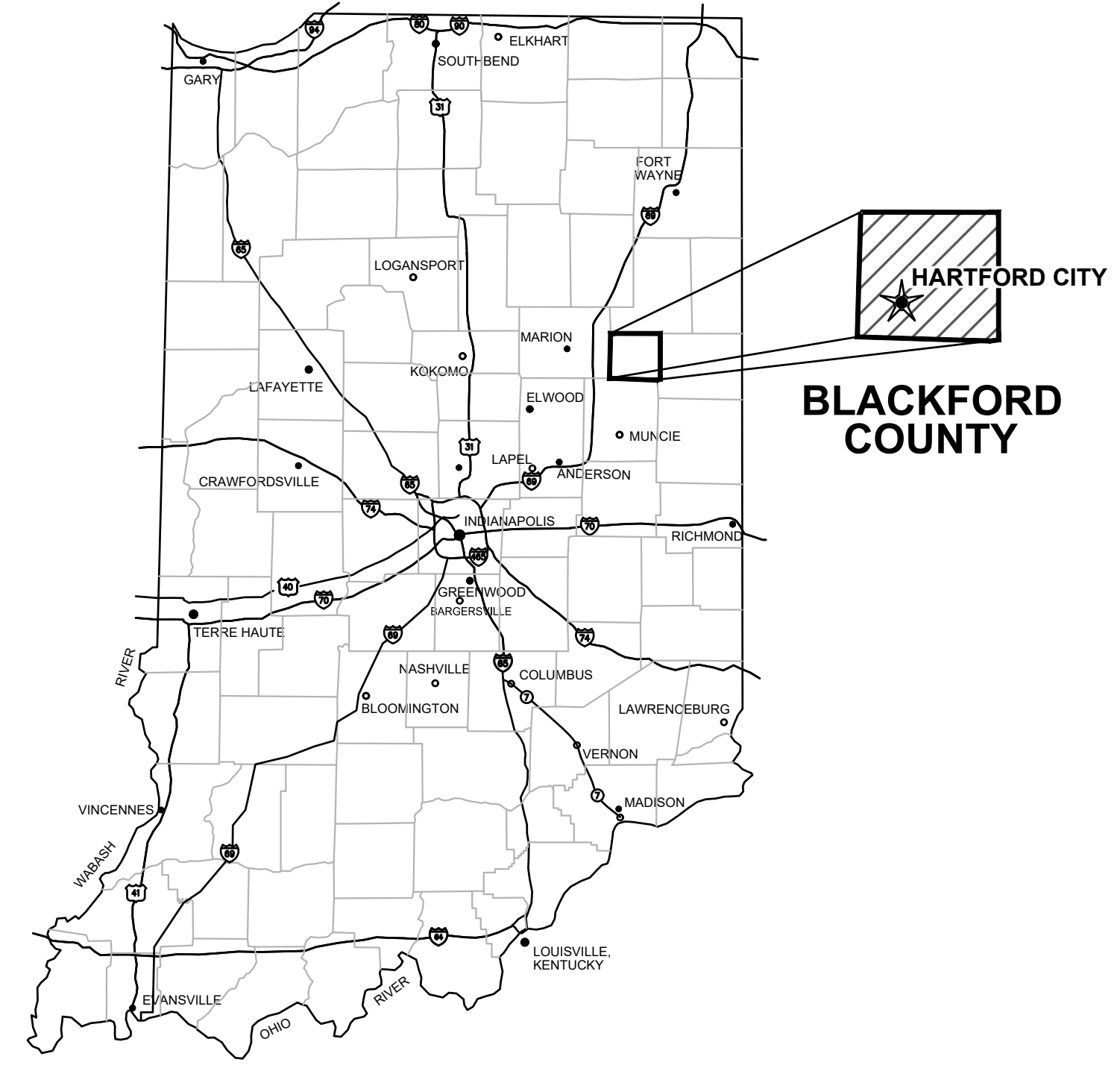
MAY 2023

COUNTY COMMISSIONERS

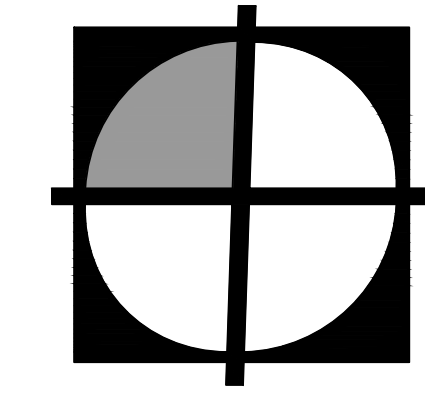
JOHN LANCASTER **PRESIDENT**
JOHN OXLEY **VICE-PRESIDENT**
LAURA COONS **MEMBER**

BLACKFORD COUNTY SURVEYOR:
PAUL SCHRIVER

AUDITOR/SECRETARY TO COMMISSIONERS:
SHARON HARTLEY



GENERAL LOCATION MAP



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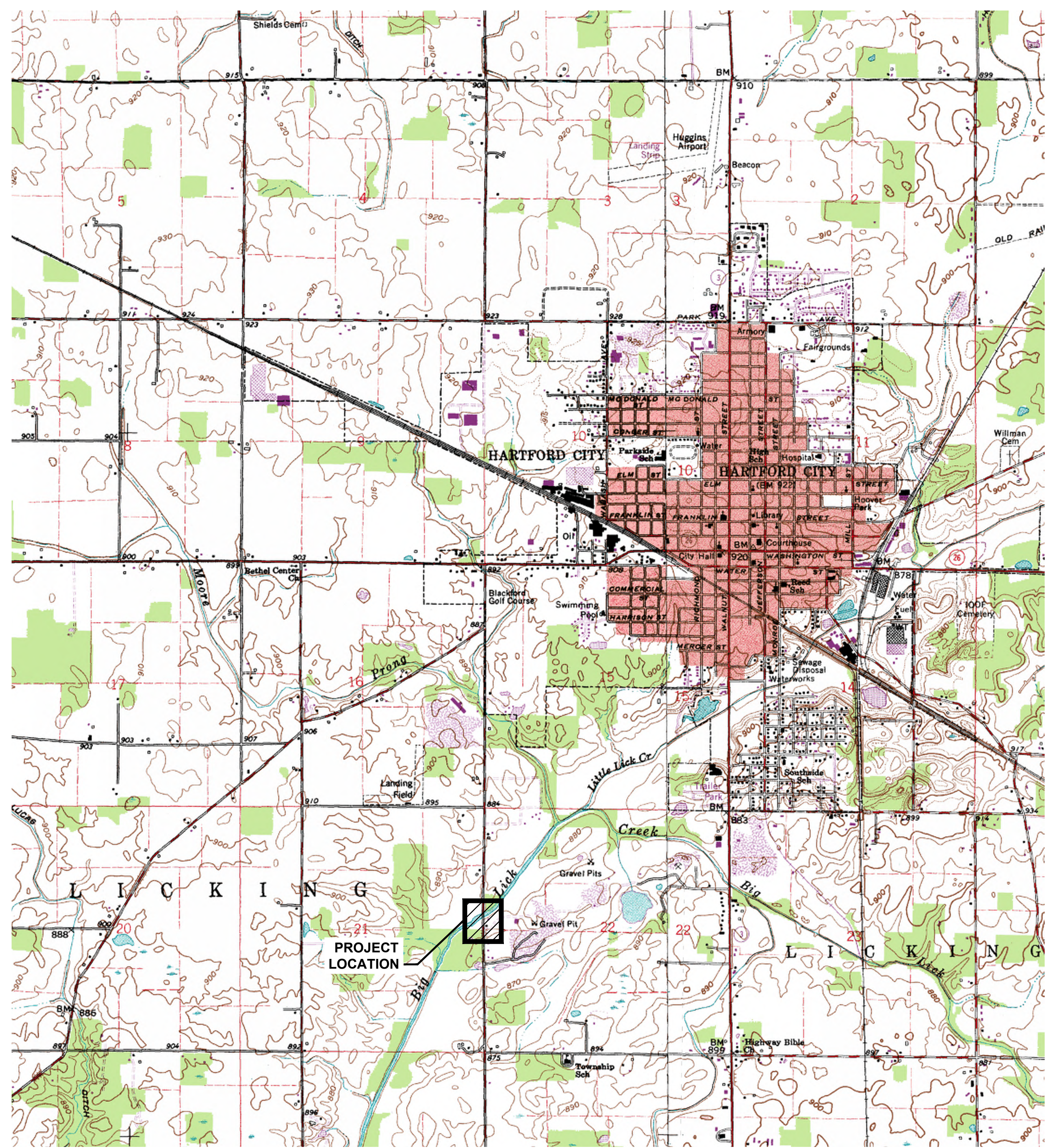
QA/QC BY : _____ DATE :
JEFFREY T. LASHLEE

CERTIFIED BY : _____ DATE :
ANDREW C. COCHRANE
INDIANA P.E. No. 19900094

PRELIMINARY FOR REVIEW ONLY

File: Z:\SHARED\IN CLIENTS A-1\BLACKFORD COUNTY\A-1\BLACKFORD COUNTY\A-1\21128 DRAINAGE-STORMWATER ON-CALL SERVICES\06 CAD\A CURRENT FILES\1 DRAWINGS\01-TITLE SHEET.DWG
Saved: 5/9/2023 8:48:46 AM Plotted: 5/17/2023 6:52:32 AM Current User: Jack Dotts LastSavedBy: Bavis

FILE: Z:\DRAWING CLIENTS 4\BLACKFORD COUNTY\04_0128_DRAINAGE_STORAGE\DRAWING\GENERAL NOTES.DWG
 SHEET: 4/28/2024 4:10:01 PM Project: 5172023.63245 AM Current User: Jake Davis lastSavedBy: jake



OVERALL PROJECT LOCATION MAP
 SCALE: 1"=1,500'-0"
 0 1,500' 3,000'

PLAN SHEET INDEX		
PAGE#	DWG#	DRAWING DESCRIPTION
GENERAL DRAWINGS		
01	G1	TITLE SHEET
02	G2	OVERALL LOCATION MAP AND PLAN SHEET INDEX
03	G3	GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS
04	G4	OVERALL DRAWING INDEX MAP AND SURVEY DATA
PLAN DRAWINGS		
05	P1	EXISTING SITE PLAN AND PHOTO LOG
06	P2	PHOTO INDEX
07	P3	PHOTO INDEX
08	P4	PHOTO INDEX
09	P5	PROPOSED SITE GRADING PLAN
10	P6	PROPOSED SITE GRADING PLAN
11	P7	PROPOSED SITE GRADING PLAN
12	P8	PROPOSED SITE GRADING PLAN
13	P8A	PROPOSED SITE GRADING PLAN - ALTERNATIVE NO. 1
14	P9	PROPOSED SITE PLAN - CONSTRUCTION ENTRANCE
15	P10	PROPOSED SITE STABILIZATION PLAN
16	P11	PROPOSED SITE STABILIZATION PLAN
17	P12	PROPOSED SITE STABILIZATION PLAN
18	P13	PROPOSED SITE STABILIZATION PLAN
19	P14	PROPOSED SITE STABILIZATION PLAN
20	P14A	PROPOSED SITE STABILIZATION PLAN - ALTERNATIVE NO. 1
CROSS SECTIONS		
21	CS1	CROSS SECTIONS - LINE "A"
22	CS2	CROSS SECTIONS - LINE "A"
23	CS3	CROSS SECTIONS - LINE "A"
24	CS4	CROSS SECTIONS - LINE "A"
25	CS5	CROSS SECTIONS - LINE "A"
26	CS6	CROSS SECTIONS - LINE "A"
27	CS7	CROSS SECTIONS - LINE "A"
28	CS8	CROSS SECTIONS - LINE "A"
29	CS9	CROSS SECTIONS - LINE "A"
30	CS9A	CROSS SECTIONS - LINE "A" ALTERNATIVE NO. 1
MISCELLANEOUS DETAILS		
31	MD1	MISCELLANEOUS DETAILS
32	MD2	MISCELLANEOUS DETAILS

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 Fort Wayne, IN 46837
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 (317) 888-1325
 CROWN POINT, IN 46307
 100 N. Main St.
 Crown Point, IN 46307
 (219) 960-1177
 ELANSVILLE, IN 46724
 422 N.W. 25th St., 201
 Elansville, IN 46724
 (317) 944-1177
 BOWLING GREEN, IN 46708
 922 S. Main St., 3rd Floor
 Bowling Green, IN 46708
 (317) 851-1177

PRELIMINARY FOR REVIEW ONLY
 Signature _____ Date _____

BLACKFORD COUNTY BOARD OF COMMISSIONERS
 BLACKFORD COUNTY, INDIANA
 BIG LICK CREEK STREAMBANK STABILIZATION REGULATED DRAIN IMPROVEMENTS

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Indiana 811
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 OR 1-800-382-5544 (ITS THE LAW)

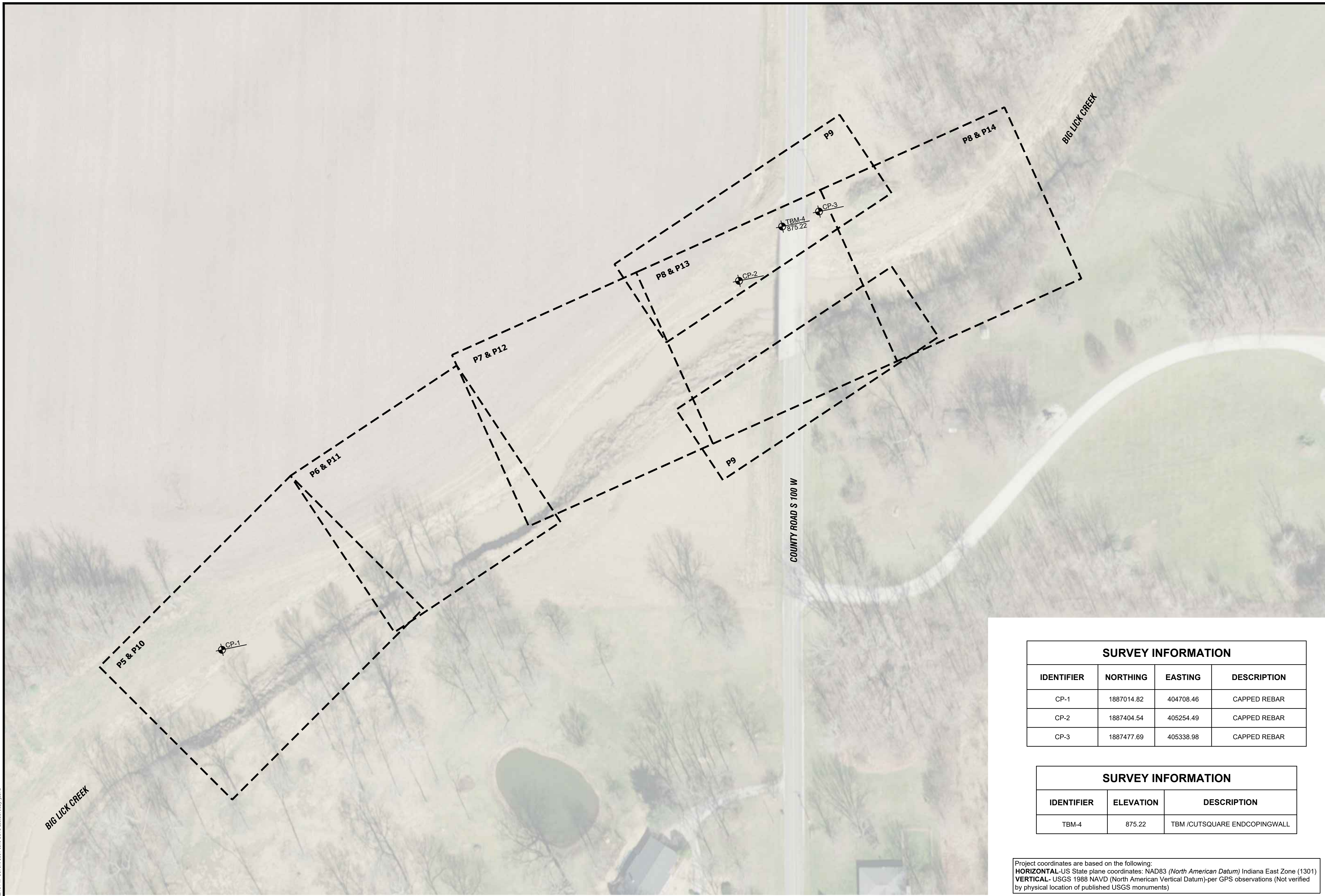
No.	Submittal / Revision	By	Date

Designed By: ACC Drawn By: JRD Checked By: JTL
 Issue Date: --- Project No: J21128 Scale: AS SHOWN

OVERALL LOCATION MAP AND PLAN SHEET INDEX

Drawing No: **G2**
 Sheet: 02 OF 32

FILE: C:\CLIENTS\ALBUQUERQUE COUNTY\10-15-19\DRAINAGE\STORMWATER\OCCASIONAL SERVICES\603A-COON-CURRENT FILES\DRAWINGS\603A-GENERAL NOTES.DWG
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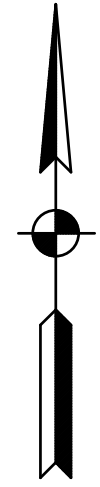
OVERALL DRAWING INDEX MAP

SCALE: 1"=50'-0"
 0 50' 100'

SURVEY INFORMATION			
IDENTIFIER	NORTHING	EASTING	DESCRIPTION
CP-1	1887014.82	404708.46	CAPPED REBAR
CP-2	1887404.54	405254.49	CAPPED REBAR
CP-3	1887477.69	405338.98	CAPPED REBAR

SURVEY INFORMATION		
IDENTIFIER	ELEVATION	DESCRIPTION
TBM-4	875.22	TBM /CUTSQUARE ENDCOPINGWALL

Project coordinates are based on the following:
HORIZONTAL- US State plane coordinates: NAD83 (North American Datum) Indiana East Zone (1301)
VERTICAL- USGS 1988 NAVD (North American Vertical Datum)-per GPS observations (Not verified by physical location of published USGS monuments)



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FOR REVIEW ONLY**

Signature _____ Date _____

**BLACKFORD COUNTY BOARD
OF COMMISSIONERS
BLACKFORD COUNTY, INDIANA
BIG LICK CREEK
STREAMBANK STABILIZATION
REGULATED DRAIN
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No.	Submittal / Revision	By	Date

Designed By: ACC Drawn By: JRD Checked By: JTL
 Issue Date: --- Project No: J21128 Scale: AS SHOWN

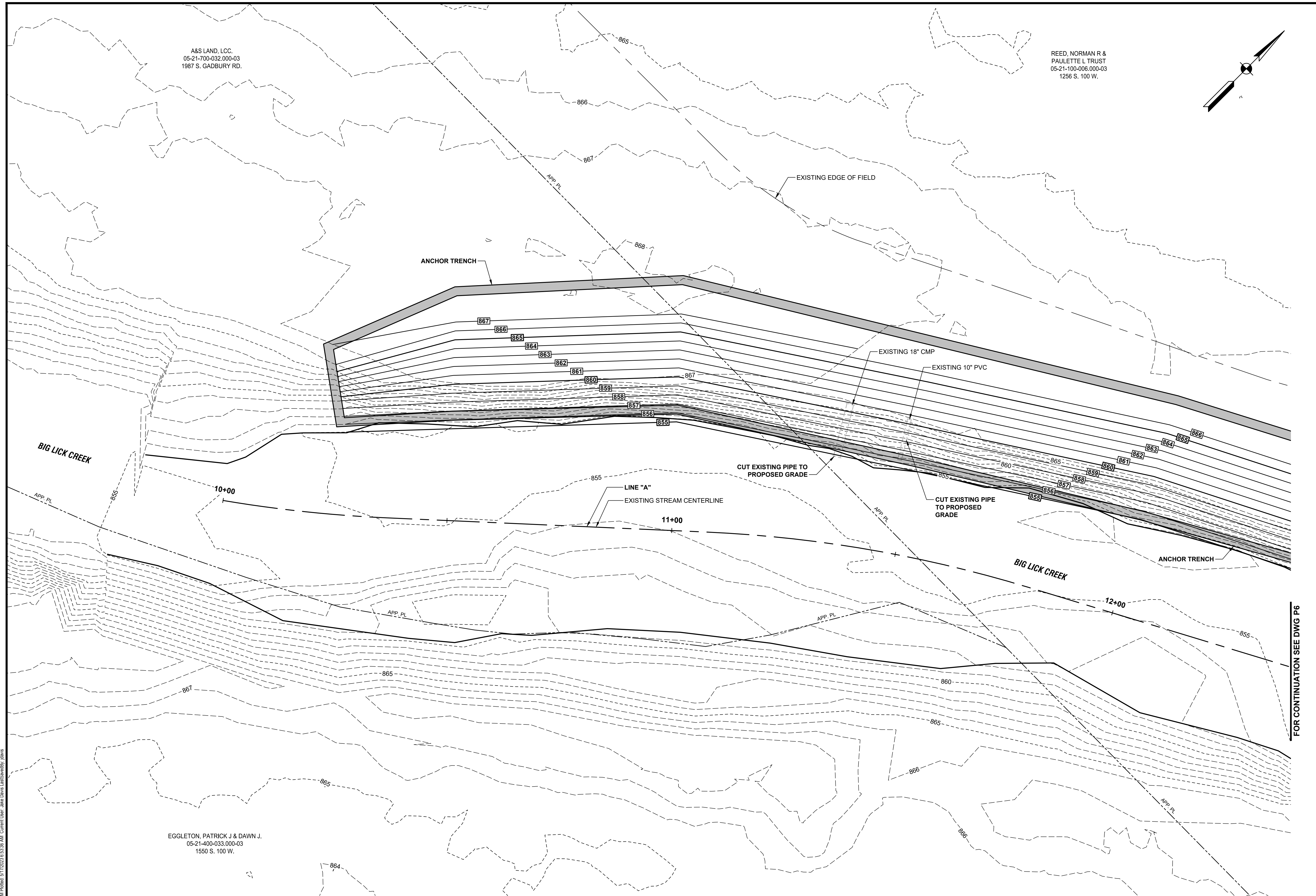
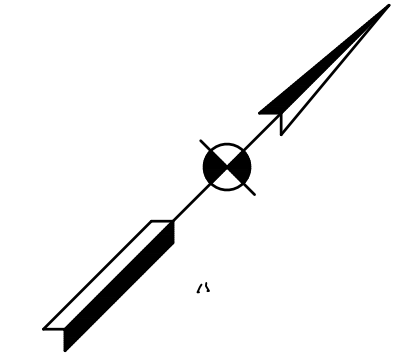
**OVERALL DRAWING
INDEX MAP AND
SURVEY DATA**

Drawing No:
G4
 Sheet: 04 OF 32

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 (317) 885-1177
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 Fort Wayne, IN 46825
 (317) 960-1777
ELANSVILLE
 INDIANAPOLIS NORTH
 4222 N.W. 5th St., Ste. 201
 Ellettsville, IN 47208
 (317) 885-1177
BOWLING GREEN
 922 3rd St. S., Ste. 400
 Bowling Green, KY 42101
 (502) 337-1177

A&S LAND, LCC.
05-21-700-032.000-03
1987 S. GADBURY RD.

REED, NORMAN R &
PAULETTE L TRUST
05-21-100-006.000-03
1256 S. 100 W.



FILE Z:\ENR\IN CLIENTS\4\BLACKFORD COUNTY\05-21-128\PROJANCE\STORMWATER\CALL SERVICES\6 CAD\A CURRENT FILES\DRAWINGS\6 SITE PLANNING
Sheet: 5/12/2023 4:50:20 PM Project: 5/12/2023 5:53:36 AM Current User: Jake David lastModified: jtd

EGGLETON, PATRICK J & DAWN J.
05-21-400-033.000-03
1550 S. 100 W.

SITE PLAN
SCALE: 1"=10'-0"
0 10' 20'

FOR CONTINUATION SEE DWG P6

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Elansville, IN 47708
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BLACKFORD COUNTY, INDIANA**

**BIG LICK CREEK
STREAMBANK STABILIZATION
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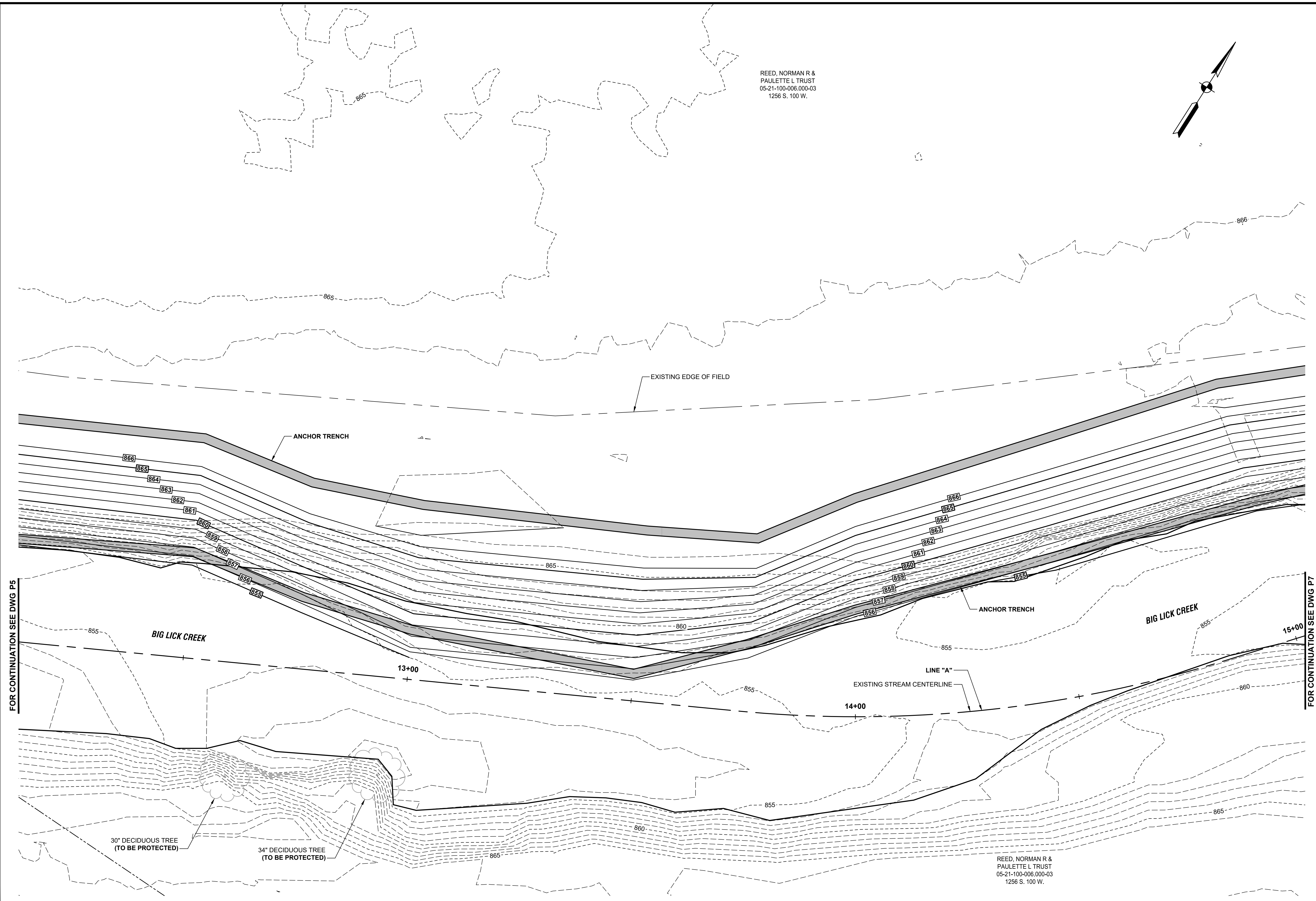
No.	Submittal / Revision	By	Date

Designed By: ACC	Drawn By: JRD	Checked By: JTL
Issue Date: ---	Project No: J21128	Scale: AS SHOWN

**PROPOSED SITE
GRADING PLAN**

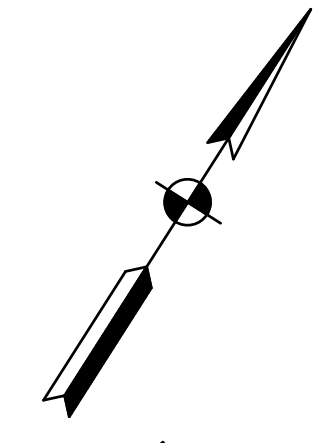
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Sheet: 09 OF 32

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 PAULETTE L TRUST
 05-21-100-006.000-03
 1256 S. 100 W.

REED, NORMAN R &
 PAULETTE L TRUST
 05-21-100-006.000-03
 1256 S. 100 W.



SITE PLAN
 SCALE: 1"=10'-0"
 0 10' 20'

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BLACKFORD COUNTY, INDIANA
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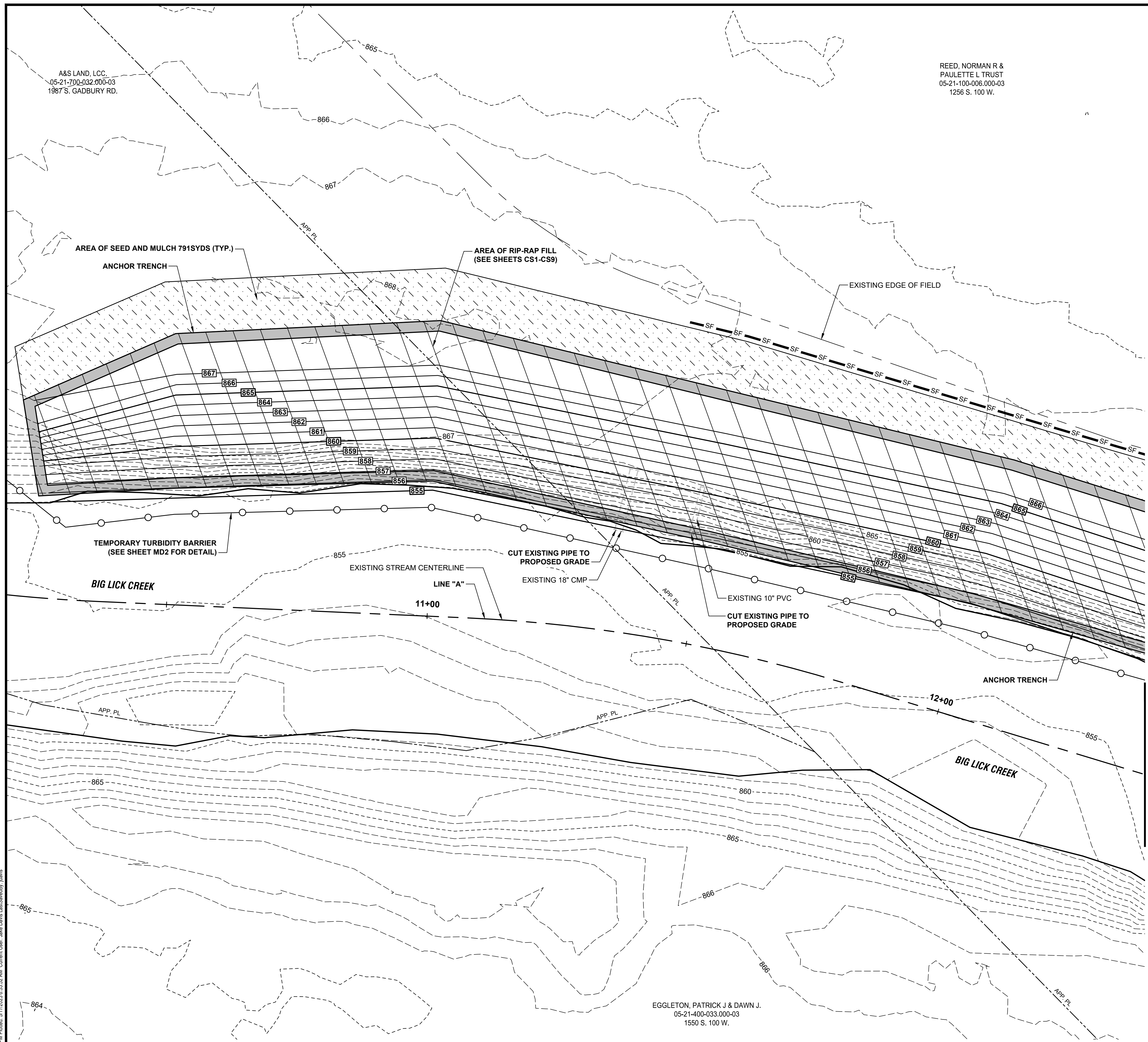
No.	Submittal / Revision	By	Date

Designed By: ACC	Drawn By: JRD	Checked By: JTL
Issue Date: ---	Project No: J21128	Scale: AS SHOWN

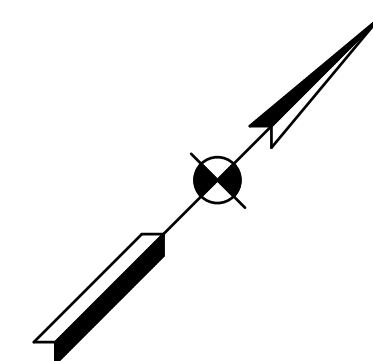
PROPOSED SITE GRADING PLAN

Drawing No:
P6
 Sheet: 10 OF 32

FILE Z:\SHARED\CLIENTS\41\BLACKFORD COUNTY\01\128\PERMANENCE\STORMWATER\ON-CALL SERVICES\66 CADIA CURRENT FILES\DRAWINGS\04 SITE PLAN.DWG
 SHEET 5/12/2023 8:50:20 PM PROJECT 5/12/2023 8:53:52 AM CURRENT USER: JAKE DAVIS LAST MODIFIED: jrdavis



FOR CONTINUATION SEE DWG P11



- LEGEND:**
- RIP-RAP REVEMENT
 - SEED AND MULCH
 - REMOVE SEDIMENT DEPOSITS
 - TEMPORARY TURBIDITY BARRIER
 - SILT FENCE

- GENERAL NOTES:**
- CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION CONTROL MEASURES AS SPECIFIED IN THE DETAILED SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO CONCRETE WASHOUT STATIONS, TEMPORARY CONSTRUCTION ENTRANCES, TEMPORARY SEEDING, ETC. AS REQUIRED DURING THE DURATION OF THE PROJECT TO MAINTAIN COMPLIANCE WITH THE RULE 5 PERMIT. CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF RULE 5 PERMIT, INCLUDING PROVIDING REQUIRED NOTIFICATIONS TO THE REQUIRED AGENCIES.
 - SEE MISCELLANEOUS DETAIL SHEETS FOR EROSION CONTROL DETAILS.
 - ALL REMOVED SEDIMENT MATERIAL TO BE PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE PERMITS.

APPROXIMATE SEEDING DATES FOR CENTRAL INDIANA												
TEMPORARY SEEDING:												
TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
WHEAT OR RYE												
OATS												
ANNUAL RYEGRASS												
PERMANENT SEEDING:												
NON-IRRIGATED												
IRRIGATED												
DORMANT SEEDING**												

IRRIGATION NEEDED DURING THIS PERIOD TO CONTROL EROSION. AT TIMES OTHER THAN IN THE SHADED AREAS, USE MULCH.
 * LATE SUMMER SEEDING DATES MAY BE EXTENDED 5 DAYS IF MULCH IS APPLIED
 ** INCREASE SEEDING APPLICATION BY 50%

EROSION CONTROL SCHEDULE		
EROSION CONTROL MEASURE	MAINTENANCE	INSTALLATION SEQUENCE
STONE ENTRANCE	AS NEEDED	PRIOR TO CLEARING AND GRADING
SILT FENCE	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	PRIOR TO CLEARING AND GRADING
TEMPORARY SEEDING	WATER AS NEEDED	AFTER ROUGH GRADING
PERMANENT SEEDING	WATER AS NEEDED	AFTER FINISH GRADING
EROSION CONTROL MATTING	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	AFTER FINISH GRADING
REMOVAL OF TURBIDITY BARRIERS	TEXT	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED

*SEE CHART FOR MAINTENANCE REQUIREMENTS

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 7526 Company Dr.
 Fort Wayne, IN 46827
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 8624 Colchester Rd., Ste. 203
 Crown Point, IN 46037
 (219) 963-1777

ELANSVILLE: 423 N. W. 25th St.
 Elansville, IN 47708
 (317) 885-1177

BOWLING GREEN: 922 3rd St. S.E.
 Bowling Green, KY 42101
 (606) 851-1177

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Signature _____ Date _____

BLACKFORD COUNTY BOARD OF COMMISSIONERS
BLACKFORD COUNTY, INDIANA
BIG LICK CREEK STREAMBANK STABILIZATION REGULATED DRAIN IMPROVEMENTS

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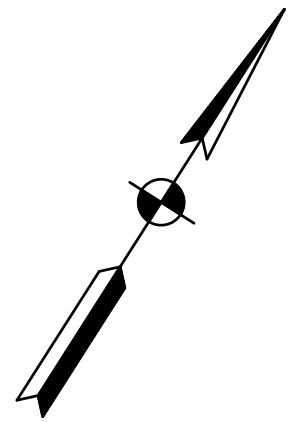
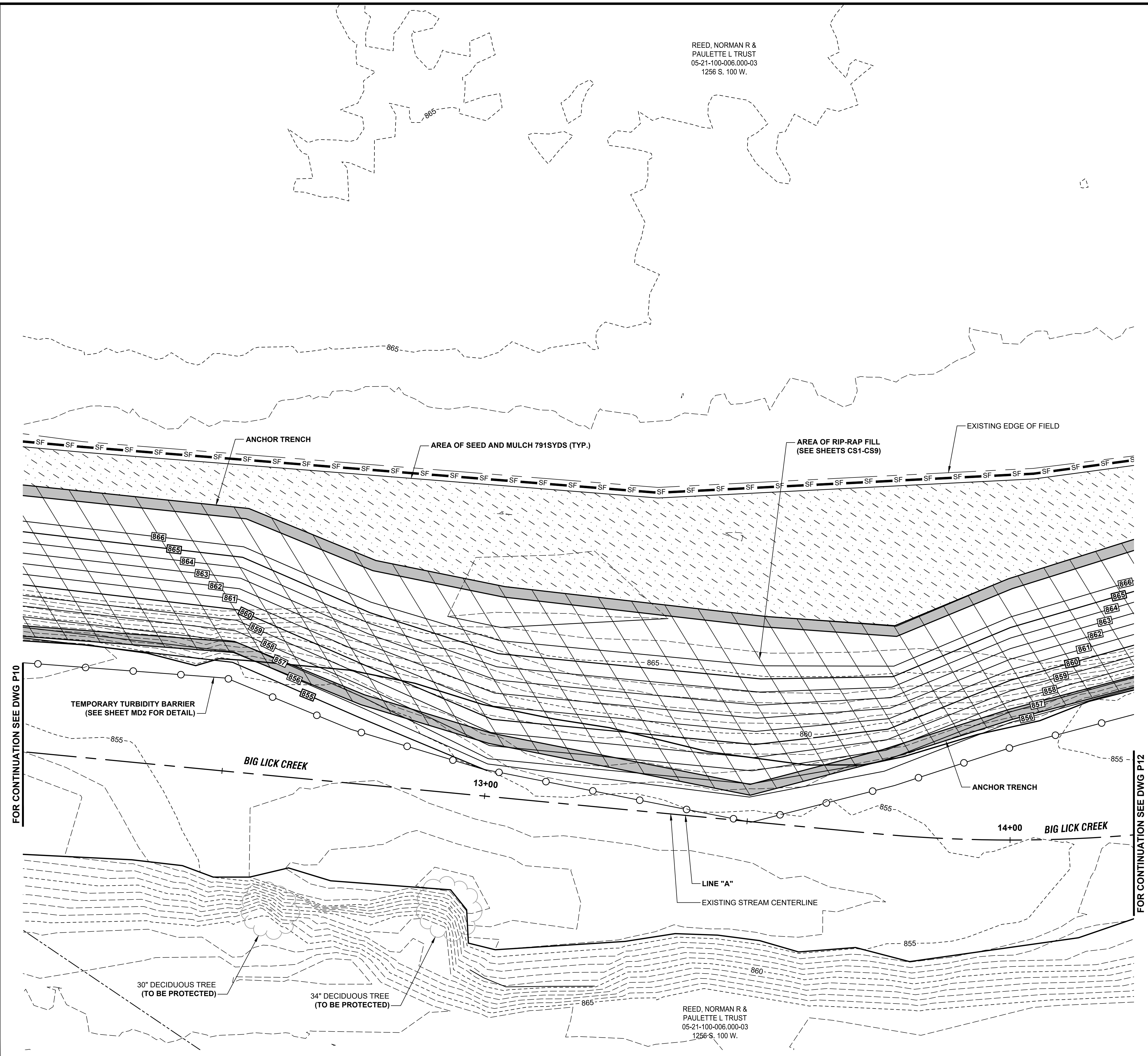
Designed By: ACC
 Drawn By: JRD
 Checked By: JTL
 Issue Date: J21128
 Project No: J21128
 Scale: AS SHOWN

PROPOSED SITE STABILIZATION PLAN

FILE: Z:\SHARED\CLIENTS_4\BLACKFORD COUNTY\05-21-100-006\000-03\DRAWINGS\05-21-100-006\000-03\DWG\05-21-100-006-000-03-001.DWG
 SHEET: 5/12/2023 8:50:20 PM Project: 05-21-100-006-000-03-001 Current User: jake.davis lastModifiedBy: jake.davis

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 PAULETTE L TRUST
 05-21-100-006-000-03
 1256 S. 100 W.

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 05-21-100-006-000-03
 1256 S. 100 W.



LEGEND:

- RIP-RAP REVETMENT
- SEED AND MULCH
- REMOVE SEDIMENT DEPOSITS
- TEMPORARY TURBIDITY BARRIER
- SILT FENCE

GENERAL NOTES:

- CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION CONTROL MEASURES AS SPECIFIED IN THE DETAILED SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO CONCRETE WASHOUT STATIONS, TEMPORARY CONSTRUCTION ENTRANCES, TEMPORARY SEEDING, ETC. AS REQUIRED DURING THE DURATION OF THE PROJECT TO MAINTAIN COMPLIANCE WITH THE RULE 5 PERMIT. CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF RULE 5 PERMIT, INCLUDING PROVIDING REQUIRED NOTIFICATIONS TO THE REQUIRED AGENCIES.
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APPROXIMATE SEEDING DATES FOR CENTRAL INDIANA												
TYPE	TEMPORARY SEEDING:											
	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
WHEAT OR RYE												
OATS												
ANNUAL RYEGRASS												
NON-IRRIGATED	PERMANENT SEEDING:											
DORMANT SEEDING**												

IRRIGATION NEEDED DURING THIS PERIOD TO CONTROL EROSION. AT TIMES OTHER THAN IN THE SHADED AREAS, USE MULCH.
 * LATE SUMMER SEEDING DATES MAY BE EXTENDED 5 DAYS IF MULCH IS APPLIED
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REMOVAL OF TURBIDITY BARRIERS	TEXT	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED

-SEE CHART FOR MAINTENANCE REQUIREMENTS

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 Drawn By: JRD
 Checked By: JTL

Issue Date: J21128
 Project No: J21128
 Scale: AS SHOWN

PROPOSED SITE STABILIZATION PLAN

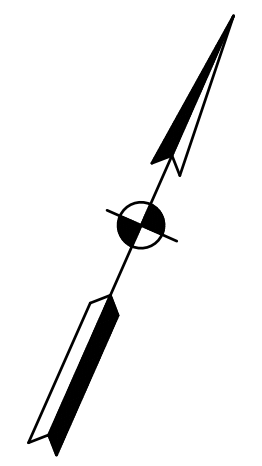
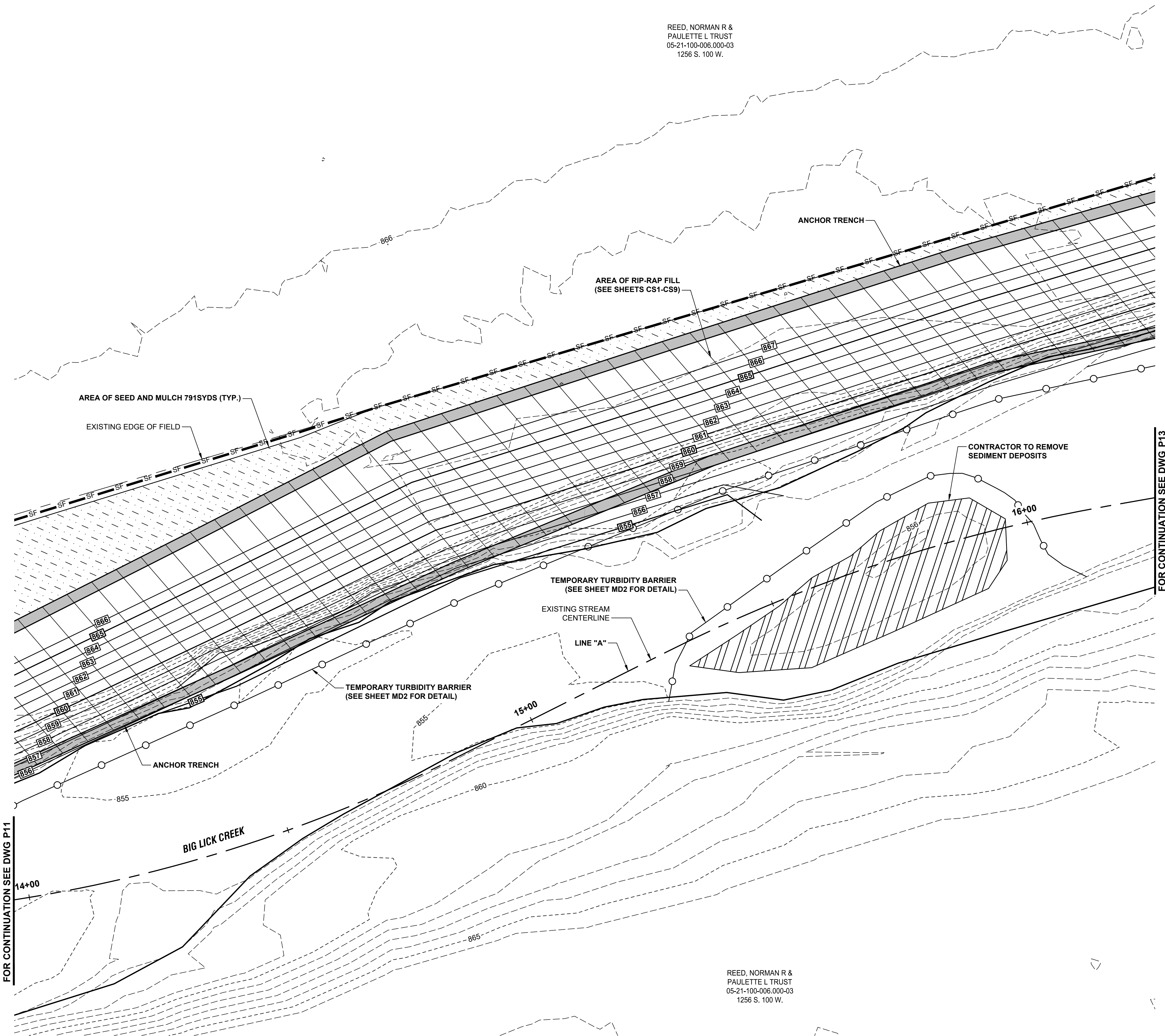
Drawing No:
P11
 Sheet: 16 OF 32

SITE PLAN
 SCALE: 1"=10'-0"
 0 10' 20'

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 1256 S. 100 W.

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 05-21-100-006.000-03
 1256 S. 100 W.



LEGEND:

- RIP-RAP REVEMENT
- SEED AND MULCH
- REMOVE SEDIMENT DEPOSITS
- TEMPORARY TURBIDITY BARRIER
- SILT FENCE

GENERAL NOTES:

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IRRIGATED												
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-SEE CHART FOR MAINTENANCE REQUIREMENTS

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Designed By: ACC
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 Issue Date: J21128
 Project No: J21128
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PROPOSED SITE STABILIZATION PLAN

