

From: [Robinson, William](#)
To: [Turner, James](#); [Rehder, Crystal](#); [Davis, Taylor](#)
Cc: regulatoryapplicationsLRL@USACE.army.mil
Subject: 2023-107-79-WLR-A INDOT 1900333 SR 26 over Goose Creek small structure replacement with bridge
Date: Friday, March 24, 2023 11:47:00 AM
Attachments: [2023-107-79-WLR-A INDOT 1900333 WQC.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)

Hello Crystal and Taylor,

Please see the attached WQC Letter. Let me know if you have any questions.



William Robinson, Wetland Project Manager
Wetlands and Stormwater Section, Office of Water Quality
100 North Senate Avenue, Room 1255
Indianapolis Indiana 46204
Phone: (317) 460-6530
Fax: (317) 234-4145
Wrobinso@idem.IN.gov

Storm Water Program: <http://www.in.gov/idem/stormwater>
Indiana Storm Water Quality Manual: <http://www.in.gov/idem/stormwater/2363.htm>
Section 401 Water Quality Certification and Isolated Wetlands Program:
<http://www.in.gov/idem/wetlands>

Indiana Department of Environmental Management



IDEM values your feedback.

Please take two minutes and complete this brief survey.





INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

Section 401 Water Quality Certification

IDEM Number: 2023-107-79-WLR-A
USACE Number:
Project Name: INDOT 1900333 SR 26 over Goose Creek small structure replacement with bridge
Authority: 327 IAC 2. CWA Sections: 301, 302, 303, 306, 307, & 401
Date of Issuance: 3/24/2023
Impacts must be completed by: 3/24/2025

Approved:

Brian Wolff, Branch Chief
Surface Water and Operations
Office of Water Quality

Applicant / Permittee: INDOT
Attention: Crystal Rehder
100 N. Senate Avenue, Room N758
Indianapolis, IN 46204

Agent: Corradino, LLC
Attention: Zed Hott
200 S. Meridian Street, Suite 330
Indianapolis, IN 46225

Project Location: Tippecanoe County
Latitude: 40.445474, Longitude: -87.024085
Located on SR 26 4.98 miles west of US52/US231 junction

Project Description: Replace an existing 296-foot long twin reinforced concrete box structures with a single 291-foot long, 22-foot span, by 11-foot rise 3-sided precast concrete structure.

Realign 100 feet and 0.037 acre of Goose Creek

Impact 291 lf and 0.107 acre of Goose Creek by new bridge construction and impact 25 lf and 0.009 acre of Goose Creek with scour protection around the outlet.

Impact 175 lf of UNT Goose Creek 1 with slope stabilization and impact 50 lf with scour protection.

Relocate approximately 25 lf and 0.005 acre of UNT Goose Creek 2.

Place riprap along 160 feet and in 0.007 acre of UNT to Goose Creek 3 for slope stabilization.

Mitigate for impacts to aquatic resources by purchasing 826 feet of stream credits within the Middle Wabash Service Area of the Indiana Stream and Wetland Mitigation Program.

Authorized Impacts

STREAM IMPACT(S)	Length of Impact (linear feet)		
	Ephemeral	Intermittent	Perennial
Type of Impact:			
Slope Stabilization, riprap, and bridge constructions			826

Project Mitigation

MITIGATION BANKS AND IN-LIEU FEE	Stream (Linear Feet)		
	Ephemeral	Intermittent	Perennial
Type of Purchase			
In-Lieu Fee Credits:			826

Mitigation Location: Middle Wabash Service Area

Application Signed: January 11, 2023

Application Received: January 12, 2023

Based on available information, it is the judgment of this office that the impacts from the proposed project as outlined by this Section 401 Water Quality Certification and described in your application will comply with the applicable provisions of 327 IAC 2 and Sections 301, 302, 303, 306, and 307 of the Clean Water Act if you comply with the conditions set forth below. Therefore, subject to the following conditions, the Indiana Department of Environmental Management (IDEM) hereby grants Section 401 Water Quality Certification for the project described in your application. Any changes in project design or scope not detailed in the application described above or modified by this Section 401 Water Quality Certification are not authorized.

Failure to comply with the terms and conditions of this Section 401 Water Quality Certification may result in enforcement action against you. If an enforcement action is pursued, you could be assessed up to \$25,000 per day in civil penalties. You may also be subject to criminal liability if it is determined that the Section 401 Water Quality Certification was violated willfully or negligently.

Conditions of the Section 401 Water Quality Certification

1.0 General

- (a) Per 33 CFR 325.6(c), 327 IAC 5-2-6, IC 13-15-3-2 the federal license shall have an established timeframe and the state permit must be for a fixed term, no longer than five years. Therefore, all approved discharges must be completed within the term of the valid federal permit, not to exceed five years.

- (b) Per IC 13-14-2-2, the department may inspect public or private property to inspect for and investigate possible violations of environmental management laws. Therefore, the commissioner or an authorized representative of the commissioner (including an authorized contractor), upon the presentation of credentials must be allowed:
 - (1) to enter your property, including impact and mitigation site(s);
 - (2) to have access to and copy at reasonable times any records that must be kept under the conditions of this certification;
 - (3) to inspect, at reasonable times, any monitoring or operational equipment or method; collection, treatment, pollution management or discharge facility or device; practices required by this certification; and any mitigation wetland site;
 - (4) to sample or monitor any discharge of pollutants or any mitigation site.

2.0 Mitigation

Per 327 IAC 2, the goal of Indiana's water quality standards is to restore and maintain the chemical, physical and biological integrity of the state's waters. Mitigation of dredge and fill impacts to Indiana's water resources is required to maintain water quality.

- (a) Per 40 CFR 230.91; 33 CFR 332.3; 327 IAC 2-1; 327 IAC 2-1.5, implementation of the submitted and approved mitigation plan is to ensure the water quality functions of the impacted waters are replaced, preventing a reduction in water quality. Therefore, implement the mitigation plan as described in the application (referred to collectively hereinafter as the "mitigation plan"), and as modified by the conditions of this certification.
- (b) Mitigation via mitigation bank or ILF
Per 33 CFR 332.3 (f); 327 IAC 2-1; 327 IAC 2-1.5 the amount of mitigation required must be listed within the permit.
 - (1) Provide to IDEM proof of the purchase of 826 linear feet of in-lieu fee stream credits in the Middle Wabash Service Area from the Indiana Stream and Wetland Mitigation Program (IN SWMP):
 - (A) Within one (1) year of the date of this authorization;
 - (B) Before authorized impacts to waters of the State.

Be aware that credits may not be available at all times.

Failure to purchase credits by the required date may result in additional mitigation requirements to compensate for temporal loss.

3.0 Erosion and Sediment Control

Per 40 CFR 122.26, 327 IAC 15; 327 IAC 2-1; 327 IAC 2-1.5, the use of appropriate stormwater control measures and maintenance thereof will prevent any sediment laden water from migrating off site and entering waterways and wetlands, potentially impairing water quality. Therefore, the following erosion and sediment control steps must be completed.

- (a) Implement erosion and sediment control measures on the construction site prior to land disturbance to minimize soil from leaving the site or entering a waterbody. Erosion and sediment control measures shall be implemented using an appropriate order of construction (sequencing) relative to the land-disturbing activities associated with the project. Appropriate measures include, but are not limited to, silt fence, diversions, and sediment traps.

- (b) Monitor and maintain erosion control measures and devices regularly, especially after rain events, until all soils disturbed by construction activities have been permanently stabilized.
- (c) Use run-off control measures, including but not limited to diversions and slope drains. These measures are effective for directing and managing run-off to sediment control measures and for preventing direct run-off into waterbodies.
- (d) Install and make appropriate modifications to erosion and sediment control measures based on current site conditions as construction progresses on the site. The Indiana Storm Water Quality Manual or similar guidance documents are available to assist in the selection of measures that are applicable to individual project sites.
- (e) Implement appropriate erosion and sediment control measures for all temporary run-arounds, cofferdams, temporary causeways, temporary crossings, or other such structures that are to be constructed within any waters of the state. Minimize disturbance to riparian areas when constructing these structures. Structures must be included in reviewed designs or approved by IDEM prior to use. Construct temporary run-arounds, temporary cofferdams, temporary causeways, temporary crossings, or other such structures of non-erodible materials. Temporary crossings and causeways must be completely removed upon completion of the project and the affected area restored to pre-construction contours, grades, and vegetative conditions.
- (f) Install stream pump-around operations in accordance with the plans and ensure in-stream component is constructed of non-sediment producing materials. The discharge at the outlet shall not cause erosion of the stream bottom and banks.
- (g) Direct cofferdam dewatering activities to an appropriate sediment control measure or a combination of measures prior to discharging into a water of the state to minimize the discharge of sediment-laden water.
- (h) Ensure cut and fill slopes located adjacent to wetlands and streams (including encapsulated streams) or that directly discharge to these aquatic features are stabilized using rapid/incremental seeding or other appropriate stabilization measures.
- (i) Stabilize and re-vegetate disturbed soils as final grades are achieved. Initiation of stabilization must occur immediately or, at a minimum, within the requirements of a construction site run-off permit after work is completed. Use a mixture of herbaceous species beneficial for wildlife or an emergent wetland seed mix wherever possible and appropriate. Tall fescue may only be planted in ditch bottoms and ditch side slopes and must be a low endophyte seed mix. Stabilize the channel before releasing stream flows into the channel.

- (j) As work progresses, re-vegetate areas void of protective ground cover. Areas that are to be re-vegetated shall use seeding and anchored mulch. **If alternative methods are required to ensure stabilization, erosion control blankets may be used that are biodegradable, that use loose-woven/leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation).**

Anchor mulch. Anchoring shall be appropriate for the site characteristics such as slope, slope length, and concentrated flows. **Anchoring methods may not include loose netting over straw, but can range from crimping of straw, erosion control blankets as specified above that minimize wildlife entrapment, or net free blankets.** Tackifiers with mulch and hydro-mulch are acceptable and shall be applied to the manufacturer specifications.

4.0 **Construction**

Per 327 IAC 2-1-6(b)(4) the protection of existing uses for aquatic life is required and, per 327 IAC 2-1.3-2 (4) the utilization of best management practices helps ensure the protection of existing uses. Therefore, the following best management practices are required.

- (a) Avoid in stream channel work during the fish spawning season (April 1 through June 30).
- (b) Clearly mark wetlands and streams that are to remain undisturbed on the project site.
- (c) Restrict channel work and vegetation clearing to the minimum necessary for the installation of any structures. 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.
- (d) Ensure permanent in-stream structures, including but not limited to culverts and other stream encapsulations, are embedded and sized appropriately so as not to impede surface flows or create abnormal impediments to aquatic life.
- (e) Deposit any dredged material in a contained upland (non-wetland) disposal area to prevent sediment run-off to any waterbody.
- (f) Create temporary structures constructed in streams such that near normal stream flows are maintained. (327 IAC definitions Stream Design Flow?)

Other Applicable Permits

Based on the proposed land disturbance, a construction stormwater general permit is required for the project. Permit coverage must be obtained prior to the initiation of land-disturbing activities. Information related to obtaining permit coverage is available at www.in.gov/idem/stormwater or by contacting the IDEM, Stormwater Program at 317-233-1864 or via email at Stormwat@idem.IN.gov.

This certification does not relieve you of the responsibility of obtaining any other permits or authorizations that may be required for this project or related activities from IDEM or any other agency or person. You may wish to contact the Indiana Department of Natural Resources at 317-232-4160 (toll free at 877-928-3755) concerning the possible requirement of natural freshwater lake or floodway permits.

This certification does not:

- (1) Authorize impacts or activities outside the scope of this certification;
- (2) Authorize any injury to persons or private property or invasion of other private rights, or any infringement of federal, state or local laws or regulations;
- (3) Convey any property rights of any sort, or any exclusive privileges;
- (4) Preempt any duty to obtain federal, state or local permits or authorizations required by law for the execution of the project or related activities; or
- (5) Authorize changes in the plan design detailed in the application.

Notice of Right to Administrative Review (Permits)

If you wish to challenge this permit, you must file a Petition for Administrative Review with the Office of Environmental Adjudication (OEA), and serve a copy of the petition upon IDEM. The requirements for filing a Petition for Administrative Review are found in IC 4-21.5-3-7, IC 13-15-6-1 and 315 IAC 1-3-2. A summary of the requirements of these laws is provided below.

A Petition for Administrative Review must be filed with the Office of Environmental Adjudication (OEA) within fifteen (15) days of the issuance of this notice (eighteen (18) days if you received this notice by U.S. Mail), and a copy must be served upon IDEM. Addresses are:

Director
Office of Environmental Adjudication
Indiana Government Center North
100 North Senate Avenue, Room N103
Indianapolis, Indiana 46204

Commissioner
Indiana Dept. of Environmental Management
Indiana Government Center North
100 North Senate Avenue, Room 1301
Indianapolis, Indiana 46204

The petition must contain the following information:

- (a) The name, address and telephone number of each petitioner.
- (b) A description of each petitioner's interest in the permit.
- (c) A statement of facts demonstrating that each petitioner is:
 - (1) a person to whom the order is directed;
 - (2) aggrieved or adversely affected by the permit; or
 - (3) entitled to administrative review under any law.
- (d) The reasons for the request for administrative review.
- (e) The particular legal issues proposed for review.
- (f) The alleged environmental concerns or technical deficiencies of the permit.
- (g) The permit terms and conditions that the petitioner believes would be appropriate and would comply with the law.
- (h) The identity of any persons represented by the petitioner.
- (i) The identity of the person against whom administrative review is sought.
- (j) A copy of the permit that is the basis of the petition.
- (k) A statement identifying petitioner's attorney or other representative, if any.

Failure to meet the requirements of the law with respect to a Petition for Administrative Review may result in a waiver of your right to seek administrative review of the permit. Examples are:

- (a) Failure to file a Petition by the applicable deadline;
- (b) Failure to serve a copy of the Petition upon IDEM when it is filed; or
- (c) Failure to include the information required by law.

If you seek to have a permit stayed during the administrative review, you may need to file a Petition for a Stay of Effectiveness. The specific requirements for such a Petition can be found in 315 IAC 1-3-2 and 315 IAC 1-3-2.1.

Pursuant to IC 4-21.5-3-17, OEA will provide all parties with notice of any pre-hearing conferences, preliminary hearings, hearings, stays, or orders disposing of the review of this action. If you are entitled to notice under IC 4-21.5-3-5(b) and would like to obtain notices of any pre-hearing conferences, preliminary hearings, hearings, stays, or orders disposing of the review of this action without intervening in the proceeding you must submit a written request to OEA at the address above.

If you have procedural or scheduling questions regarding your Petition for Administrative Review, additional information on the review process is available at the website of the Office of Environmental Adjudication at <http://www.in.gov/oea>.

If you have any questions about this certification, please contact William Robinson, Project Manager, by email at WRobinso@IDEM.IN.Gov or by phone at 317-460-6530.

cc: Deb Snyder USACE – Louisville District
Sarah Harrison, USFWS
Brian Boszor, IDNR
Indiana Stream and Wetland Mitigation Program (Electronic)
Zed Hott, Corradino, LLC



Indiana Department of Environmental Management
Office of Water Quality
Wetlands Section

Publication Date:
2/22/2023

Closing Date:
3/22/2023

IDEM ID Number:
2023-107-79-WLR-A

Corps of Engineers ID Number:

PUBLIC NOTICE

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:** INDOT
Attn: Crystal Rehder
100 N. Senate Avenue, IGCN N758-ES
Indianapolis, IN 46204
- 2. Agent:** Beam, Longest and Neff
Attn: Raquel Walker
8230 Craig Street
Indianapolis, IN 46250
- 3. Project location:** Latitude: 40.44609, Longitude: -87.02433
Tippecanoe County, Located on SR 26 4.98 miles west of US52/US231 junction
- 4. Affected waterbody:** Goose Creek: 416 feet and 0.153 acre of permanent impact, 90 feet and 0.033 acre of temporary impact
UNT to Goose Creek 1: 225 feet and 0.01 acre of permanent impact, 25 feet and 0.003 acre of temporary impact
UNT to Goose Creek 2: 25 feet and 0.005 acre of permanent impact, 60 feet and 0.012 acre of temporary impact
UNT to Goose Creek 3: 160 feet and 0.007 acre of permanent impact, 55 feet and 0.004 acre of temporary impact
- 5. Project Description:** Replacing the existing 296-foot long twin reinforced concrete box structures with a single 291-foot long, 22-foot span, by 11-foot rise 3-sided precast concrete structure. Will also create an access road to the North of SR26. Scour protection, riprap on geotextiles, will be placed at the inlet, outlet, and throughout the replacement structure, along with on the existing side slopes. 100 feet and 0.037 acre of Goose Creek will be realigned, 291 feet and 0.107 acre will be impacted by placement of new bridge, 25 feet and 0.009 acre will be impacted by scour protection around the outlet. UNT to Goose Creek 1 will be impacted by 225 feet and 0.10 acre of riprap, 175 feet from slope stabilization and 50 feet from scour protection. 25 feet and 0.005 acre of UNT to Goose Creek 2 will be relocated. 160 feet and 0.007 acre of UNT to Goose Creek 3 will be impacted by riprap placed for slope stabilization. 826 linear feet of DNR In Lieu Fee stream mitigation will be purchased from the Indiana Stream and Wetland Mitigation "Middle Wabash" service area.
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 Marty Maupin, Project Manager, by phone at 317-233-2471 or by e-mail at mmaupin@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

From: [Rehder, Crystal](#)
To: [Robinson, William](#)
Cc: [Davis, Taylor](#)
Subject: RE: INDOT 1900333 SR 26 over Goose Creek small structure replacement with
Date: Monday, February 20, 2023 2:46:14 PM
Attachments: [RE IDEM inquiry for 1900333 SR 26 over Goose Creek.msg](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)

Hi William,

Please see attached for a thorough justification from our consultant for the riprap proposed along the roadway embankments.

Let me know if you need anything else.

Thanks!

CR

From: Robinson, William <WRobinso@idem.IN.gov>
Sent: Tuesday, February 14, 2023 4:03 PM
To: Rehder, Crystal <CRehder@indot.IN.gov>
Cc: Davis, Taylor <TaDavis1@indot.IN.gov>
Subject: RE: INDOT 1900333 SR 26 over Goose Creek small structure replacement with

No problem, thanks for the response!

From: Rehder, Crystal <CRehder@indot.IN.gov>
Sent: Tuesday, February 14, 2023 3:53 PM
To: Robinson, William <WRobinso@idem.IN.gov>
Cc: Davis, Taylor <TaDavis1@indot.IN.gov>
Subject: RE: INDOT 1900333 SR 26 over Goose Creek small structure replacement with

Hi William,

Thanks for following up. Our designer is out until next week so I hope to get back to you about this then.

CR

From: Robinson, William <WRobinso@idem.IN.gov>
Sent: Tuesday, February 14, 2023 1:45 PM
To: Rehder, Crystal <CRehder@indot.IN.gov>

Subject: RE: INDOT 1900333 SR 26 over Goose Creek small structure replacement with

Hello Crystal,

just wondering if you have had a chance to review the slop stabilization for this project yet. Let me know what you think, thanks. Looking forwards to hearing back from you.

From: Robinson, William

Sent: Wednesday, February 8, 2023 9:24 AM

To: Rehder, Crystal <CRehder@indot.IN.gov>

Subject: INDOT 1900333 SR 26 over Goose Creek small structure replacement with

Hello Crystal,

I was reviewing the INDOT 1900333 SR 26 over Goose Creek small structure replacement with bridge project and noticed that the surrounding slopes will entirely be replaced with rip rap. I was wondering if it is at all possible to use a vegetative method to stabilize that slope? If not could you send me justification for why the whole slope needs to be replaced with rip rap? Currently it is vegetated and it seems like a shame to denude the area unless absolutely necessary. Let me know what you think, looking forward to hear back from you.



William Robinson, Wetland Project Manager
Wetlands and Stormwater Section, Office of Water Quality
100 North Senate Avenue, Room 1255
Indianapolis Indiana 46204
Phone: (317) 460-6530
Fax: (317) 234-4145
Wrobinso@idem.IN.gov

Storm Water Program: <http://www.in.gov/idem/stormwater>
Indiana Storm Water Quality Manual: <http://www.in.gov/idem/stormwater/2363.htm>
Section 401 Water Quality Certification and Isolated Wetlands Program:
<http://www.in.gov/idem/wetlands>

Indiana Department of Environmental Management



IDEM values your feedback.

Please take two minutes and complete this brief survey.



From: [Davis, Taylor](#)
To: regulatoryapplicationsrl@usace.army.mil; [Turner, James](#)
Cc: [Rehder, Crystal](#)
Subject: IP 401/404 Permit Submittal DES 1900333
Date: Thursday, January 12, 2023 8:50:57 AM
Attachments: [FT_1900333_404 RGP 401 IP Application as submitted 1.12.2023.pdf](#)
[image001.png](#)

Hello,

Please find the attached new permit submittal. The application can also be found at the following ProjectWise link: [FT_1900333_404 RGP 401 IP Application as submitted 1.12.2023.pdf](#)

Road: SR 26 over Goose Creek
Work Type: Small Structure Replacement with Bridge
County: Tippecanoe
Lat/Long: 40.44609, -87.02433
Permit type: 401 IP/ 404 RGP
RFC: 9/20/2023
Mitigation: yes

Thanks,

Taylor Davis (she/her)
Ecology and Waterway Permit Specialist
INDOT Environmental Services Division
100 North Senate Ave, N758-ES
Indianapolis, IN 46204

c: 317.296.0308
e: tadavis1@indot.in.gov





INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758-ES
Indianapolis, Indiana 46204

PHONE: (317) 232-5348
FAX: (317) 232-4929

Eric Holcomb, Governor
Michael Smith, Commissioner

January 11, 2023

Deborah Snyder
U.S. Army Corps of Engineers
Indianapolis Regulatory Office
8902 Otis Avenue, Ste. S106B
Indianapolis, IN 46216

James Turner
Office of Water Quality
Indiana Department of Environmental Management
100 North Senate Avenue, Room 1255
Indianapolis, Indiana 46204

RE: Des. Number: 1900333
SR 26 Small Structure Replacement
Tippecanoe County

Dear Ms. Snyder and Mr Turner:

Enclosed is a Section 404 Application for Authorization to Discharge Dredged or Fill Material to Isolated Wetlands and/or Waters of the State, State Form 51821, for the above referenced project. It is our opinion that this project will be partially constructed within Waters of the U.S.

The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief. The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

If you have any questions, please contact me at (317) 499-3274, or contact Taylor Davis at (317) 296-0308.

Sincerely,

A handwritten signature in blue ink, appearing to read "C. Rehder".

Crystal Rehder
Team Lead, Ecology and Waterway Permitting Office



APPLICATION FOR AUTHORIZATION TO DISCHARGE DREDGED OR FILL MATERIAL TO ISOLATED WETLANDS AND/OR WATERS OF THE STATE

State Form 51821 (R2 / 11-15)

Indiana Department of Environmental Management

- INSTRUCTIONS:**
1. Read the instruction sheet before filling out this form.
 2. You must complete all applicable sections of this form

1. Applicant Information		2. Agent Information	
Name of Applicant Crystal Rehder (INDOT)		Name of Agent Corradino, LLC	
Mailing address (<i>Street/ PO Box/ Rural Route, City, State, ZIP Code</i>) 100 N. Senate Avenue, Room N758 Indianapolis, IN 46204		Mailing address (<i>Street/ PO Box/ Rural Route, City, State, ZIP Code</i>) 200 S. Meridian Street, Suite 330 Indianapolis, IN 46225	
Daytime Telephone Number 317-269-0308		Daytime Telephone Number 317-744-9857	
Fax Number		Fax Number	
E-mail address (<i>optional</i>) tadavis1@indot.in.gov		E-mail address (<i>optional</i>) zhott@corradino.com	
Contact person (<i>required</i>) Taylor Davis		Contact person Zed Hott	
3. Project / Tract Location			
County Tippecanoe		Nearest city or town West Lafayette	
U.S.G.S. Quadrangle map name (<i>Topographic map</i>) Otterbein		Project street address (<i>if applicable</i>) Not applicable.	
Quarter SE, NE	Section 7 and 18	Township 23N	Range 5W
Type of aquatic resource(s) to be impacted (<i>Attach Worksheet One.</i>) 4 streams are to be impacted by project, Goose Creek, UNT1 to Goose Creek, UNT2 to Goose Creek, and UNT3 to Goose Creek.		Project name or title (<i>if applicable</i>) SR 26 over Goose Creek small structure replacement with a bridge.	
Other location descriptions or driving directions The structure is located on SR 26, approximately 4.98 miles west of the US52/ US 231 junction. From I-465 take exit 20 to I-65 north towards Chicago. After 19.7 miles take exit 141 on US 52 west. After 26.5 miles turn left on Veterans Memorial Parkway. After 5.1 miles turn right on US 231 north. After 4.3 miles turn left onto SR 26 west. Continue 4.98 miles to the project structure.			
4. Project Purpose and Description (<i>Use additional sheet(s) if required.</i>)			
Has any construction been started? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Anticipated start date (<i>month, day, year</i>) 04/01/2024	
If yes, how much work is completed? Not applicable.			
Purpose of project and overview of activities The purpose of the project is provide a structure with a condition rating of good or better and to improve access for maintenance and inspection at the culvert's inlet. The project (DES 1900333) will replace the existing 296-foot long twin reinforced concrete box structures with a single 291-foot long, 22-foot span, by 11-foot rise 3-sided precast concrete structure. Additionally, an access road for future maintenance and inspection will be constructed in the northwest quadrant of the project along the existing spill slopes. The project will have total permanent impacts of 826.0 linear feet, 0.175 acre, and 771 cubic yards of fill to streams. The project will have total temporary impacts to streams of 230.0 linear feet, 0.052 acre, and 9.0 cubic yards of fill to streams. The project will not change the vertical ailgnment, horizontal alignment, number of existing lanes, or lane width of SR 26. Scour protection, riprap on geotextiles, will be placed at the inlet, outlet, and throughought the replacement structure in accordance with INDOT Standard Drawings. Riprap will be placed on existing sideslopes at the project site as a slope stabilization measure.			
See attached activity description for further details.			

5. Avoidance, Minimization, and Mitigation Information: Applicants must answer all of the following questions

(Use additional sheet(s) if necessary - provide a detailed response to all applicable questions.)

A. For projects with Class II isolated wetlands –

1. Is there a reasonable alternative to the proposed activity?
Not applicable.

2. Is the proposed activity reasonably necessary or appropriate?
Not applicable

B. For projects with Class III wetlands, adjacent wetlands, and/or streams, rivers, lakes or other water bodies –

1. Is there a practicable alternative to the proposed activity?
Goose Creek, UNT1 to Goose Creek, UNT2 to Goose Creek, and UNT3 to Goose Creek will be impacted by the project. No Class III wetlands, rivers, lakes, or other water bodies occur within the project area. Three alternates were considered during project development, please see attached Block 5 - Alternatives Analysis for further information. A structure replacement and construction of an access road was determined to be the preferred alternate as it meets the stated purpose and need of the project, while minimizing impacts to water resources.
2. Have practicable and appropriate steps to minimize impacts to water resources been taken?
Stream impacts have been reduced to the extent feasible through design refinements. The project construction limits have been minimized to the minimum required to complete the project.

Describe all compensatory mitigation required for unavoidable impacts.

Compensatory mitigation will involve the purchasing of mitigation credits from Indiana DNR's In-Lieu Fee (ILF) program, Indiana Stream and Wetland Mitigation Program (IN SWMP). The RIBITS database was checked and no available mitigation banks were found within the "Middle Wabash," service area. The total linear feet of streams impacted by the project, 826 linear feet, will be mitigated at a 1:1 ratio and 826 linear feet of stream mitigation credits will be purchased from the IN SWMP "Middle Wabash," service area. The bullet points below summarize the impacts requiring mitigation due to unavoidable impacts.

- Perennial stream impacts: 416 linear feet
- Intermittent stream impacts: 225 linear feet
- Ephemeral stream impacts: 185 linear feet

6. Drawing / Plan Requirements (Applicants must provide the following.)

- a. Top/aerial/overhead views of the project site showing existing conditions and proposed construction.
- b. Cross sectional view of areas of fill or alterations to streams and other waters.
- c. North arrow, scale, property boundaries.
- d. Include wetland delineation boundary (*if applicable*). Label all wetlands (jurisdictional, isolated and exempt) as I-1, I-2, I-3, etc. and the mitigation areas as M-1, M-2, etc.
- e. Location of all surface waters, including wetlands, erosion control measures, existing and proposed structures, fill and excavation locations, disposal area for excavated material, including quantities, and wetland mitigation site (*if applicable*).
- f. Approximate water depths and bottom configurations (*if applicable*).

7. Supplemental Application Materials (Applicants must provide the following.)

- a. A wetland delineation of all wetlands on the project site (*for projects with wetland impacts*).
- b. At least three photographs of the project site. Indicate the photo locations on the project plans.
- c. If isolated wetlands are present, a letter from the Corps of Engineers verifying this statement.
- d. Wetland mitigation plan and monitoring report.
- e. Classification of all isolated wetlands on the tract (*if isolated wetlands are present onsite*).
- f. Copies of all applicable local permits and/or resolutions pertaining to the project or tract.
- g. Tract history (*see instructions*).

8. Additional information that MAY be required (IDEM will notify you if needed.)

- a. Erosion control and/or storm water management plans.
- b. Sediment analysis.
- c. Species surveys for fish, mussels, plants and threatened or endangered species.
- d. Stream habitat assessment.
- e. Any other information IDEM deems necessary to review the proposed project.

9. Permitting Requirements

a. Does this project require the issuance of a Department of the Army Section 404 Permit from the US Army Corps of Engineers? Yes No
If no, you do not need to answer Part b.

b. Have you applied for an Army Corps of Engineers Section 404 permit? Yes No
If yes, please supply the Corps of Engineers ID Number, the Corps of Engineers District, the project manager, and a copy of any correspondence with the Corps. **If no, contact** the Army Corps of Engineers regarding the possible need for a permit application.
Applying for concurrently

c. Have you applied for, received, or been denied a permit from the Department of Natural Resources for this project? Yes No
Please give the permit name, permit number, and date of application, issuance or denial.
Applying for concurrently.

d. Have you applied for, received, or been denied any other federal, state, or local permits, variances, licenses, or certifications for this project?
 Yes No
Please give the permit name, agency from which it was obtained, permit number, and date of issuance or denial.
Construction Stormwater General Permit is being applied for concurrently.

10. Adjoining Property Owners and Addresses

List the names and addresses of landowners adjacent to the property on which your project is located and the names and addresses of other persons (or entities) potentially affected by your project. Use additional sheet(s) if required.

Name Bonnie Marsh Address (number and street) 6274 OLD SR 26W City State ZIP Code West Lafayette IN 47906	Name Address (number and street) City State ZIP Code
Name Norman J. O'Bryan Address (number and street) 1037 N 500 W City State ZIP Code West Lafayette IN 47906	Name Address (number and street) City State ZIP Code
Name Richalyn G. Moore Address (number and street) 7654 S 900 E City State ZIP Code Otterbein IN 47970	Name Address (number and street) City State ZIP Code
Name Brian R. and Julie A. Smith Address (number and street) 6200 ST RD 26W City State ZIP Code West Lafayette IN 47906	Name Address (number and street) City State ZIP Code
Name Address (number and street) City State ZIP Code	Name Address (number and street) City State ZIP Code
Name Address (number and street) City State ZIP Code	Name Address (number and street) City State ZIP Code

11. Signature - Statement of Affirmation

I certify that I am familiar with the information contained in this application and, to the best of my knowledge and belief, such information is true and accurate. I 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.

Applicant's Signature: C. Rehder Date: 1/11/2023
(mm/dd/yyyy)

Print Name: Crystal Rehder Title: EWPO Team Lead

Worksheet – Summary of Onsite Water Resources and Project Impacts

A. Jurisdictional Wetlands (Existing Conditions)			Jurisdictional Wetlands (Proposed Impacts)		
Wetland Type	Size of wetland (acreage)	To be Impacted?	Acreage	Fill quantity (cys)	ATF
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> EM <input type="checkbox"/> SS <input type="checkbox"/> FO		<input type="checkbox"/> Yes <input type="checkbox"/> No			

Describe the type and composition of fill material to be placed in wetlands on the project site:

Describe the type and composition and quantity (*cubic yards*) of material proposed to be dredged or excavated from wetlands on the project site:

B. Isolated Wetlands (Existing Conditions)			Isolated Wetlands (Proposed Impacts)			
Wetland Class	Type	Size of wetland (acreage)	To be Impacted?	Acreage	Fill quantity (cys)	ATF
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> NF <input type="checkbox"/> F		<input type="checkbox"/> Yes <input type="checkbox"/> No			

Describe the type and composition of fill material to be placed in isolated wetlands on the project site:

Describe the type and composition and quantity (*cubic yards*) of material proposed to be dredged or excavated from isolated wetlands on the project site:

C. Bridges and Stream Crossings - provide the following information for EACH structure (Use additional sheet(s) if required.)

Stream name
Goose Creek

Description of impacts
The existing twin reinforced concrete box structures will be removed and replaced with a single three-sided structure. The proposed structure is 291.0 feet in length. Class II riprap on geotextiles will be placed throughout the structure. Total permanent impacts below the OHWM are 416.0 linear feet, 0.153 acre, and 701.0 cubic yards of fill.

Length of upstream bank impacts:
Left side: 245.5 ft
Right side: 245.5 ft

Length of downstream bank impacts:
Left side: 170.5 ft
Right side: 170.5 ft

Bank protection fill placed below the Ordinary High Water Mark:
Volume per running foot: 1.68 cys/ft

Bank protection fill placed below the Ordinary High Water Mark:
Area of coverage: 0.153 acre

D. Bank Stabilization – provide the following information for EACH segment (Use additional sheet(s) if required.)

Water body name
Description of impacts
Length of shoreline or bank protection
Volume (<i>cubic yards</i>) of bank protection fill placed below the Ordinary High Water Mark per running foot
Area (<i>square feet</i>) of bank protection fill placed below the Ordinary High Water Mark

E. Stream Relocation

Water body name Goose Creek	
Description of impacts Realignment of Goose Creek from removal of debris wall and channel clearing.	
Length of existing channel to be relocated (<i>linear feet</i>) 100	
Length of new channel to be constructed (<i>linear feet</i>) 100	
Existing channel to be backfilled? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Type of relocation <input type="checkbox"/> Piping <input type="checkbox"/> Open <input checked="" type="checkbox"/> Channel <input type="checkbox"/> Other: _____
Type of fill and volume (<i>cubic yards</i>)	

F. Open Water Fill

Water body name
Description of impacts
Area of water body to be filled (<i>acres</i>)
Type of fill and volume (<i>cubic yards</i>)

Block 4 – Project Purpose and Description

Activity Description

The structure serves State Route (SR) 26 crossing over a stream named Goose Creek. There are three other jurisdictional streams (UNT1 to Goose Creek, UNT2 to Goose Creek, and UNT3 to Goose Creek) within the project area. UNT1 to Goose Creek is in the northeast quadrant of the project area and totals 265 linear feet. UNT2 to Goose Creek is in the northwest quadrant of the project area and totals 349 linear feet. UNT3 to Goose Creek is in the southwest quadrant of the project area and totals 373 linear feet. The project (DES 1900333) will replace the existing 296-foot long 7-foot span by 7-foot rise, twin, reinforced concrete box structures with a 291-foot long, 22-foot span by 11-foot rise 3-sided precast concrete structure. The previously constructed debris wall at the inlet will be removed and existing buildup will be removed from the channel. Additionally, an access road for future maintenance and inspection will be constructed in the northwest quadrant of the project near the existing fill slopes. Total impacts to streams are anticipated to be 826.0 linear feet, which exceeds the conditions of the Section 401 Water Quality Certification issued for the Regional General Permit, requiring an Individual Section 401 Water Quality Certification.

The project is located on SR 26, approximately 4.98 miles west of US 52/US 231 intersection. The need for this project is due to the condition of the existing concrete precast structure and the limited access at the inlet side of the structure. The north ends of both boxes have the last segment disconnected. There is bank erosion and channel scour at both ends of the structure. There is drift built up at the north end of the structure, by the trees. The existing tall fill slopes make access to clear debris difficult. The structural evaluation rating from the culvert inspection report is 4 (poor condition). The purpose of the project is to provide a structure with a condition rating of good or better (7 or above) and to improve access for maintenance and inspection at the culvert's inlet. The project will not change the horizontal or vertical alignment or roadway cross section. Scour protection and riprap slope protection (riprap on geotextiles) will be placed at the inlet and outlet of the structure.

Temporary impacts to Goose Creek, UNT1 to Goose Creek, UNT2 to Goose Creek, and UNT3 to Goose Creek will occur as part of this project to allow for dewatering of the project site. Dewatering will be completed with temporary cofferdams and pump arounds. Temporary impacts will be removed after construction and restored to preconstruction contours. Construction is anticipated to start on or near April 1, 2024 and will be completed in approximately 10 months. SR 26 will be closed to traffic during construction and maintained with a signed detour.

Structure Geometry Information

The existing structure consists of two adjacent 7-foot span by 7-foot rise reinforced concrete box structures, each 296-foot in length. The existing structures will be removed and replacement with a 291-foot long, 22-foot span by 11-foot rise precast 3-sided structure.

Table 1: Existing and Proposed Structure Geometry

	Existing Structure	Proposed Structure
Spans	2 @ 7'-0"	1 @ 22'-0"
Structure Length	296'-0"	291'-0"
Skew (measured \perp to roadway)	11°	11°
Vertical Alignment	Straight Grade	Straight Grade
Low Structure Elevation (NAVD 88)	577.00	579.00

Permanent Impacts

Permanent impacts below the OHWM of Goose Creek are required as part of this project. Permanent impacts below the OHWM of Goose Creek are to the due placement of the new structure, placement of scour protection, and a slight realignment of Goose Creek at the inlet. The permanent impacts to Goose Creek are as follows:

- Goose Creek, due to stream inlet realignment: 100.0 linear feet, 0.037 acre, 111.0 cys of fill and 118.0 cys of excavation
- Goose Creek, due to placement of new bridge: 291.0 linear feet, 0.107 acre, 550.0 cys of fill
- Goose Creek, due to placement of scour protection: 25.0 linear feet, 0.009 acre, 40.0 cys of fill

The dimensions of the proposed riprap below the OHWM of Goose Creek are as follows:

- Goose Creek, inlet: 75.0 feet long x 16.0 feet wide x 2.5 feet deep
- Goose Creek, structure: 291.0 feet long x 12.0 feet wide x 4.0 feet deep
- Goose Creek, outlet: 25.0 feet long x 16 feet wide x 2.5 feet deep

Permanent impacts below the OHWM of UNT1 to Goose Creek are required as part of this project. Permanent impacts below the OHWM of UNT1 to Goose Creek are due to the placement of riprap side slope stabilization measures and riprap scour protection. The permanent impacts to UNT1 to Goose Creek are as follows:

- UNT1 to Goose Creek, due to placement of riprap: 225.0 linear feet, 0.010 acre, 25.0 cys of fill

The dimensions of the proposed riprap below the OHWM of UNT1 to Goose Creek are as follows:

- UNT1 to Goose Creek, slope stabilization: 175.0 feet long x 2.0 feet wide x 1.5 feet deep
- UNT1 to Goose Creek, scour protection: 50.0 feet long x 2.0 feet wide x 2.5 feet deep

Permanent impacts below the OHWM of UNT2 to Goose Creek are required as part of this project. Permanent impacts below the OHWM of UNT2 to Goose Creek are due to the location of its confluence with Goose Creek, which occurs within the realigned segment of Goose Creek and permanent impacts are required to perpetuate the existing confluence. The permanent impacts to UNT2 to Goose are as follows:

- UNT2 to Goose Creek, due to realignment of Goose Creek: 25.0 linear feet, 0.005 acre, 25.0 cys of fill and 25.0 cys of excavation.

Permanent impacts below the OHWM of UNT3 to Goose Creek are required as part of this project. Permanent impacts below the OHWM of UNT3 to Goose Creek are due to the placement of riprap side slope stabilization measures and riprap slope protection. The permanent impacts to UNT3 to Goose Creek are as follows:

- UNT3 to Goose Creek, due to placement of riprap: 160.0 linear feet, 0.007 acre, 20.0 cys of fill

The dimensions of the proposed riprap below the OHWM of UNT3 to Goose Creek are as follows:

- UNT3 to Goose Creek: 160.0 feet long x 2.0 feet wide x 1.5 feet deep

The total permanent impacts to streams associated with the project are:

- 826.0 linear feet, 0.175 acre, 771.0 cys of fill, and 143.0 cys of excavation

Temporary Impacts and Restoration

The proposed project will have temporary impacts below the OHWM of Goose Creek, UNT1 to Goose Creek, UNT2 to Goose Creek, and UNT3 to Goose Creek from temporary cofferdams, temporary sump holes, and construction site dewatering. Temporary cofferdams are required to dewater the construction site in order to place scour protection measures, install the proposed structure, realign portions Goose Creek at the inlet, and place riprap slope stabilization measures. The cofferdams will be placed across the stream at the inlet and outlet of the structure. The contractor will be responsible for determining whether sheet piling or sandbags will be used to construct the temporary cofferdams.

The total temporary impacts to Goose Creek are anticipated to be as follows:

- Goose Creek, inlet dewatering measures: 50.0 linear feet, 0.018 acre, 1.0 cys of fill
- Goose Creek, outlet dewatering measures: 40.0 linear feet, 0.015 acre, 1.0 cys of fill

The dimensions of the proposed cofferdams below the OHWM of Goose Creek are approximately 3.0 feet long x 16.0 feet wide x 0.25 feet tall.

The total temporary impacts to UNT1 to Goose Creek are anticipated to be as follows:

- UNT1 to Goose Creek, dewatering measures: 15.0 linear feet, 0.001 acre, 1.0 cys of fill
- UNT1 to Goose Creek, riprap splashpad: 5.0 linear feet, 0.001 acre, 1.0 cys of fill
- UNT1 to Goose Creek, modified check dam: 5.0 linear feet, 0.001 acre, 1.0 cys of fill

The dimensions of the proposed cofferdams below the OHWM of UNT1 to Goose Creek are approximately 3.0 feet long x 2.0 feet wide x 0.25 feet tall.

The total temporary impacts to UNT2 to Goose Creek are anticipated to be as follows:

- UNT2 to Goose Creek, dewatering measures: 60.0 linear feet, 0.012 acre, 1.0 cys of fill

The dimensions of the proposed cofferdams below the OHWM of UNT2 to Goose Creek are approximately 3.0 feet long x 9.0 feet wide x 0.75 feet tall.

The total temporary impacts to UNT3 to Goose Creek are anticipated to be as follows:

- UNT3 to Goose Creek, dewatering measures: 45.0 linear feet, 0.002 acre, 1.0 cys of fill
- UNT3 to Goose Creek, riprap splashpad: 5.0 linear feet, 0.001 acre, 1.0 cys of fill
- UNT3 to Goose Creek, modified check dam: 5.0 linear feet, 0.001 acre, 1.0 cys of fill

The dimensions of the proposed cofferdams below the OHWM of UNT3 to Goose Creek are approximately 3.0 feet long x 2.0 feet wide x 0.25 feet tall.

Total temporary impacts to streams for the project are anticipated to be:

- 230.0 linear feet, 0.052 acre, 9.0 cys of fill

After all construction is complete, all temporary measures are to be removed. Any soil disturbed above the OHWM caused by incidental construction activities or temporary impacts to the stream channels and/or stream banks shall be restored to pre-construction contours and reseeded with INDOT's Floodplain Seed Mix Specification as currently defined in INDOT's Standard Specifications, Section 621.06(e).

Impact Summary Table

SUMMARY OF PROJECT IMPACTS															
Name of Feature	Length of Permanent Stream Impact	Type of Fill	Length of Riprap below OHWM	Volume of Proposed Fill **	Channel Width***	Channel Depth***	Type of Structure Proposed	Existing Structure Span Arrangement	Proposed Structure Span Arrangement	Existing Length of Structure	Proposed Length of Structure	Acres of Impact	Temporary Impacts **		
													Type*	Area of Impacts	Volume of Impacts
	(ft)		(ft)	(cys)	(ft)	(ft)				(ft)	(ft)	(ac)		(ac)	(cys)
Goose Creek	416	Riprap	391	701	16.0	0.25	Three Sided Structure	2 @ 7'-0"	1 @ 22'-0"	296	291	0.153	D	0.033	2
UNT1 to Goose Creek	225	Riprap	225	25	2.0	0.25	N/A	N/A	N/A	N/A	N/A	0.010	D	0.003	3
UNT2 to Goose Creek	25	N/A	N/A	25	9.0	0.75	N/A	N/A	N/A	N/A	N/A	0.005	D	0.012	1
UNT3 to Goose Creek	160	Riprap	160	20	2.0	0.25	N/A	N/A	N/A	N/A	N/A	0.007	D	0.004	3
Totals	826			771								0.175		0.052	9

* D = De-watering Practice; E = Erosion Control Blanket; X = Temporary Crossing; C = Causeway

** Below OHWM

***Using OHWM

Block 5 – Avoidance, Minimization, and Mitigation Information

Alternatives Analysis:

Three alternates were considered for the proposed project. A “Do Nothing” alternate, a trenchless install of additional structures for additional hydraulic capacity, and a structure replacement [preferred].

The “Do Nothing” alternate was evaluated. This alternate has no costs and no environmental impacts; however, it does not address the identified purpose and need, which is based on the structural deterioration of the existing structures and was eliminated as a viable alternate.

Improving the hydraulic capacity of the crossing via construction of additional pipes utilizing a trenchless (e.g., jack and bore) structure was considered in design. This alternate was determined not to be feasible, as the additional structures would not provide adequate hydraulic capacity of the crossing nor address the deterioration of the existing structures and was eliminated as a viable alternate.

A structure replacement has been determined to be the preferred alternate. See previous activity description for further details. This alternative has been selected as the preferred alternative as it minimizes project footprint, impacts to environmental resources, and project costs, while meeting the stated purpose and need of the project.

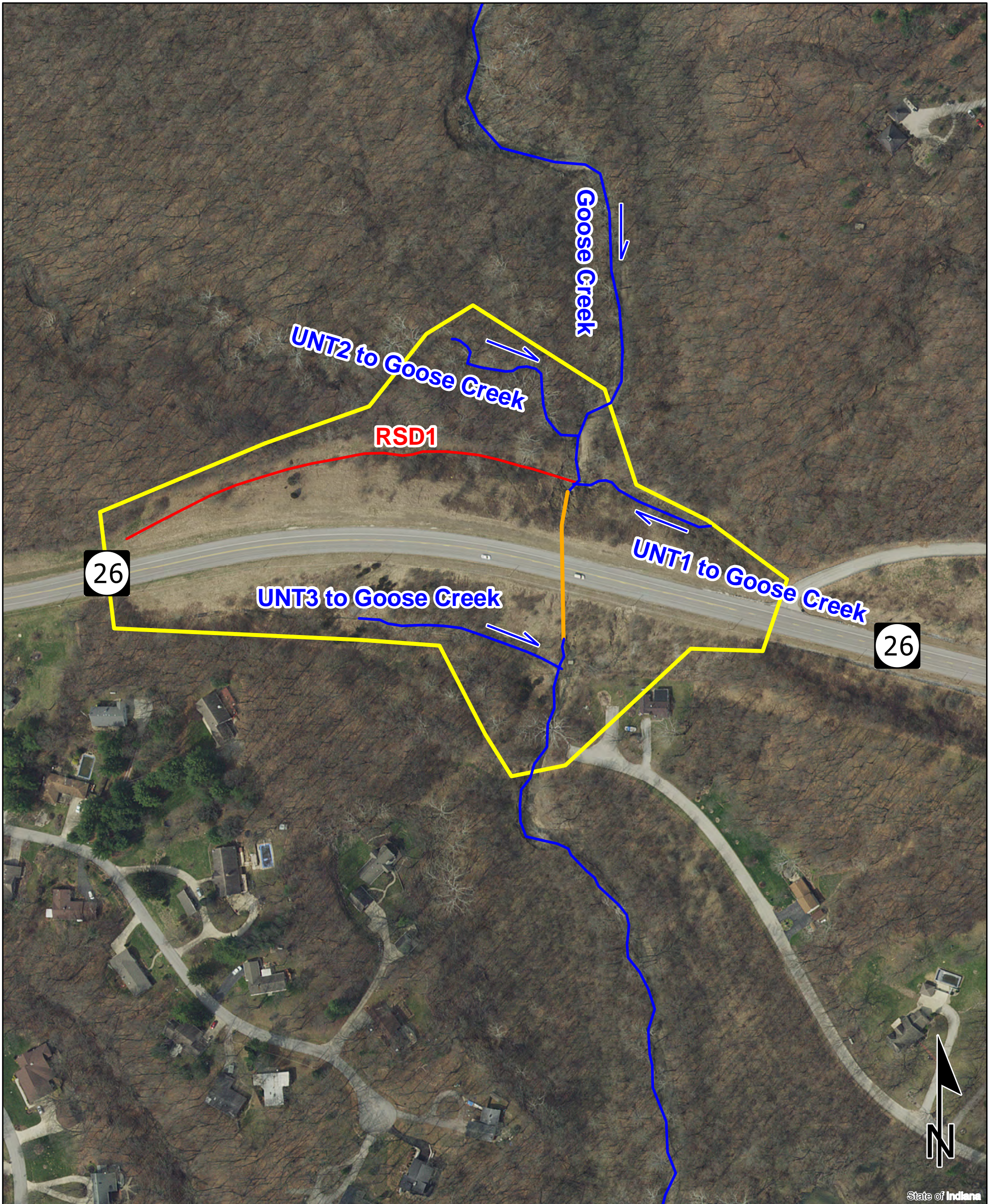
Mitigation

Compensatory mitigation will involve the purchasing of mitigation credits from Indiana DNR’s In-Lieu Fee (ILF) program, Indiana Stream and Wetland Mitigation Program (IN SWMP). The RIBITS database was checked and no available mitigation banks were found within the “Middle Wabash,” service area. The total linear feet of streams impacted by the project (826.0 linear feet) will be mitigated at a 1:1 ratio and 826.0 linear feet of stream mitigation credits will be purchased from the IN SWMP “Middle Wabash,” service area.

Non-wetland tree removal will be mitigated in accordance with the requirements of the Indiana Department of Natural Resources Construction in a Floodway Permit.

Disturbed soil areas will be reseeded with INDOT’s Floodplain Seed Mix Specification as currently defined in INDOT’s Standard Specifications, Section 621.06(e).






Aerial Map
 SR 26, 4.98 Miles West of US 52/231
 Des. No. 1900333, Small Structure Replacement
 Tippecanoe County, Indiana



Sources: 250 125 0 250 Feet
 Non Orthophotography
 Data - Obtained from the State of Indiana Geographical Information Office Library
 Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
 Map Projection: UTM Zone 16 N Map Datum: NAD83
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

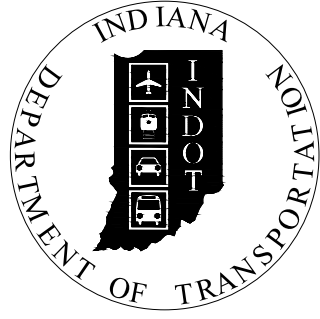
**INDIANA STATEWIDE
 AERIAL IMAGERY
 FLOWN 2016**

Legend

	Flow Direction		Roadside Ditch
	Tributary		Investigative Area
	Culvert		

PROJECT	DESIGNATION
1900333	1900333
CONTRACT	BRIDGE FILE
R-42243	T.B.D.

INDIANA DEPARTMENT OF TRANSPORTATION



BRIDGE PLANS

FOR SPANS OVER 20 FEET

ROUTE: S.R. 26 AT: RP 28+10

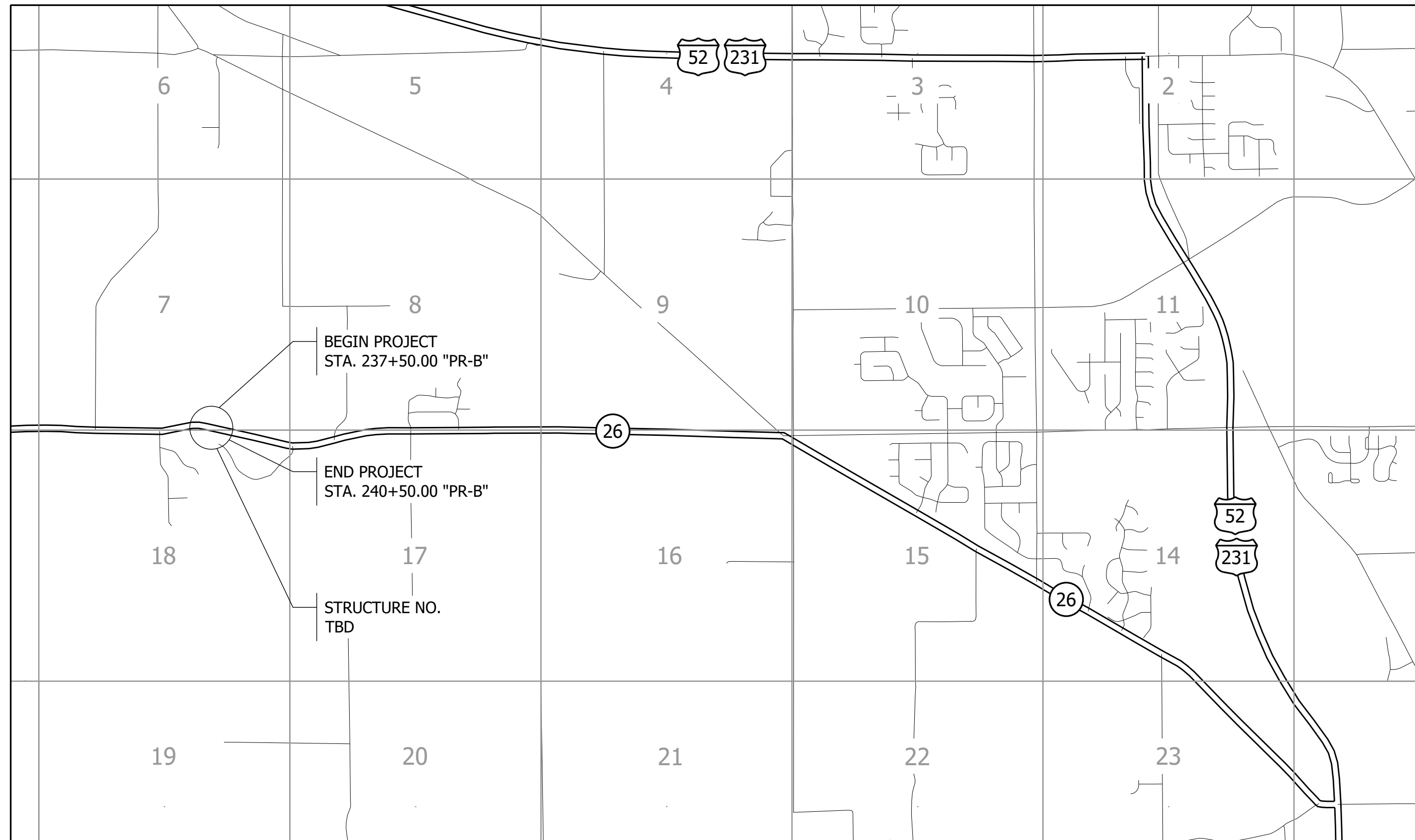
PROJECT NO. 1900333 P.E.
1900333 R/W
1900333 CONST.

SMALL STRUCTURE REPLACEMENT WITH BRIDGE ON S.R. 26 OVER GOOSE CREEK, APPROXIMATELY 4.98 MILES WEST OF U.S. 52/U.S. 231, LOCATED IN SECTIONS 7 AND 18, T-23-N, R-5-W, SHELBY TOWNSHIP, TIPPECANOE COUNTY, INDIANA.

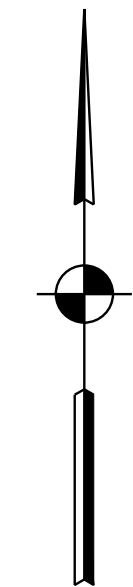
STRUCTURE INFORMATION				
STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
T.B.D.	PRECAST REINFORCED CONCRETE THREE-SIDED STRUCTURE	1 SPAN @ 22'-0" SKEW: 11°00'00"	GOOSE CREEK	☐ STRUCTURE 239+00.00 "PR-B"

CULVERT ASSETS	
DES. NO.	CULVERT ASSET ID
1900333	CV 026-079-28.10

KIN PROJECT INFORMATION	
DESIGNATION	PROJECT DESCRIPTION
1900301	SMALL STRUCTURE PIPE LINING ON U.S. 41 OVER UNT TO MUD CREEK, 1.62 MILES SOUTH OF S.R. 18.
1900322	SMALL STRUCTURE REPLACEMENT ON S.R. 18 OVER UNT TO GREENWOOD DITCH, 6.08 MILES EAST OF U.S. 52.
1900333 (LEAD)	SMALL STRUCTURE REPLACEMENT WITH BRIDGE ON S.R. 26 OVER GOOSE CREEK, 4.98 MILES WEST OF U.S. 52/U.S. 231.



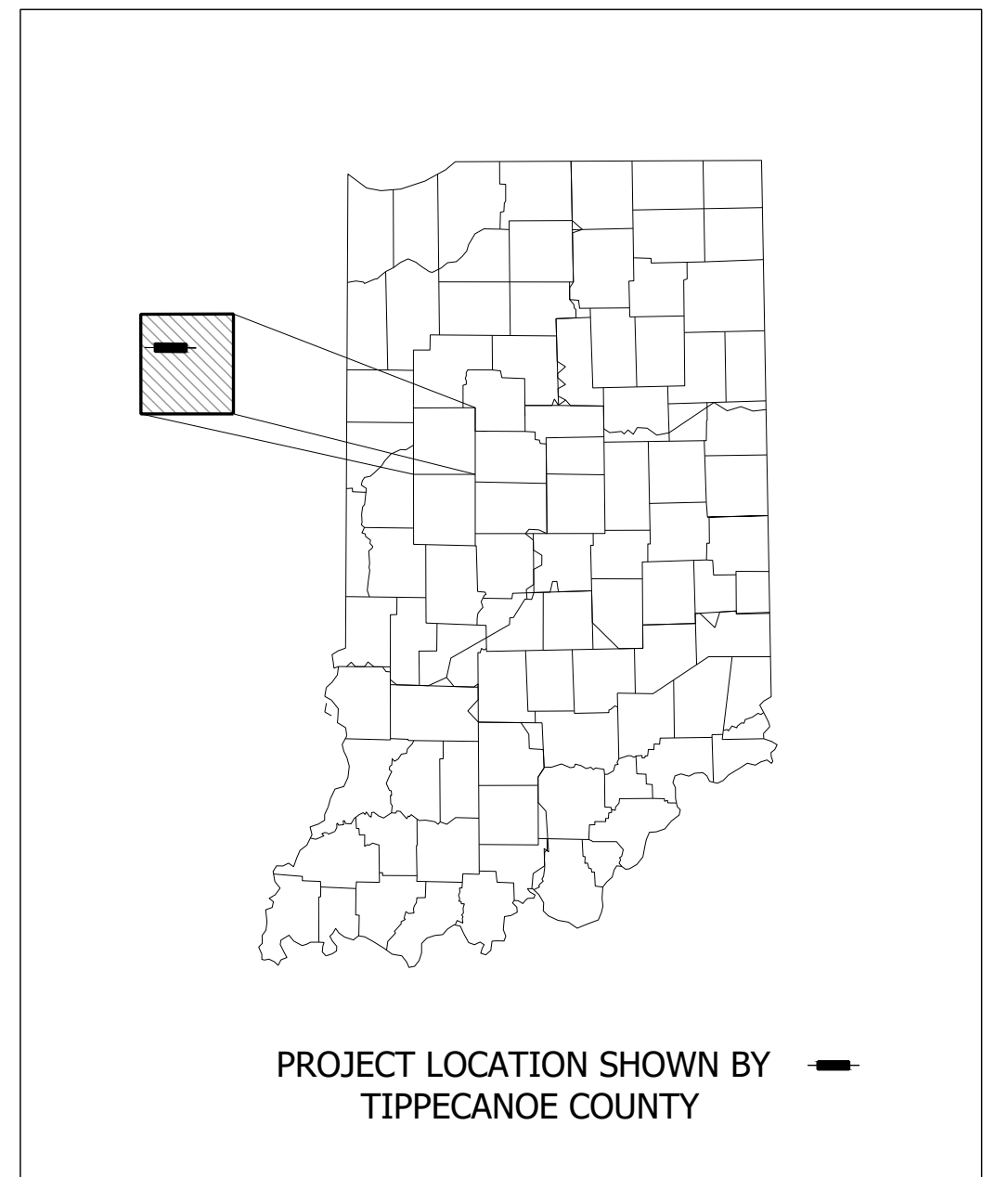
STAGE 2 PLANS
JULY 2022



SCALE:
1" = 2000'

TRAFFIC DATA	S.R. 26
A.A.D.T. (2024)	2,290 V.P.D.
A.A.D.T. (2044)	2,640 V.P.D.
D.H.V. (2044)	264 V.P.H.
DIRECTIONAL DISTRIBUTION	50%
TRUCKS	13.8% D.H.V. 16.6% A.A.D.T.

DESIGN DATA	
DESIGN SPEED	60 M.P.H.
PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL
RURAL/URBAN	RURAL
TERRAIN	ROLLING
ACCESS CONTROL	NONE



LATITUDE: 40°26'46" N LONGITUDE: 87°01'27" W

BRIDGE LENGTH:	0.004	MI.
ROADWAY LENGTH:	0.053	MI.
TOTAL LENGTH:	0.057	MI.
MAX. GRADE:	4.09	%

H.U.C. 051201080501



INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2022 TO
BE USED WITH THESE PLANS.

PRELIMINARY	PLANS PREPARED BY: CORRADINO, LLC	317-488-2363 PHONE NUMBER	BRIDGE FILE T.B.D.
	CERTIFIED BY: _____	_____/_____ DATE	DESIGNATION 1900333
	APPROVED FOR LETTING: _____	_____/_____ DATE	SHEET 1 of 23
	INDIANA DEPARTMENT OF TRANSPORTATION	DATE	CONTRACT R-42243

PROJECT	1900333
CONTRACT	R-42243

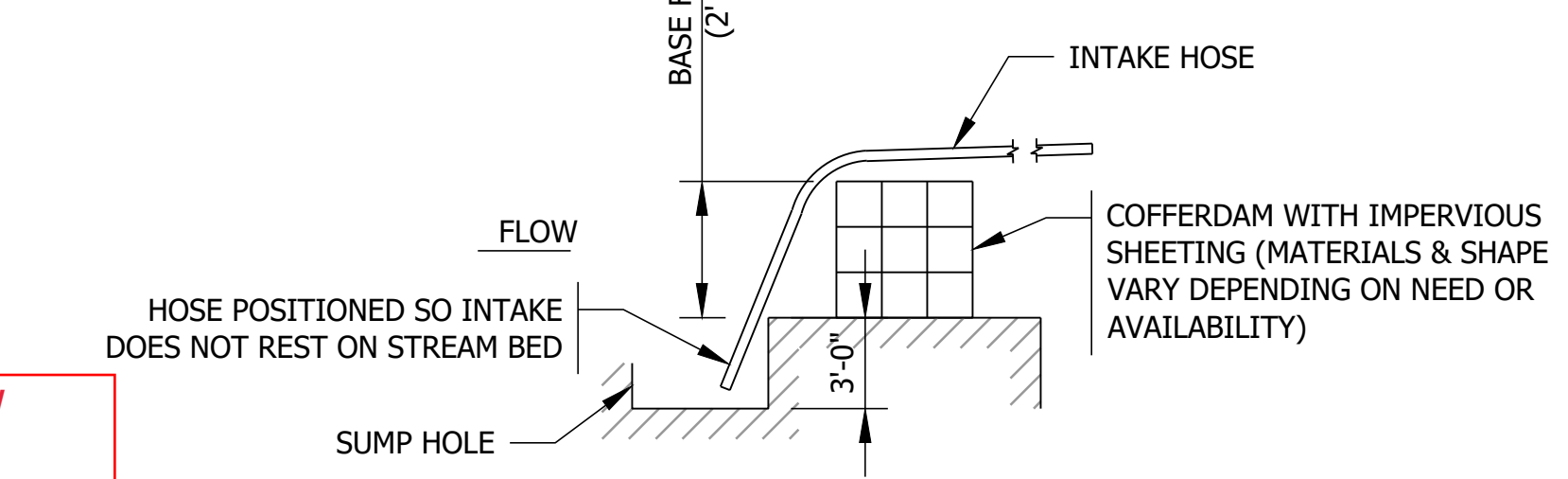
TEMPORARY EROSION CONTROL

LOCATION		LEFT	RIGHT	* SILT FENCE	* TEMPORARY CHECK DAMS REVISION RIPPAP	* TEMPORARY FILTER STONE	* TEMPORARY GEOTEXTILES	* TEMPORARY SEEDING	* TEMPORARY MULCH	* TEMPORARY REVISION RIPPAP	* TEMPORARY SLOPE DRAIN	* TEMPORARY INLET PROTECTION	* MOBILIZATION AND DEMOBILIZATION FOR SURFACE STABILIZATION	* NO. 2 STONE FOR CONSTRUCTION ENTRANCE
FROM STATION	TO STATION			FT	TON	TON	SYS	LBS	TON	TON	LFT	EACH	EACH	TON
230+00	241+00	X		1350	100	5	400	400	7.5	5	350	1	1	
230+00	241+00		X	350	15	2	60	400	7.5	5	250		1	
CONSTRUCTION ENTRANCE		X	X				200							200
TOTALS				1700	115	7	660	800	15	10	600	1	2	200

*QUANTITY SHOWN FOR INFORMATION ONLY. COST INCLUDED IN "STORM WATER MANAGEMENT BUDGET".

Permanent impact below OHWM due to placement of riprap slope stabilization and riprap scour protection. 225.0 linear feet, 0.010 acre, 25.0 cys

Dimensions of riprap below OHWM:
Slope stabilization: 175.0 feet long x 2.0 feet wide x 1.5 feet deep
Scour protection: 50.0 feet long x 2.0 feet wide x 2.5 feet deep



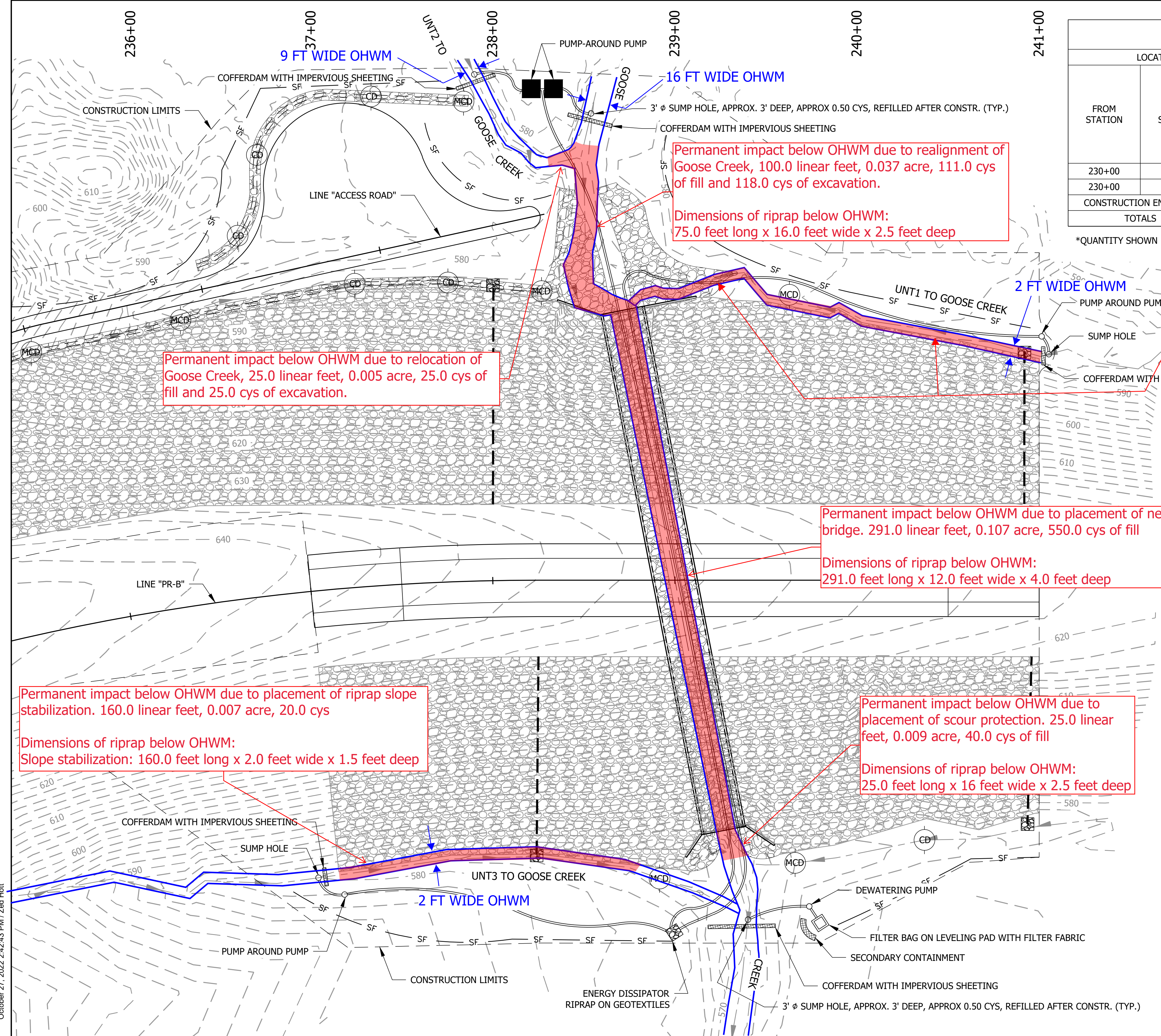
COFFERDAM/SUMP HOLE WORK AREA
NOT TO SCALE

EROSION CONTROL LEGEND

- SF — SILT FENCE
- — — TEMPORARY SLOPE DRAIN (SEE INDOT STANDARD DRAWING E 205-TECS-01 THROUGH -04)
- ⊙ CD ⊙ TEMPORARY CHECK DAM
- ⊙ MCD ⊙ TEMPORARY CHECK DAM, MODIFIED
- ⊙ IP ⊙ TEMPORARY INLET PROTECTION
- ▨ RIPPAP SPLASHPAD
- ▨ DISCHARGE WATER MUST FILTER THROUGH A SEDIMENT TRAP OR OTHER SEDIMENT CONTROL MEASURES PRIOR TO REACHING WATERWAY

NOTES:

- ALL SUMP HOLES SHALL BE REFILLED AFTER CONSTRUCTION (APPROX. 0.50 CYS PER SUMP HOLE)
- ALL DISTURBANCES FROM CONSTRUCTION OPERATIONS ABOVE THE OHWM SHALL BE REFILLED AND RESEEDED WITH INDOT SEED MIX, TYPE R.
- TEMPORARY DEWATERING MEASURES ARE EXPECTED TO BE IN PLACE FOR 36 WEEKS.
- SILT FENCE SHALL NOT CROSS STREAM.



Permanent impact below OHWM due to relocation of Goose Creek, 25.0 linear feet, 0.005 acre, 25.0 cys of fill and 25.0 cys of excavation.

Permanent impact below OHWM due to realignment of Goose Creek, 100.0 linear feet, 0.037 acre, 111.0 cys of fill and 118.0 cys of excavation.

Dimensions of riprap below OHWM:
75.0 feet long x 16.0 feet wide x 2.5 feet deep

Permanent impact below OHWM due to placement of new bridge. 291.0 linear feet, 0.107 acre, 550.0 cys of fill

Dimensions of riprap below OHWM:
291.0 feet long x 12.0 feet wide x 4.0 feet deep

Permanent impact below OHWM due to placement of riprap slope stabilization. 160.0 linear feet, 0.007 acre, 20.0 cys

Dimensions of riprap below OHWM:
Slope stabilization: 160.0 feet long x 2.0 feet wide x 1.5 feet deep

Permanent impact below OHWM due to placement of scour protection. 25.0 linear feet, 0.009 acre, 40.0 cys of fill

Dimensions of riprap below OHWM:
25.0 feet long x 16 feet wide x 2.5 feet deep

File Name: F:\4590 - INDOT Crawfordsville (11)\J-1900333_SR2650 Plans\30 Sheet Drawings\10 Design Sheets\EROS-CTRL-01.dwg - Layout2
 Modified / By: October 27, 2022 2:42:20 PM / zhoht
 Plotted / By: October 27, 2022 2:42:43 PM / Zed Hoht

Total Permanent Impacts to Streams:
826.0 linear feet, 0.175 acre, 771.0 cys of fill, and 143.0 cys of excavation

PRELIMINARY	RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE 1" = 30'-0" UNLESS NOTED	BRIDGE FILE T.B.D.	
	DESIGNED: ZZH	DRAWN: ZZH		EROSION CONTROL DETAILS	VERTICAL SCALE	DESIGNATION 1900333
	CHECKED: BJM	CHECKED: BJM			SHEET 7 of 23	PROJECT R-42243 1900333

Temporary impact below OHWM due to placement of temporary cofferdam, temporary sump hole, and construction site dewatering.

50.0 linear feet, 0.018 acre, 1.0 cys of fill
Approximate Dimensions of cofferdams below OHWM:
3.0 feet long x 16.0 feet wide x 0.25 feet tall

Temporary impact below OHWM due to placement of modified check dam
5.0 linear feet, 0.001 acre, 1.0 cys of fill

Temporary impact below OHWM due to placement of temporary cofferdam, temporary sump hole, and construction site dewatering.

15.0 linear feet, 0.001 acre, 1.0 cys of fill
Approximate Dimensions of cofferdams below OHWM:
3.0 feet long x 2.0 feet wide x 0.25 feet tall

Temporary impact below OHWM due to placement of temporary cofferdam, temporary sump hole, and construction site dewatering.
60.0 linear feet, 0.012 acre, 1.0 cys of fill
Approximate Dimensions of cofferdams below OHWM:
3.0 feet long x 9.0 feet wide x 0.75 feet tall

Temporary impact below OHWM due to placement of riprap splashpad
5.0 linear feet, 0.001 acre, 1.0 cys of fill

Temporary impact below OHWM due to placement of riprap splashpad
5.0 linear feet, 0.001 acre, 1.0 cys of fill

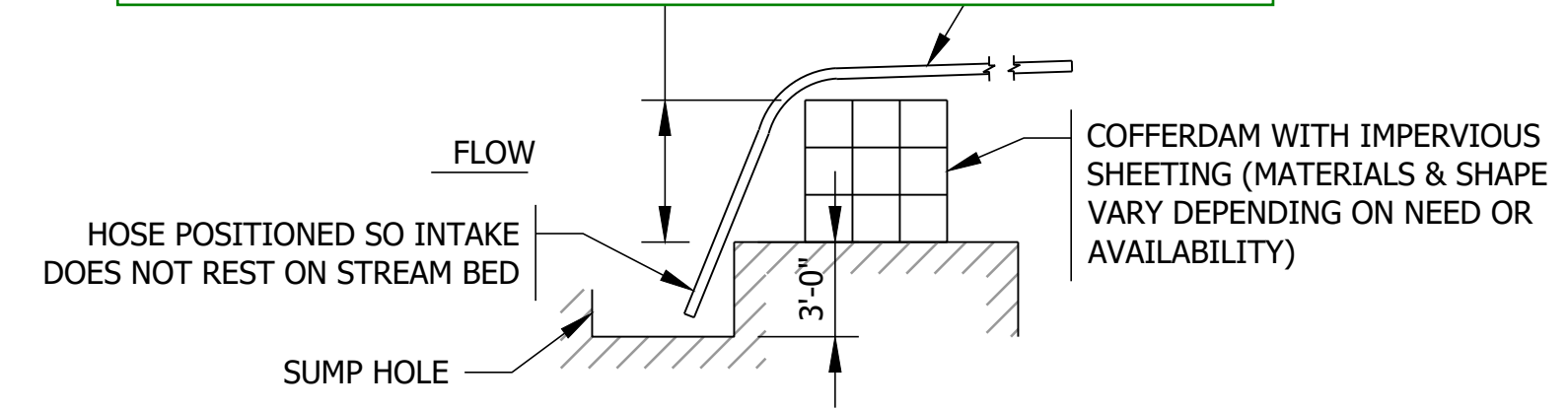
Temporary impact below OHWM due to placement of temporary cofferdam, temporary sump hole, and construction site dewatering.
45.0 linear feet, 0.002 acre, 1.0 cys of fill
Approximate Dimensions of cofferdams below OHWM:
3.0 feet long x 2.0 feet wide x 0.25 feet tall

Temporary impact below OHWM due to placement of temporary cofferdam, temporary sump hole, and construction site dewatering.
40.0 linear feet, 0.015 acre, 1.0 cys of fill
Approximate Dimensions of cofferdams below OHWM:
3.0 feet long x 16.0 feet wide x 0.25 feet tall

Temporary impact below OHWM due to placement of modified check dam
5.0 linear feet, 0.001 acre, 1.0 cys of fill

EROSION CONTROL													
	*TEMPORARY GEOTEXTILES	*TEMPORARY SEEDING	*TEMPORARY MULCH	*TEMPORARY REVEGETATION RIPRAP	*TEMPORARY SLOPE DRAIN	*TEMPORARY INLET PROTECTION	*MOBILIZATION AND DEMOBILIZATION FOR SURFACE STABILIZATION	*NO. 2 STONE FOR CONSTRUCTION ENTRANCE					
SYS	LBS	TON	TON	LFT	EACH	EACH	TON						
230+00	241+00	X	1350	100	5	400	400	7.5	5	350	1	1	
241+00		X	350	15	2	60	400	7.5	5	250		1	
ON ENTRANCE		X					200						200
TOTALS			1700	115	7	660	800	15	10	600	1	2	200

DOWN FOR INFORMATION ONLY. COST INCLUDED IN "STORM WATER MANAGEMENT BUDGET".

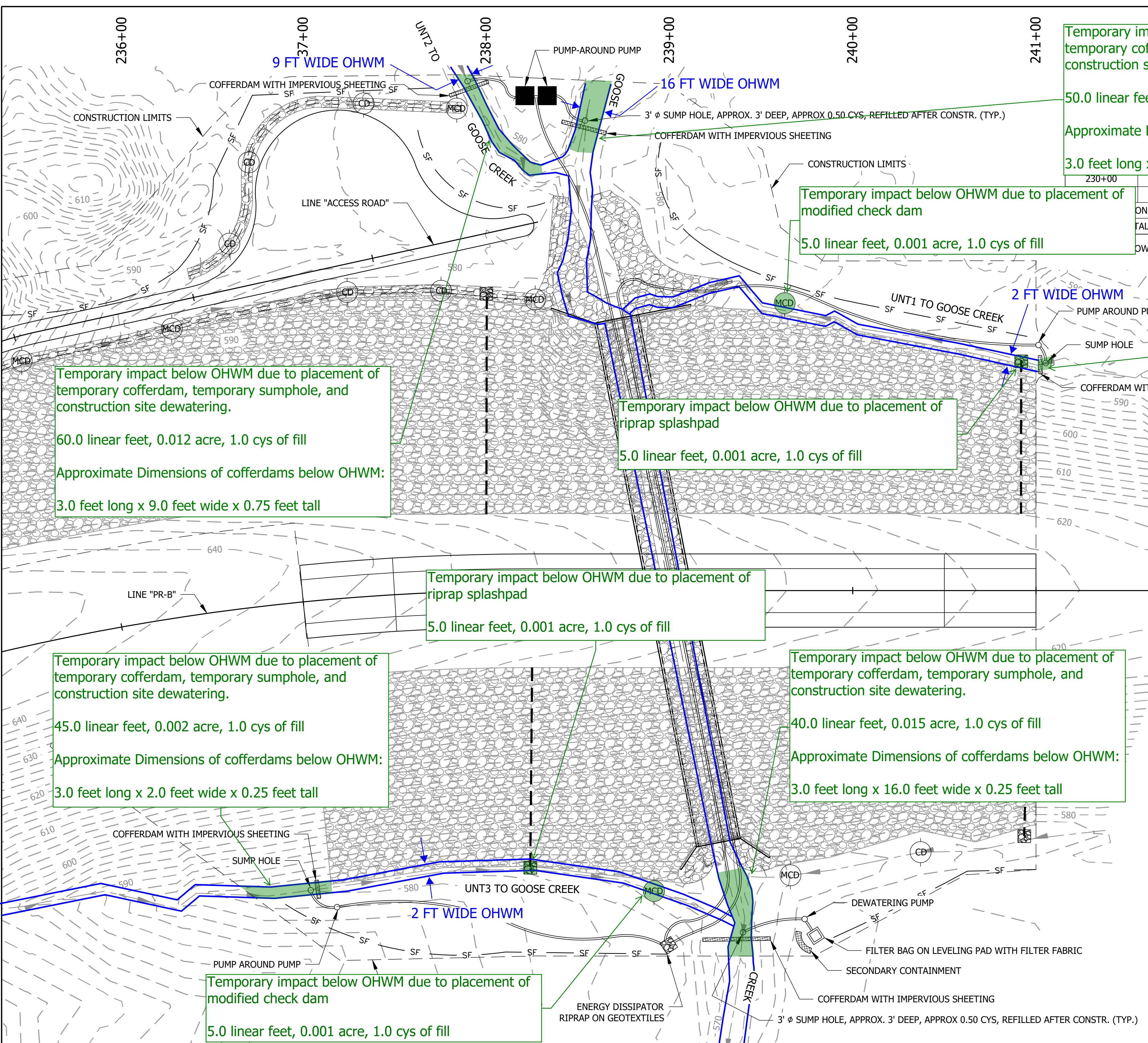


EROSION CONTROL LEGEND

- SF — SILT FENCE
- — — TEMPORARY SLOPE DRAIN (SEE INDOT STANDARD DRAWING E 205-TECS-01 THROUGH -04)
- ⊙ CD TEMPORARY CHECK DAM
- ⊙ MCD TEMPORARY CHECK DAM, MODIFIED
- ⊙ IP TEMPORARY INLET PROTECTION
- ▨ RIPRAP SPLASHPAD
- ▨ DISCHARGE WATER MUST FILTER THROUGH A SEDIMENT TRAP OR OTHER SEDIMENT CONTROL MEASURES PRIOR TO REACHING WATERWAY

NOTES:

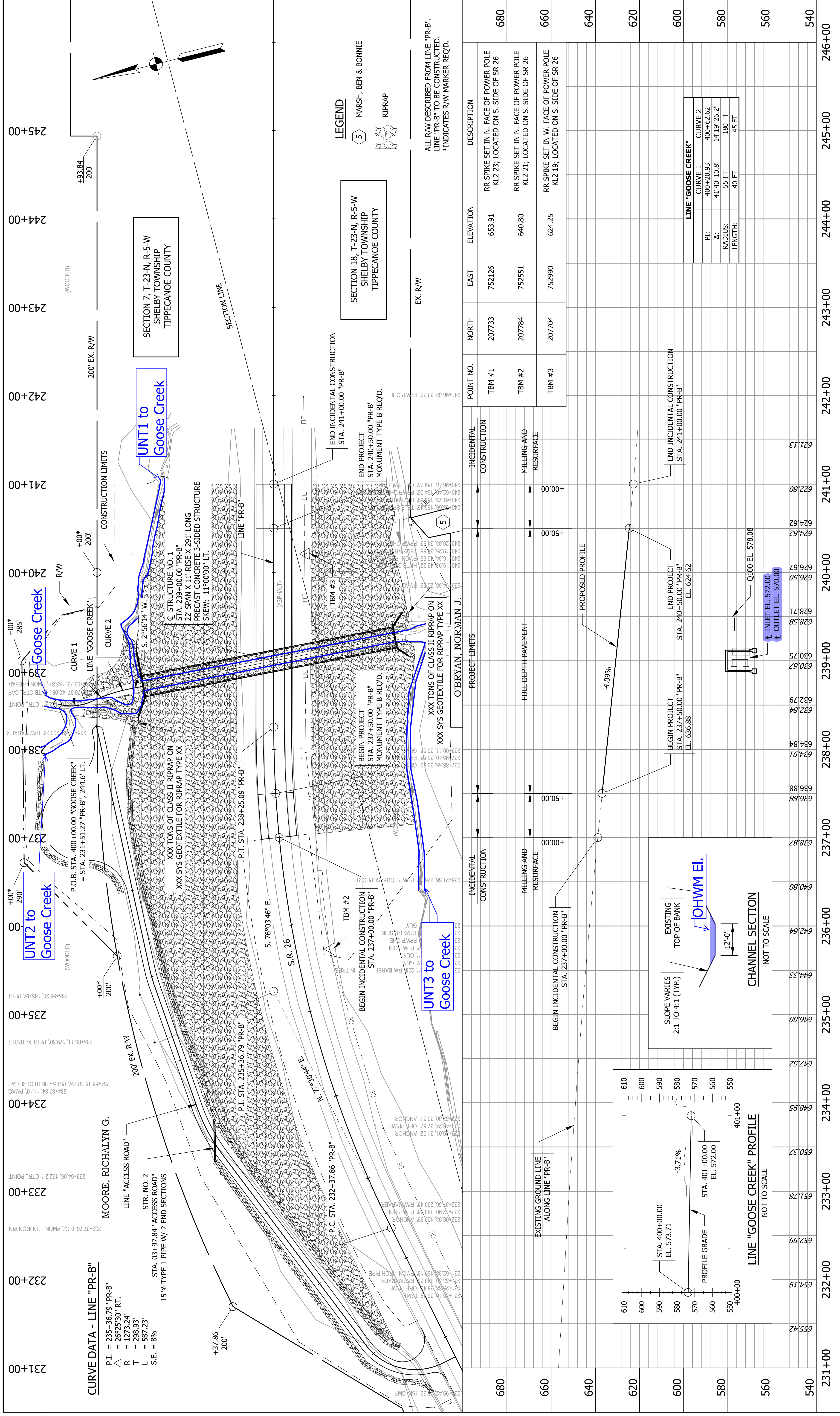
1. ALL SUMP HOLES SHALL BE REFILLED AFTER CONSTRUCTION (APPROX. 0.50 CYS PER SUMP HOLE)
2. ALL DISTURBANCES FROM CONSTRUCTION OPERATIONS ABOVE THE OHWM SHALL BE REFILLED AND RESEEDED WITH INDOT SEED MIX, TYPE R.
3. TEMPORARY DEWATERING MEASURES ARE EXPECTED TO BE IN PLACE FOR 36 WEEKS.
4. SILT FENCE SHALL NOT CROSS STREAM.



Total Temporary Impacts to Streams:
230.0 linear feet, 0.052 acre, 9.0 cys of fill

PRELIMINARY	RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE 1" = 30'-0" UNLESS NOTED	BRIDGE FILE T.B.D.
	DESIGNED: ZZH	DRAWN: ZZH		VERTICAL SCALE	DESIGNATION 1900333
	CHECKED: BJM	CHECKED: BJM		EROSION CONTROL DETAILS	SHEET 7 of 23
				CONTRACT R-42243	PROJECT 1900333

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 Modified / By: October 27, 2022 2:42:20 PM / zhoht
 Plotted / By: October 27, 2022 2:42:43 PM / Zed Hoht



STATION	ELEVATION	DESCRIPTION
680	653.91	RR SPIKE SET IN N. FACE OF POWER POLE KL2 23; LOCATED ON S. SIDE OF SR 26
660	640.80	RR SPIKE SET IN N. FACE OF POWER POLE KL2 21; LOCATED ON S. SIDE OF SR 26
660	624.25	RR SPIKE SET IN W. FACE OF POWER POLE KL2 19; LOCATED ON S. SIDE OF SR 26
640		
620		
600		
580		
560		
540		

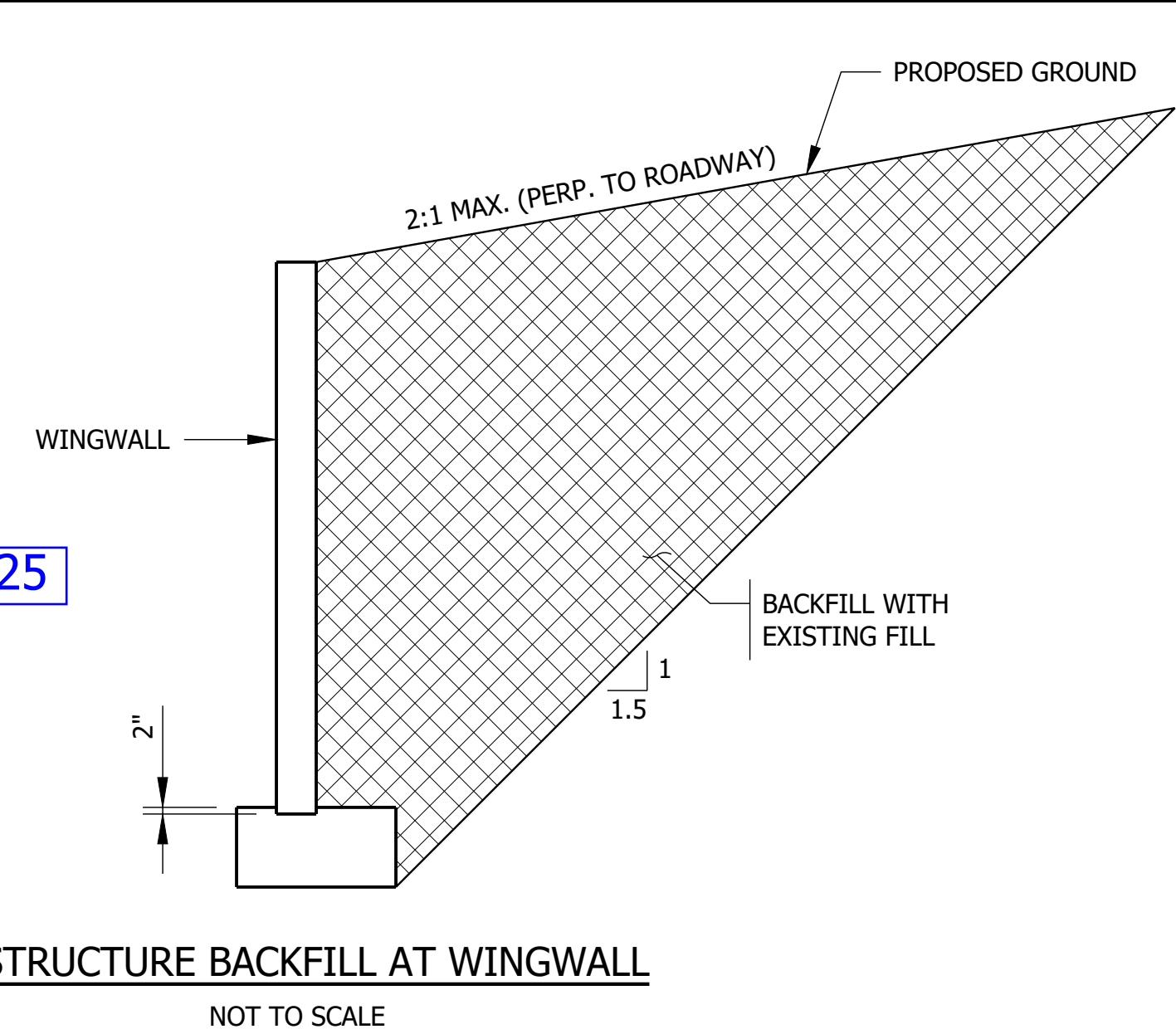
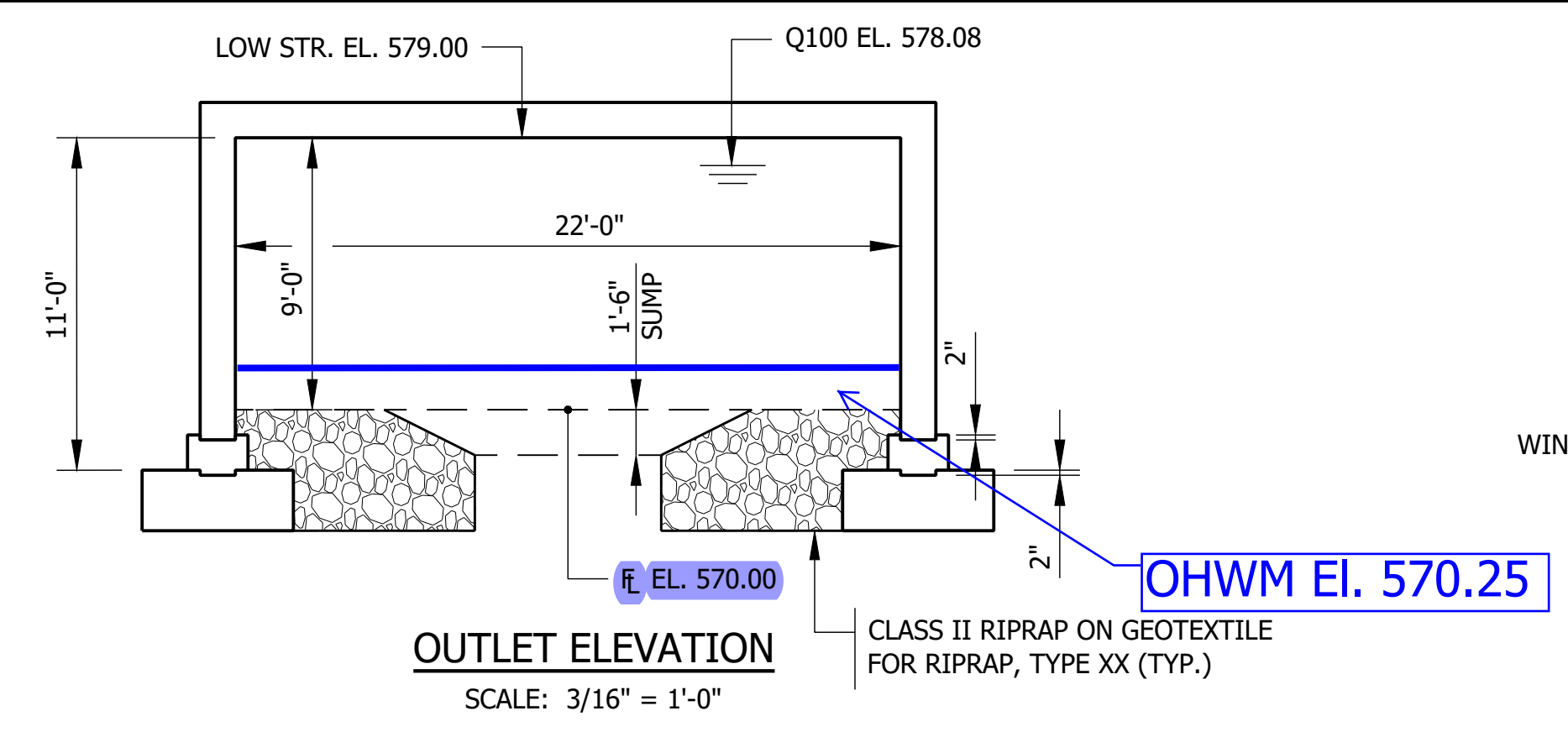
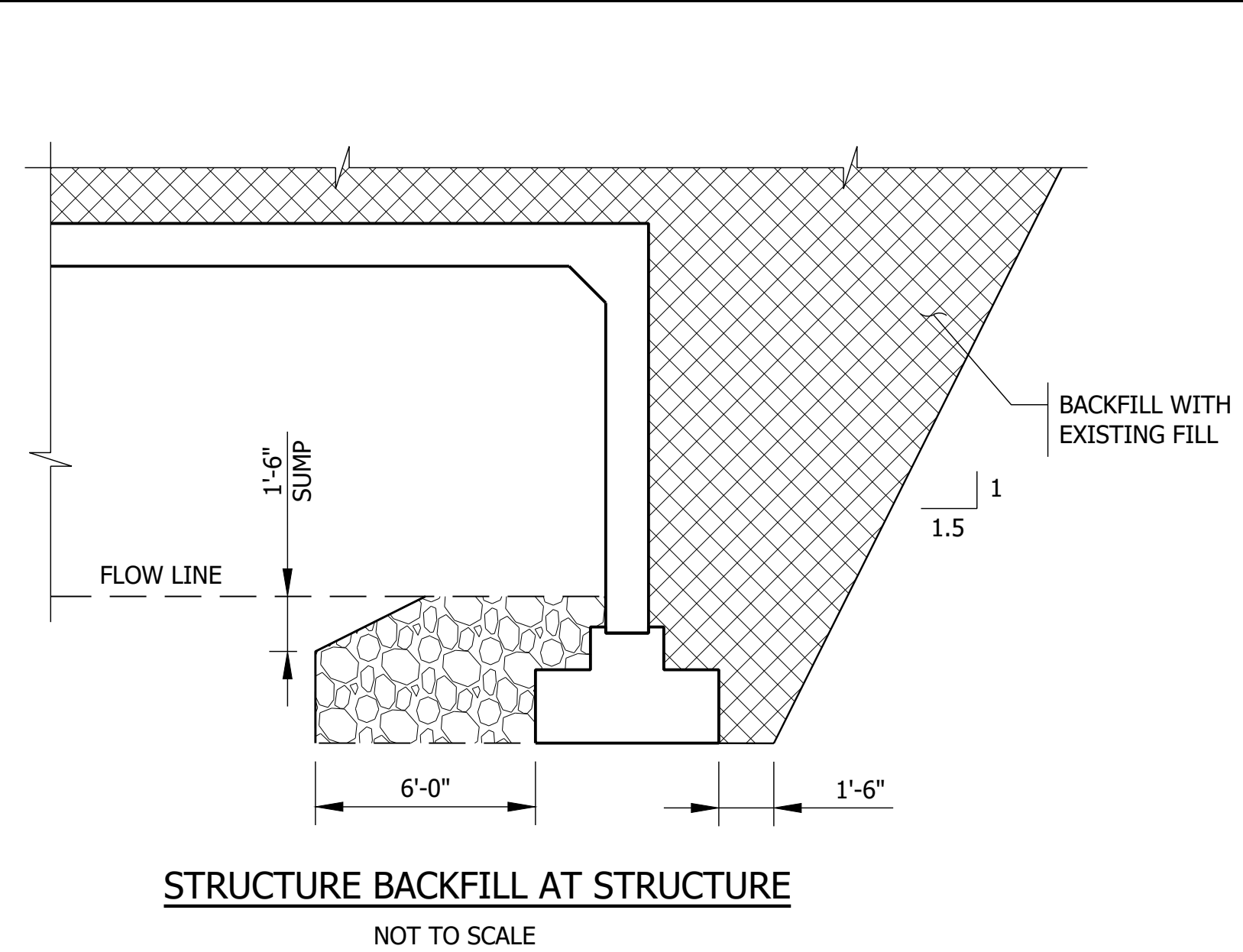
POINT NO.	NORTH	EAST	ELEVATION	DESCRIPTION
TBM #1	207733	752126	653.91	RR SPIKE SET IN N. FACE OF POWER POLE KL2 23; LOCATED ON S. SIDE OF SR 26
TBM #2	207784	752551	640.80	RR SPIKE SET IN N. FACE OF POWER POLE KL2 21; LOCATED ON S. SIDE OF SR 26
TBM #3	207704	752990	624.25	RR SPIKE SET IN W. FACE OF POWER POLE KL2 19; LOCATED ON S. SIDE OF SR 26

LINE "GOOSE CREEK"	PI	Δ	RADIUS	LENGTH
CURVE 1	400+20.93	41° 40' 10.8"	55 FT	180 FT
CURVE 2	400+62.62	14° 19' 26.2"	40 FT	45 FT

RECOMMENDED FOR APPROVAL	DESIGNED	CHECKED	DATE
	BIM	ZZH	
	SEJ	BIM	

INDIANA DEPARTMENT OF TRANSPORTATION	BRIDGE FILE
PLAN AND PROFILE LINE "PR-B"	T.B.D.
	DESIGNATION
	1900333
	SHEET
	9 of 23
	PROJECT
	1900333

PRELIMINARY



EXISTING STRUCTURE

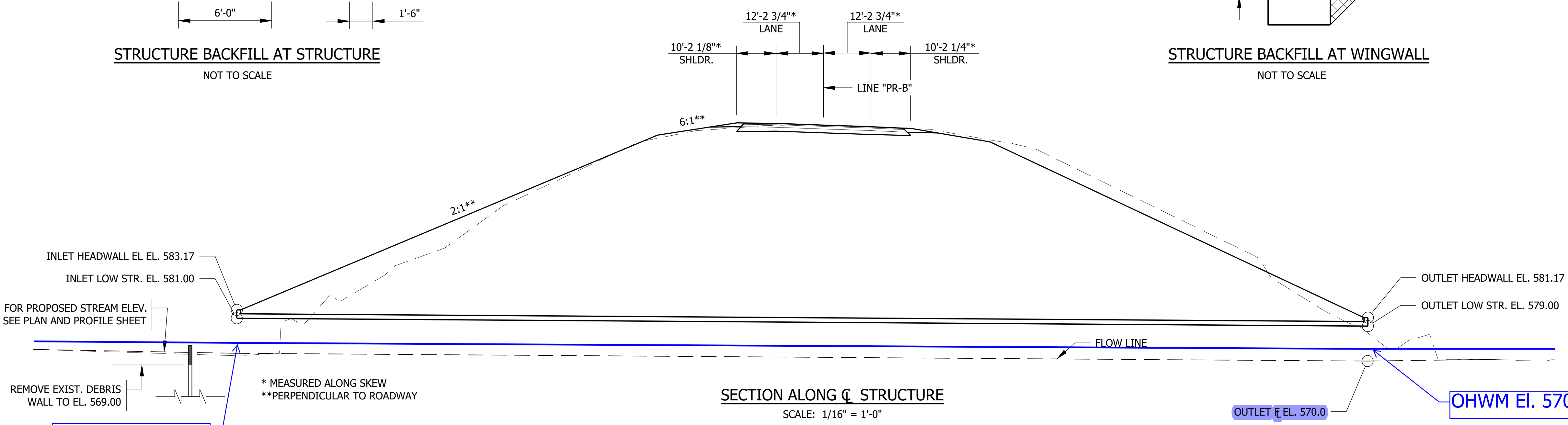
THE EXISTING STRUCTURE IS A TWIN 84" X 84" CONCRETE BOX, WITH AN OUT TO OUT LENGTH OF 296". THE EXISTING STRUCTURE SHALL BE REMOVED. ESTIMATED QTY. OF EXCAVATION TO REMOVE EXISTING STRUCTURE = 52,000 CYS.

DESIGN DATA

STRUCTURE DESIGNED FOR HL-93 LOADING, IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EIGHTH EDITION, 2017, AND SUBSEQUENT INTERIM.

HYDRAULIC DATA

DRAINAGE AREA:	5.21 SQ. MI.
Q100 DISCHARGE:	1,680 CFS
Q100 ELEVATION:	578.08 FT.
APPROXIMATE SKEW:	11° 0' 0"
PROPOSED VELOCITY	10.37 FT./SEC.
PROPOSED BACKWATER	2.16 FT.
MINIMAL LOW STRUCTURE ELEVATION	579.00 FT.
EXISTING VELOCITY	17.15 FT./SEC.
EXISTING BACKWATER	9.25 FT.
EXISTING LOW STRUCTURE	577.00 FT.



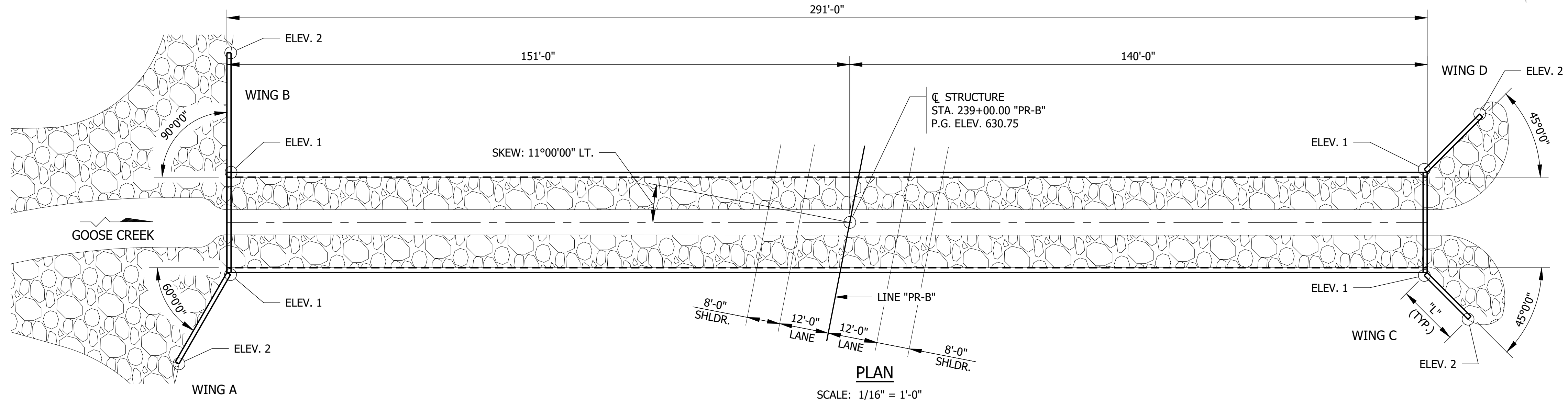
WINGWALL TABLE

WING	"L"	ELEV. 1	ELEV. 2	AREA (SFT)
"A"	25'	583.17	579.00	281.3
"B"	29'	583.17	577.00	297.3
"C"	15'	581.17	576.00	161.3
"D"	19'	581.17	576.00	204.3

ESTIMATED QUANTITY OF HEADWALLS: 48.6 SFT.

SOIL PARAMETERS FOR WINGWALL DESIGN

SOIL PARAMETERS FOR WINGWALL DESIGN	VALUE
FACTORED BEARING RESISTANCE	—
NOMINAL BEARING CAPACITY	—
RESISTANCE FACTOR	—
FRICTION ANGLE OF THE BACKFILL	—
FRICTION FACTOR OF THE FOUNDATION SOIL	—
ANGLE OF INTERNAL FRICTION OF THE FOUNDATION SOIL	—
ULTIMATE ADHESION BETWEEN FOUNDATION SOIL AND THE POURED CONCRETE FOOTING	—
SOIL COHESION	—



PRECAST CONCRETE 3-SIDED STRUCTURE
 SPAN: 22'-0"
 RISE: 11'-0"
 SKEW: 11°00'00" LT.
 S.R. 26 OVER GOOSE CREEK
 TIPPECANOE COUNTY

File Name: F:\4590 - INDOT Crawfordsville (11)\J-19000333_S\SR26150 Plans\30 Sheet Drawings\10 Design Sheets\S-GEN\PLAN-01.dwg - Layout
 Modified / By: July 21, 2022 8:38:12 AM / zhot
 Plotted / By: July 21, 2022 8:44:04 AM / Zed Holt

PRELIMINARY	RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION GENERAL PLAN	HORIZONTAL SCALE AS NOTED	BRIDGE FILE T.B.D.
	DESIGNED: BJM	DRAWN: SEJ		VERTICAL SCALE	DESIGNATION 1900333
	CHECKED: ZZH	CHECKED: BJM		CONTRACT R-42243	SHEET 12 of 23
				PROJECT 1900333	



Waters of the U.S. Determination

SR 26 in Tippecanoe County, Indiana
Small Structure Project, 4.98 Miles West of US 52/231
Designation Number: 1900333
Asset Name: CV 026-079-28.10

Prepared by:

Kirk Roth

kroth@corradino.com

317-488-2363

Corradino, LLC

September 19, 2022

1. Project Information

Dates of Field Reconnaissance:

Field work for this report was conducted on September 1 and September 14, 2021 and September 14, 2022 by Corradino, LLC.

Project Location:

Otterbein Quadrangle
Sections 7 and 18, Township 23 North, Range 5 West
Tippecanoe County, Indiana
Coordinates: 40.44609, -87.02433

Project Description:

This project is located on SR 26, 4.98 miles west of US 52/231, at structure CV 026-079-28.10. SR 26 crosses Goose Creek within the project area. The structure location is shown on the attached Aerial and Photo Key Maps and illustrated in photos 1-6, 11-12, and 19 in the Photo Log. The existing twin concrete box structures are each 296 feet long with an 84-inch span and 84-inch rise. The project will replace the existing structures with a single span precast reinforced concrete three-sided structure. To provide access on the outlet side of the structure for future inspection and maintenance work, a new access road approximately 900 feet in length will be constructed on the existing fill slopes of SR 26. Incidental work will include approximately 400 feet of asphalt replacement, milling and resurfacing to tie the new pavement into the existing. Scour protection (riprap on geotextiles) will be placed at the inlet, along the structure, and at the outlet in accordance with INDOT Standard Drawings. The project area is surrounded by wooded terrain.

2. Desktop Reconnaissance

Soils

According to the Soil Survey Geographic (SSURGO) Database for Tippecanoe County, Indiana, the project area does contain soil areas with nationally listed hydric soils. The soil at the west and east ends of the project area is Strawn-Rodman Complex (SyF), with Ouiatenon Loamy Sand (Ox) in the central section. Richardville Silt Loam (RdB2) is at the western tip of the project area north of SR 26.

Soil Unit Name	Symbol	NRCS Flooding Frequency	NRCS Drainage Class	NRCS Hydric Soil Category	SSURGO Hydric Rating
Ouiatenon Loamy Sand	Ox	Occasional	Somewhat Excessively Drained	Predominantly Nonhydric	3% Hydric
Strawn-Rodman Complex	SyF	None	Well Drained	Nonhydric	0% Hydric
Richardville Silt Loam	RdB2	None	Well Drained	Nonhydric	0% Hydric

National Wetland Inventory Information

Wetland/Water Feature Name	Location
PFO1A	205 feet north
PF01A	387 feet south

National Hydrography Dataset Information

12-digit Hydrologic Unit – 051201080501

Reach Code	Flowline Type	Stream Name	Mapped Location
05120108000970	Stream/River	Goose Creek	Project structure, extending north and south
05120108002439	Stream/River	UNT1 to Goose Creek	50 feet north of project structure, extending east
05120108029128	Stream/River	UNT2 to Goose Creek	150 feet north of project structure, extending west
05120108022763	Canal/Ditch	UNT3 to Goose Creek	165 feet south of project structure, extending west

Attached Documents:

- Project Location Map
- Topographic Map
- Aerial Map
- Water Resources Map
- National Hydrography Dataset (NHD) and National Wetland Inventory (NWI) Map
- IDNR Floodplain Analysis and Regulatory Assessment (FARA)

- StreamStats Report
- Soils Map
- Photo Key and Photo Log
- Wetland Determination Data Sheet
- Preliminary Jurisdictional Determination

3. Field Reconnaissance

Site reconnaissance was conducted on September 1 and September 14, 2021 and September 14, 2022 by Corradino, LLC.

Stream Analysis

Goose Creek

The project structure CV 026-079-28.10 is associated with the perennial Goose Creek, which eventually encounters Indian Creek, and the navigable Wabash River. Structure CV 026-079-28.10 carries Goose Creek under SR 26. Within the project area, Goose Creek flows south and drains the surrounding wooded area. During the site inspection, shallow flowing water was present, as well as an Ordinary High Water Mark (OHWM). Goose Creek is believed to be perennial due to its large size, robust water flow, and perennial status on USGS Topographic Maps. Riprap is not present in the channel. Stream quality is considered excellent due to the natural state of the creek, low turbidity, presence of abundant aquatic fauna and the presence of extensive complexity such as run/riffle complexes and variable substrate size. The OHWM was approximately 16 feet wide and 0.25 foot deep at a location approximately 40 feet south of the project structure. The StreamStats website (<https://streamstats.usgs.gov/ss/>) shows the area of Goose Creek to be 6.037 square miles at the project location. There are 701 linear feet of Goose Creek within the investigative area.

Goose Creek exhibited a well-defined bed and bank. All banks of Goose Creek were steep and there were no wetland hydrology characteristics above the OHWM. Upland vegetation dominated the areas beyond the banks, especially facultative upland *Lonicera maackii*, and also including facultative upland *Juniperus virginiana*, *Juglans nigra*, *Acer saccharum*, *Tilia americana*, *Cercis canadensis*, *Lonicera tatarica*, *Parthenocissus quinquefolia*, *Cardamine concatenata*, *Asarum canadense*, the facultative *Platanus occidentalis*, and the facultative wetland *Equisetum hyemale* and *Verbesina alternifolia*. Facultative and facultative wetland species were fewer in density than the facultative upland species. Wetland characteristics did not extend beyond the OHWM of Goose Creek and therefore any wetland characteristics are considered a feature of Goose Creek and not a separate feature. Goose Creek is listed as a stream/river in the USGS National Hydrography Dataset. It is likely that Goose Creek is a Water of the U.S. due to its apparent connectivity with the Wabash River.

UNT1 to Goose Creek

In the northeast quadrant of the project area, an intermittent drainage with an OHWM and bed and bank structure contacts Goose Creek. This drainage is approximately 50 feet north of project structure CV 026-079-28.10. For the purposes of this report, this drainage is referred to as UNT1 to Goose Creek. Within the project area, UNT1 to Goose Creek flows west and drains the adjacent wooded area. During the site inspection, shallow flowing water was present. Riprap is not present in the channel. Due to the natural

state of the creek, but the small size and lack of run/riffle complexes or other cover features, UNT1 to Goose Creek is considered average stream quality. The OHWM was approximately 2.0 foot wide and 0.25 foot deep at a point 25 feet east of Goose Creek. UNT1 to Goose Creek appeared intermittent due to its small size, flowing water, and representation on USGS Topography Maps. The location of UNT1 to Goose Creek appears to be modified by the construction SR 26 and appears different than the mapped tributary on the USGS Topographic Map. UNT1 to Goose Creek is identified as a blue line stream but its drainage area cannot be mapped using the StreamStats website, perhaps due to this modification. StreamStats shows the area of UNT1 to Goose Creek to be included within the 6.037 square mile basin of Goose Creek. Approximately 265 linear feet of UNT1 to Goose Creek occur within the investigative area.

UNT1 to Goose Creek exhibited a well-defined bed and bank. No dominant vegetation was found within the OHWM and wetland hydrology characteristics were not observed outside the banks. Dominant vegetation along the banks included the facultative upland *Celtis occidentalis*, *Liriodendron tulipifera*, *Cornus florida*, *Lonicera maackii*, *Rubus allegheniensis*, *Solidago canadensis*, *Cardamine concatenata*, and the facultative wetland *Rudbeckia laciniata*. Wetland characteristics did not extend beyond the OHWM of UNT1 to Goose Creek and therefore any wetland characteristics are considered a feature of UNT1 to Goose Creek and not a separate feature. UNT1 to Goose Creek is listed as a stream/river in the USGS National Hydrography Dataset. It is likely that UNT1 to Goose Creek is a Water of the U.S. due to its apparent connectivity with the Wabash River.

UNT2 to Goose Creek

In the northwest quadrant of the project area, an ephemeral drainage with an OHWM and bed and bank structure contacts Goose Creek. This drainage is approximately 150 feet north of project structure CV 026-079-28.10. For the purposes of this report, this drainage is referred to as UNT2 to Goose Creek. Within the project area, UNT2 to Goose Creek flows east and drains the adjacent wooded area. During the site inspection, no water was present. Riprap is not present in the channel. Due to the natural state of the creek, but small size and lack of run/riffle complexes or other cover features, UNT2 to Goose Creek is considered average stream quality. The OHWM was approximately 9 foot wide and 0.75 foot deep at a point 25 feet west of Goose Creek. UNT2 to Goose Creek appeared ephemeral due to its small size and dry status while the nearby creeks had water. UNT2 to Goose Creek may be subject to fast, heavy drainage of the nearby hillslopes that it drains, as evidenced by its larger depth than other tributaries in the project area and the apparent lack of substantial silt. UNT2 to Goose Creek is not identified as a blue line stream and therefore its drainage area cannot be mapped using the StreamStats website. StreamStats shows the area of UNT2 to Goose Creek to be included within the 6.037 square mile basin of Goose Creek. Approximately 349 linear feet of UNT2 to Goose Creek occur within the investigative area.

UNT2 to Goose Creek exhibited a well-defined bed and bank. No dominant vegetation was found within the OHWM and the banks did not exhibit wetland hydrology characteristics. Dominant plants at and along the banks were the facultative upland *Juglans nigra*, *Acer saccharum*, *Tilia americana*, *Cercis canadensis*, *Lonicera tatarica*, *Parthenocissus quinquefolia*, *Asarum canadense*, and *Cardamine concatenata*. Wetland characteristics did not extend beyond the OHWM of UNT2 to Goose Creek and therefore any wetland characteristics are considered a feature of UNT2 to Goose Creek and not a separate feature. UNT2 to Goose Creek is listed as a canal/ditch in the USGS National Hydrography Dataset. It is likely that UNT2 to Goose Creek is a Water of the U.S. due to its apparent connectivity with the Wabash River.

UNT3 to Goose Creek

In the southwest quadrant of the project area, an ephemeral drainage with an OHWM and bed and bank structure contacts Goose Creek. This drainage is approximately 60 feet south of project structure CV 026-079-28.10. For the purposes of this report, this drainage is referred to as UNT3 to Goose Creek. Within the project area, UNT3 to Goose Creek flows east and drains the adjacent roadside and wooded area. During the site inspection, no water was present. Riprap is present in the channel beginning approximately 70 feet from Goose Creek. Areas of erosion occur along much of UNT3 to Goose Creek due to its location against the steep slope leading to SR 26. , Due to the unnatural state of the creek, erosion, small size, and lack of run/riffle complexes or other cover features, UNT3 to Goose Creek is considered poor stream quality. The OHWM was approximately 2.0 foot wide and 0.25 foot deep at a point 15 feet west of Goose Creek, which was unaffected by erosion or riprap. UNT3 to Goose Creek appeared ephemeral due to its small size and dry status while the nearby creeks had water. UNT3 to Goose Creek is not identified as a blue line stream and therefore its drainage area cannot be mapped using the StreamStats website. StreamStats shows the area of UNT2 to Goose Creek to be included within the 6.037 square mile basin of Goose Creek. Approximately 373 linear feet of UNT3 to Goose Creek occur within the investigative area.

UNT3 to Goose Creek exhibited a well-defined bed and bank for approximately 70 feet from Goose Creek, and a moderately-defined bad and bank for a further 300 feet, where it is lined with riprap. Bed and bank structure eventually ends within the investigative area. Where the riprap begins, upland plants, especially *Lonicera maackii*, are sparse but dominant within the channel. Facultative upland plants including *Rubus allegheniensis*, *Glechoma hederacea* and *Solidago canadensis* are dominant downstream of the riprap area. The banks did not exhibit wetland hydrology characteristics. Dominant plants at and along the banks were the upland *Lonicera maackii*, facultative upland *Juglans nigra*, *Robinia pseudoacacia*, *Tilia americana*, *Cercis canadensis*, *Lonicera tatarica*, *Parthenocissus quinquefolia*, *Robinia pseudoacacia*, and *Solidago canadensis* and facultative *Verbesina alternifolia*. Wetland characteristics were not found in or near the OHWM of UNT3 to Goose Creek. UNT3 to Goose Creek is listed as a canal/ditch in the USGS National Hydrography Dataset. It is likely that UNT3 to Goose Creek is a Water of the U.S. due to its apparent connectivity with the Wabash River.

Table 1 – Stream Summary, SR 26, Tippecanoe County, Indiana, Designation Number 1900333

Stream Name	Photos	Lat/Long	OHW Width (feet)	OHW Depth (feet)	USGS Blue-line?	Riffles? Pools?	Substrate	Quality	Likely Water of U.S.?
Goose Creek	1-17; 23-24	40.445474 -87.024085	16	0.25	Yes (Perennial)	Yes	Silt, Sand, Pebbles, Cobbles, Boulders	Excellent	Yes
UNT1 to Goose Creek	18-22	40.446344 -87.023444	2.0	0.25	Yes (Intermittent)	No	Silt, Sand, Pebbles	Average	Yes
UNT2 to Goose Creek	25-30	40.447003 -87.024476	9.0	0.75	No (Ephemeral)	No	Sand, Pebbles, Cobbles, Boulders	Average	Yes
UNT3 to Goose Creek	31-36; 65-66	40.445554 -87.024138	2.0	0.25	No (Ephemeral)	No	Silt, Sand, Pebbles, Boulders (Riprap)	Poor	Yes

Wetland Analysis

The site was investigated for potential wetland characteristics. The only wetland hydrology features were confined to the OHWM of Goose Creek, UNT1 to Goose Creek, UNT2 to Goose Creek and UNT3 to Goose Creek. Most of the investigative area outside these creek beds is comprised of steep hill slopes or fill from SR 26. Upland plant species were predominant throughout the investigative area, especially facultative upland *Juglans nigra*, *Acer saccharum* in the forested areas, and *Robinia pseudoacacia*, *Solidago canadensis*, and *Schedonorus arundinaceus* downslope from SR 26. Upland *Lonicera maackii* was dominant in all except mowed areas. The facultative *Platanus occidentalis*, and the facultative wetland *Equisetum hyemale*, *Verbesina alternifolia*, and *Rudbeckia laciniata* were found in densities that would register as dominant in wetland delineation, but in each location they were outnumbered by facultative upland species.

A temporarily flooded broad-leaved deciduous palustrine forested (PFO1A) NWI Wetland is mapped approximately 200 feet north of the project structure CV 026-079-28.10 and immediately north of UNT2 to Goose Creek. A wetland determination data point, named UPL-1 (Photo 67 and 68), was taken in this area. Dominant vegetation included the upland *Lonicera maackii*, facultative upland *Juglans nigra*, *Tilia americana*, *Asarum canadense*, and the facultative *Smilax rotundifolia*. The Dominance Test and Prevalence Index did not indicate a hydrophytic vegetation regime. No hydric soil indicators and no wetland hydrology indicators were found. This area experienced substantial change after the construction of SR 26, as indicated by USGS Topographic maps.

Because no locations outside the tributaries were found with wetland hydrology indicators or hydrophytic vegetation, no wetlands were identified within the investigative area.

Roadside Ditch Analysis

RSD1 (photos 37-47)

A roadside ditch occurs in the northwest quadrant of the project area and is referred to as RSD2 in this document. RSD2 has a bed and bank structure but does not exhibit an OHWM and drains into Goose Creek north of the project structure. RSD2 is dominated by upland and facultative upland plants such as *Lonicera maackii*, *Juglans nigra*, *Parthenocissus quinquefolia*, *Ageratina altissima*, *Sanicula canadensis* and *Solidago canadensis*, with facultative wetland *Verbesina alternifolia* in shaded areas. The vegetation present does not support wetland status. Away from Goose Creek, the bed of RSD2 is predominantly riprap. RSD2 drains the nearby roadside and forested area.

Due to the lack of an OHWM, RSD2 does not exhibit characteristics of a tributary. Because RSD2 is not a wetland or tributary, it is not likely a Water of the U.S.

4. Summary and Conclusions

As running waterways directly traceable to the Wabash River, Goose Creek, UNT1 to Goose Creek, UNT2 to Goose Creek, and UNT3 to Goose Creek within the project area are apparent jurisdictional Waters of the U.S. The jurisdictional area in the project area would extend to the limits of the OHWM of the channel on all the banks of all tributaries.

RSD1 is a non-jurisdictional feature within the study area.

There were no areas with wetland characteristics within the study area.

No bat or bird use of the bridge was detected during the September 1, 2021, September 14, 2021 or September 14, 2022 survey.

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

Acknowledgement:

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

Kirk Roth

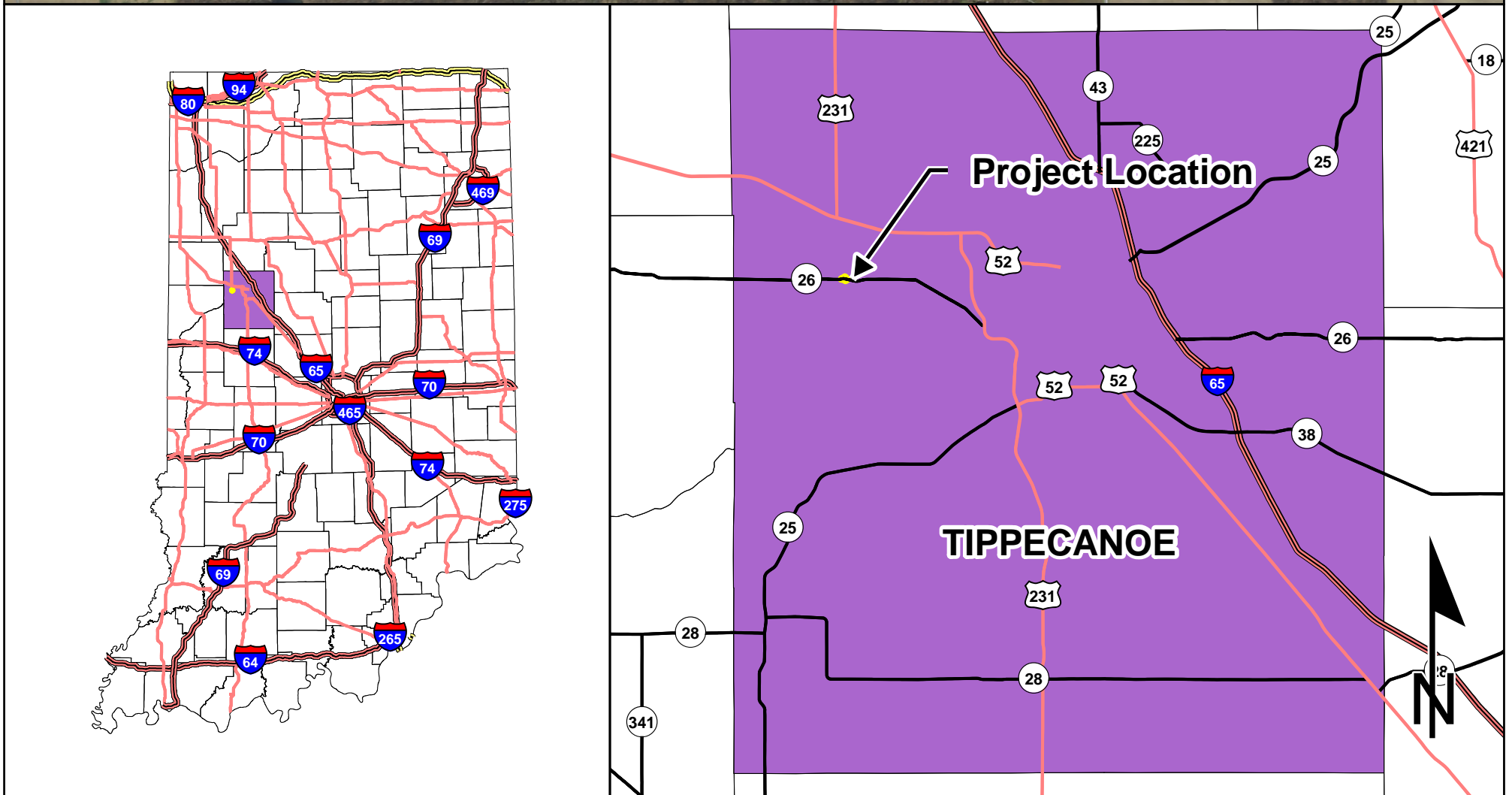
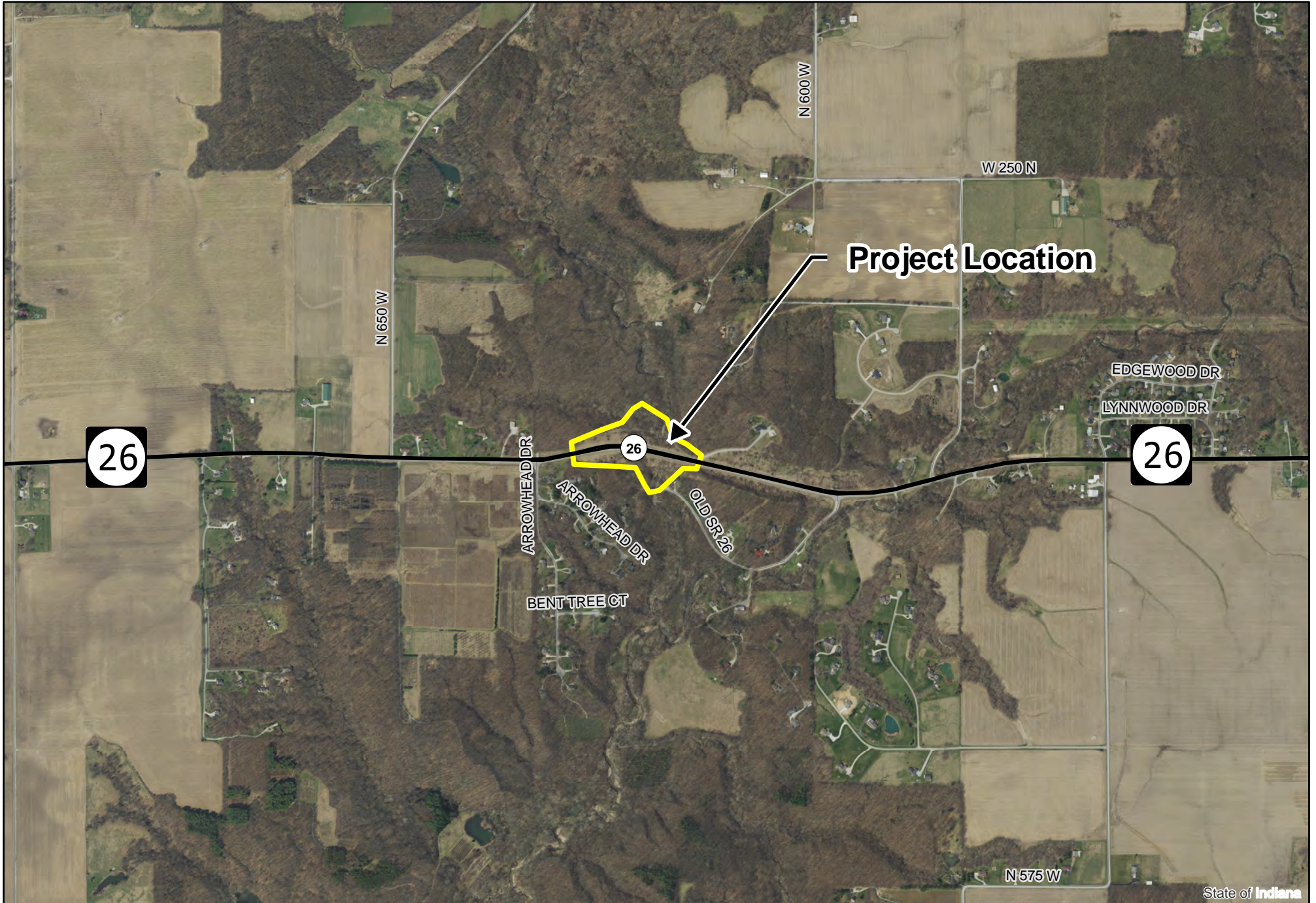


Environmental Scientist

Corradino, LLC

September 19, 2022

Project Location Map
SR 26, 4.98 Miles West of US 52/231
Des. No. 1900333, Small Structure Replacement
Tippecanoe County, Indiana



Sources: 0.25 0.125 0 0.25 Miles
Non Orthophotography

Data - Obtained from the State of Indiana Geographical Information Office Library

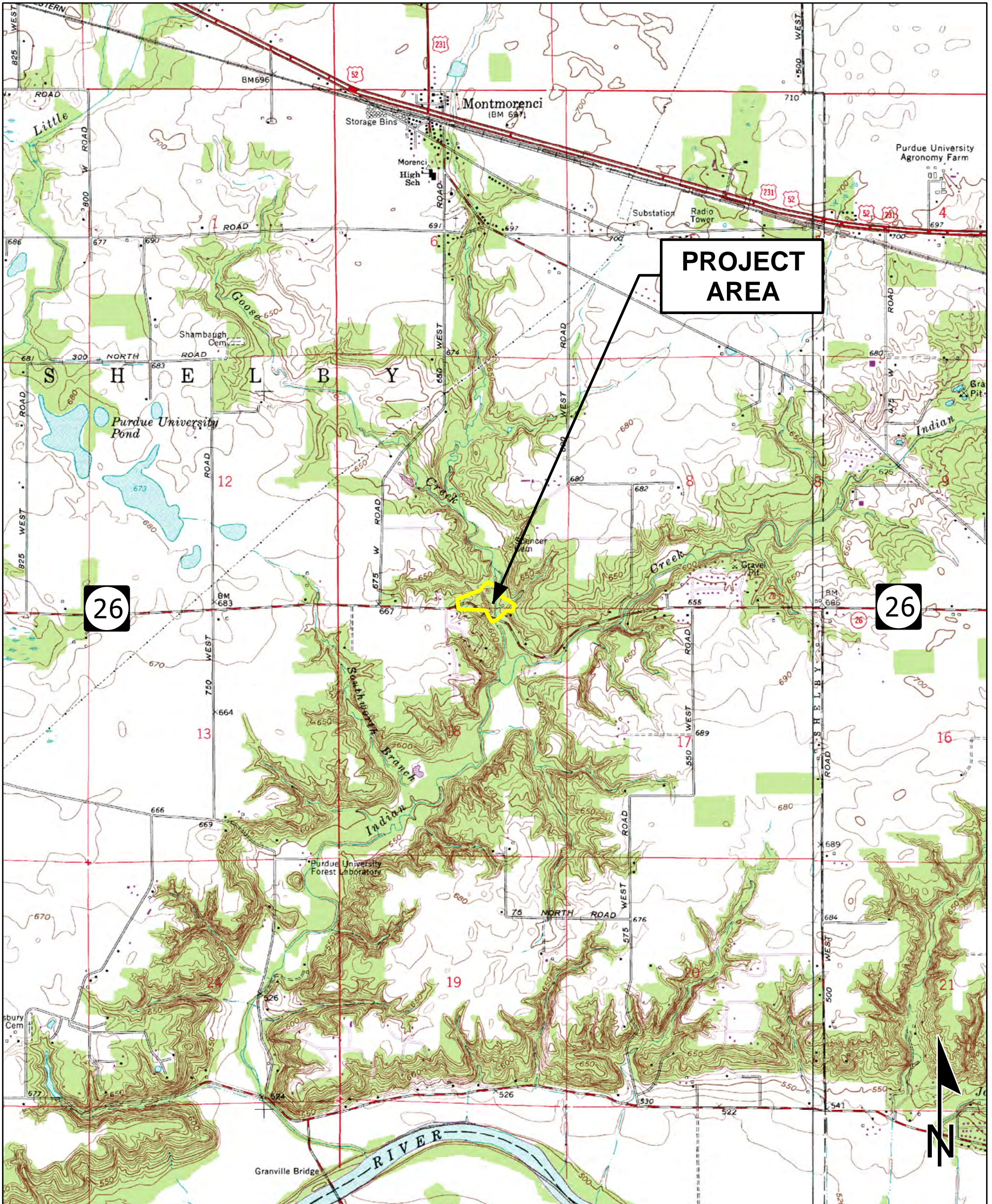
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**INDIANA
 STATEWIDE
 GIS DATA**

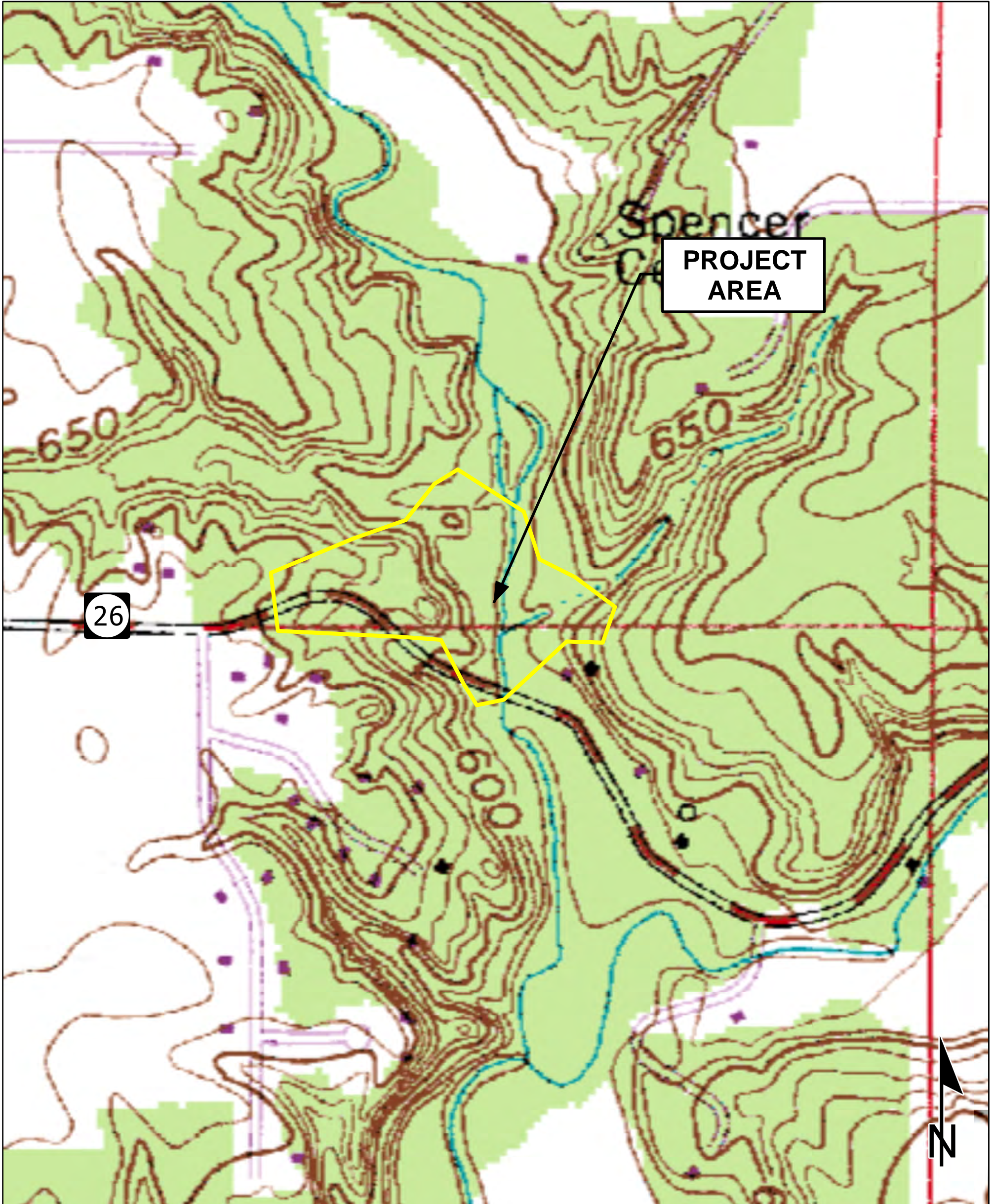
USGS Topographic Map
SR 26, 4.98 Miles West of US 52/231
Des. No. 1900333, Small Structure Replacement
Tippecanoe County, Indiana



Sources: 0.6 0.3 0 0.6 Miles
Non Orthophotography - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N Map Datum: NAD83
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

OTTERBEIN
QUADRANGLE INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

USGS Topographic Map
SR 26, 4.98 Miles West of US 52/231
Des. No. 1900333, Small Structure Replacement
Tippecanoe County, Indiana

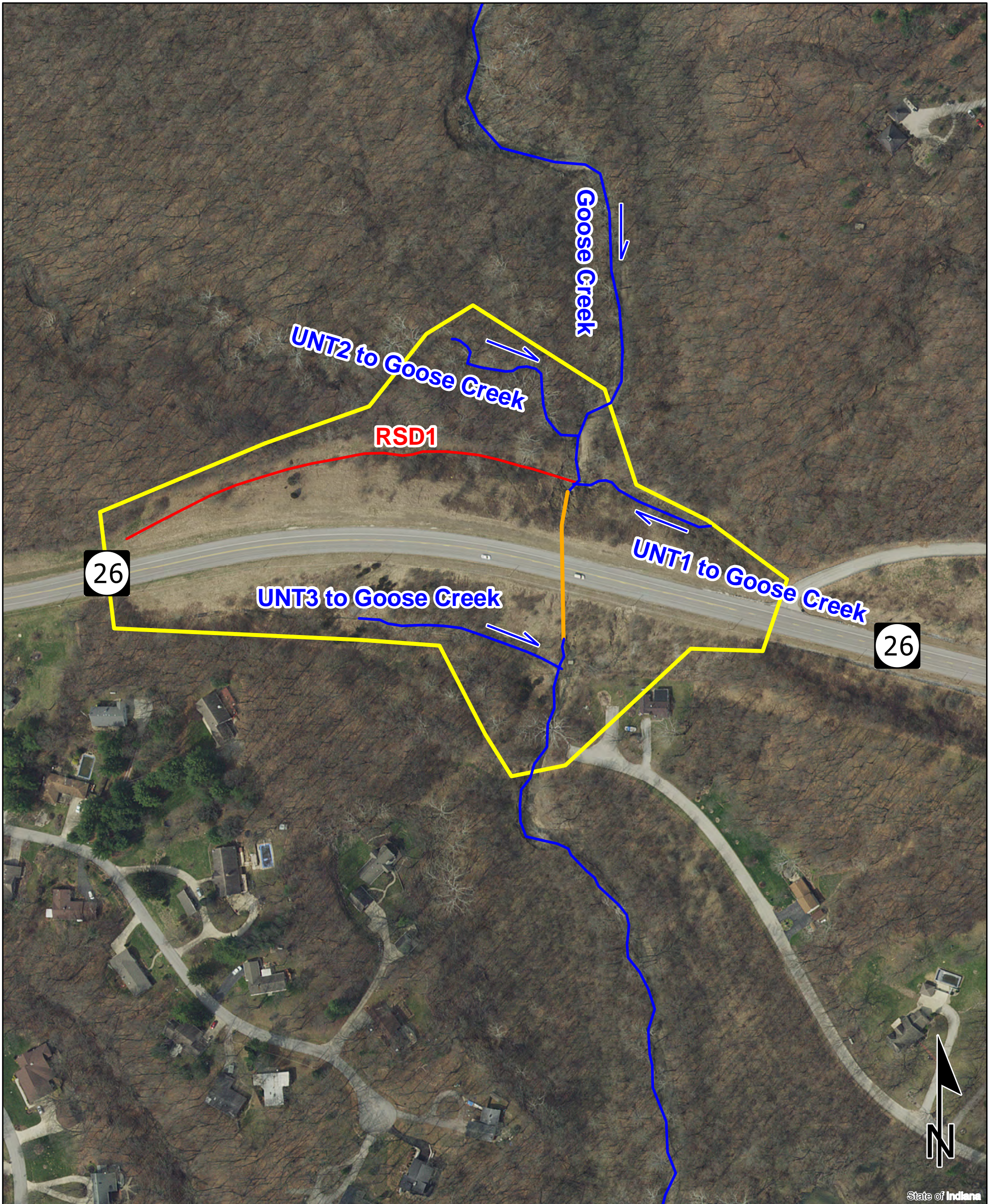


Sources: Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N Map Datum: NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

OTTERBEIN
QUADRANGLE INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)






Aerial Map
 SR 26, 4.98 Miles West of US 52/231
 Des. No. 1900333, Small Structure Replacement
 Tippecanoe County, Indiana



Sources: 250 125 0 250 Feet
 Non Orthophotography
 Data - Obtained from the State of Indiana Geographical Information Office Library
 Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
 Map Projection: UTM Zone 16 N Map Datum: NAD83
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**INDIANA STATEWIDE
 AERIAL IMAGERY
 FLOWN 2016**

Legend

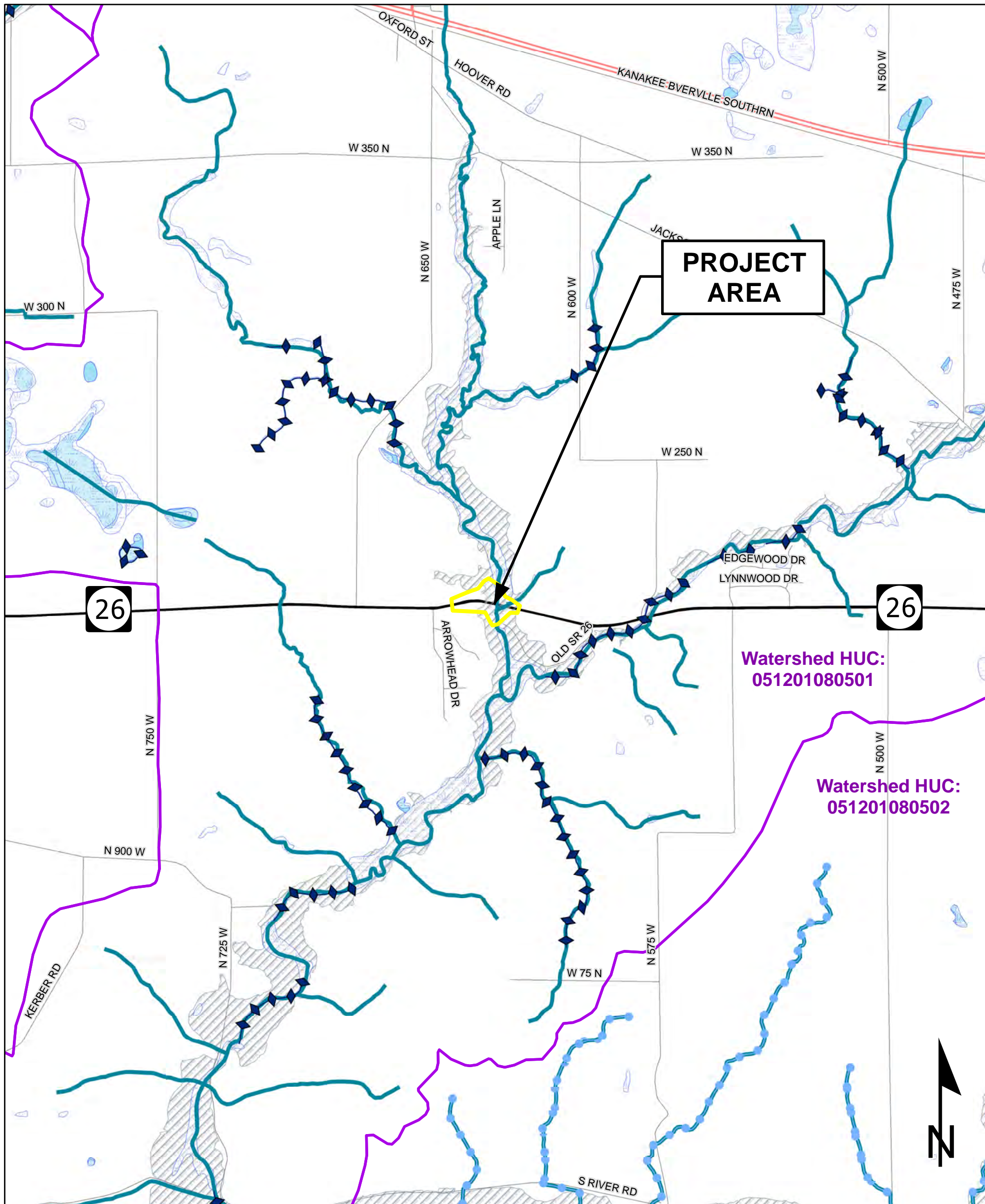
	Flow Direction		Roadside Ditch
	Tributary		Investigative Area
	Culvert		

Water Resources Map

SR 26, 4.98 Miles West of US 52/231

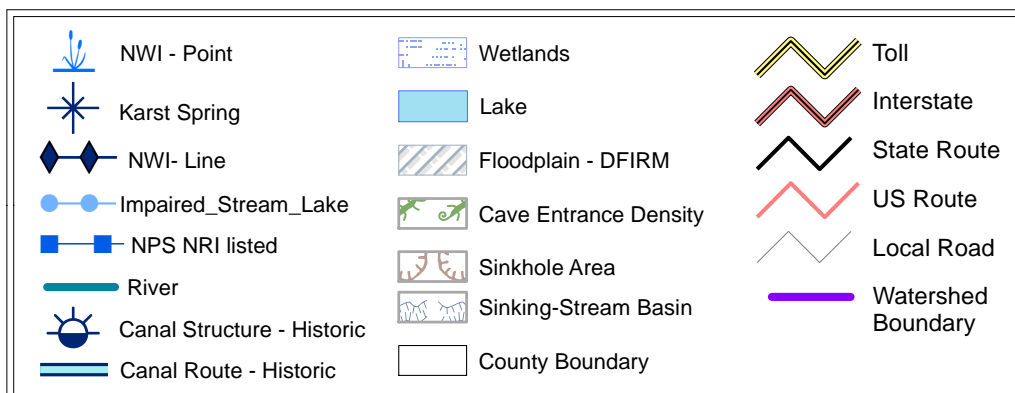
Des. No. 1900333, Small Structure Replacement

Tippecanoe County, Indiana

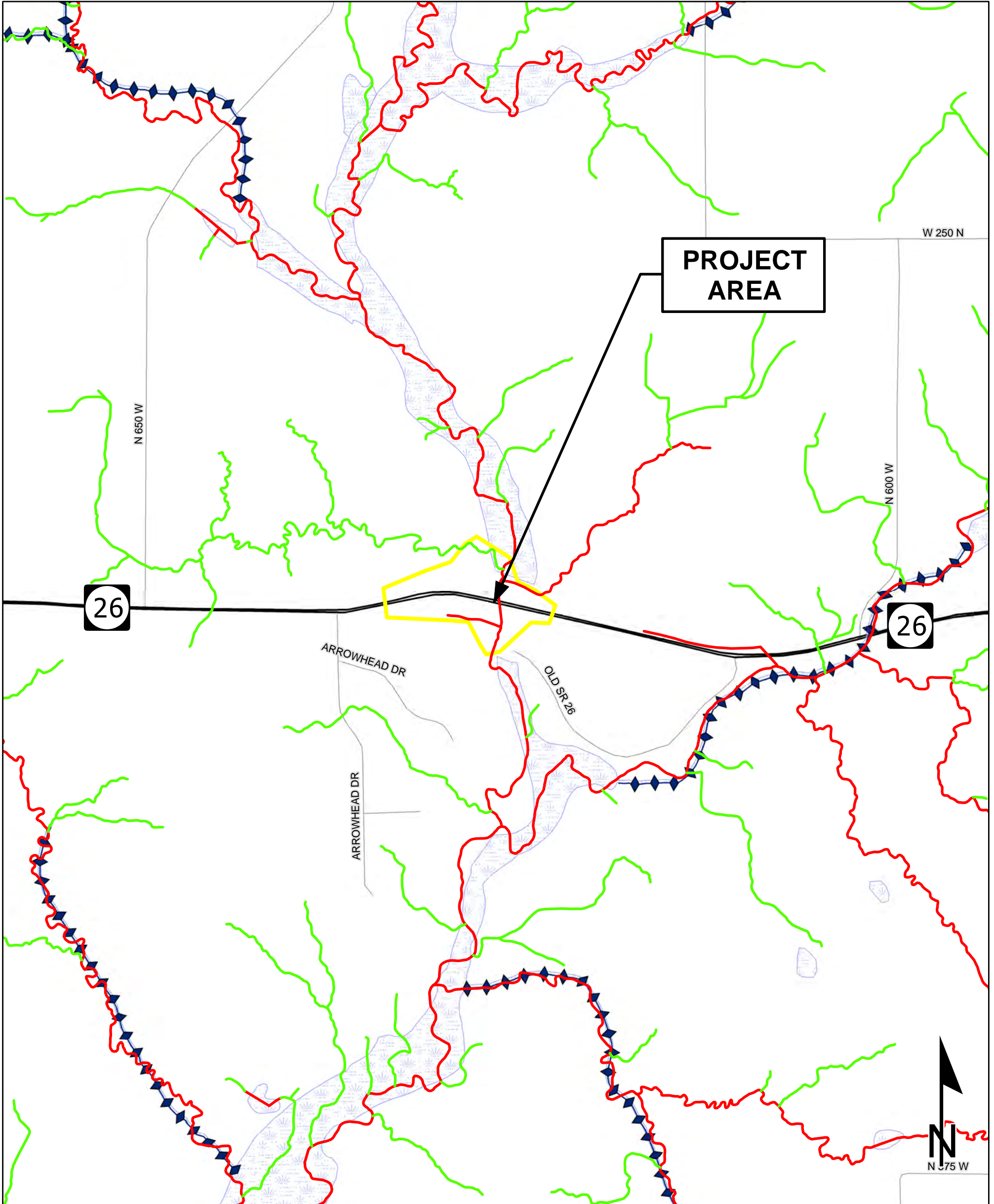


Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

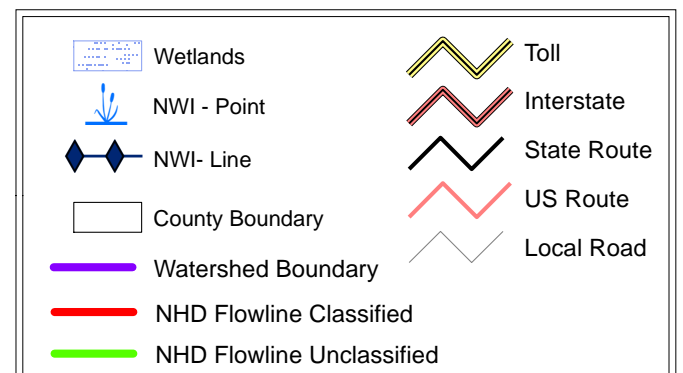


NHD and NWI Features Map
SR 26, 4.98 Miles West of US 52/231
Des. No. 1900333, Small Structure Replacement
Tippecanoe County, Indiana

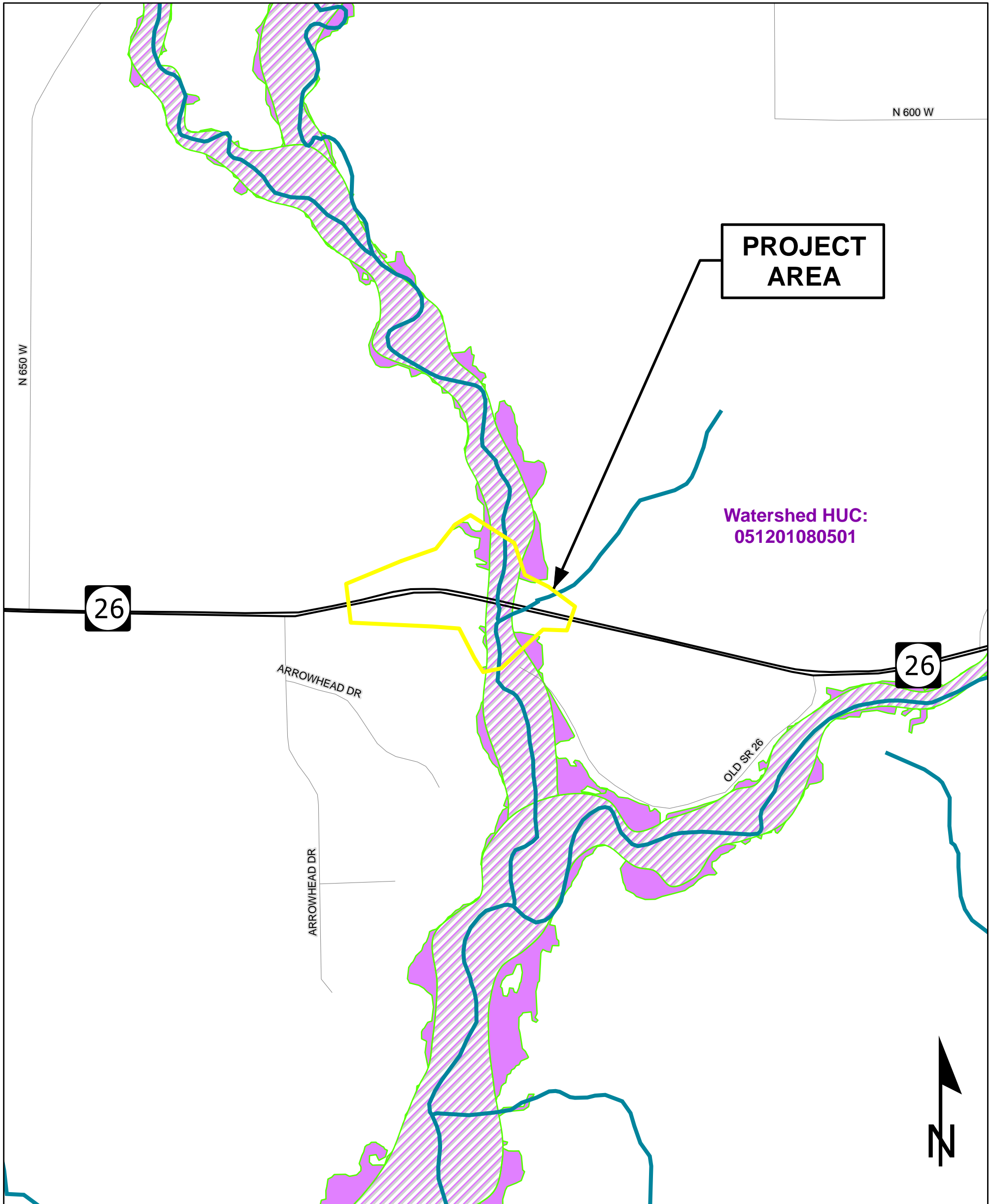


Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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FARA Map
SR 26, 4.98 Miles West of US 52/231
Des. No. 1900333, Small Structure Replacement
Tippecanoe County, Indiana



PROJECT AREA

**Watershed HUC:
051201080501**

26

26

ARROWHEAD DR

ARROWHEAD DR

OLD SR 26



Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

Legend

Toll	DNR Approximate Floodway
Interstate	DNR Approximate Fringe
State Route	Watershed Boundary
US Route	Stream
Local Road	

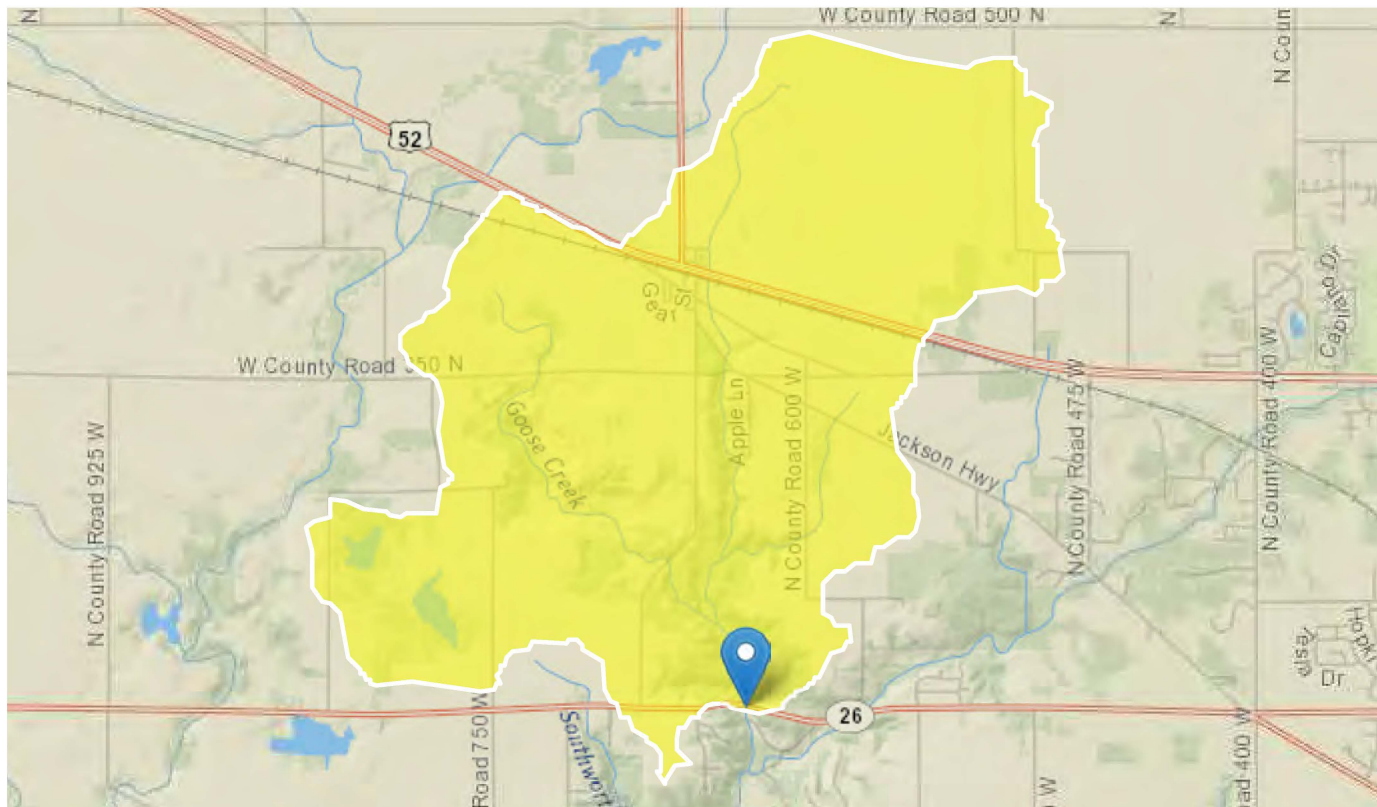
StreamStats Report

Region ID: IN

Workspace ID: IN20211108141619243000

Clicked Point (Latitude, Longitude): 40.44592, -87.02401

Time: 2021-11-08 09:16:39 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	6.037	square miles
K2INDNR	Average hydraulic conductivity (ft/d) for the full depth of unconsolidated deposits from InDNR well database.	43	ft per day
QSSPERMTHK	Index of the permeability of surficial Quaternary sediments computed as in SIR 2014-5177	293.28	dimensionless
LOWREG	Low Flow Region Number	1729	dimensionless
T2INDNR	Average transmissivity (ft ² /d) for the full depth of unconsolidated deposits from InDNR well database.	3352	square feet per day

Parameter Code	Parameter Description	Value	Unit
LC01FOREST	Percentage of forest from NLCD 2001 classes 41-43	21.1	percent

General Flow Statistics Parameters [Harmonic Mean Central Region 2016 5102]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.037	square miles	2.99	828
K2INDNR	Avg_Hydraulic_Conductivity_Full_Depth	43	ft per day	6.36	45.9
QSSPERMTHK	Permeability_Index	293.28	dimensionless	43.8	5400
LOWREG	Low Flow Region Number	1729	dimensionless		

General Flow Statistics Flow Report [Harmonic Mean Central Region 2016 5102]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu	ASEp
Harmonic Mean Streamflow	1.78	ft ³ /s	0.917	3.46	39.3

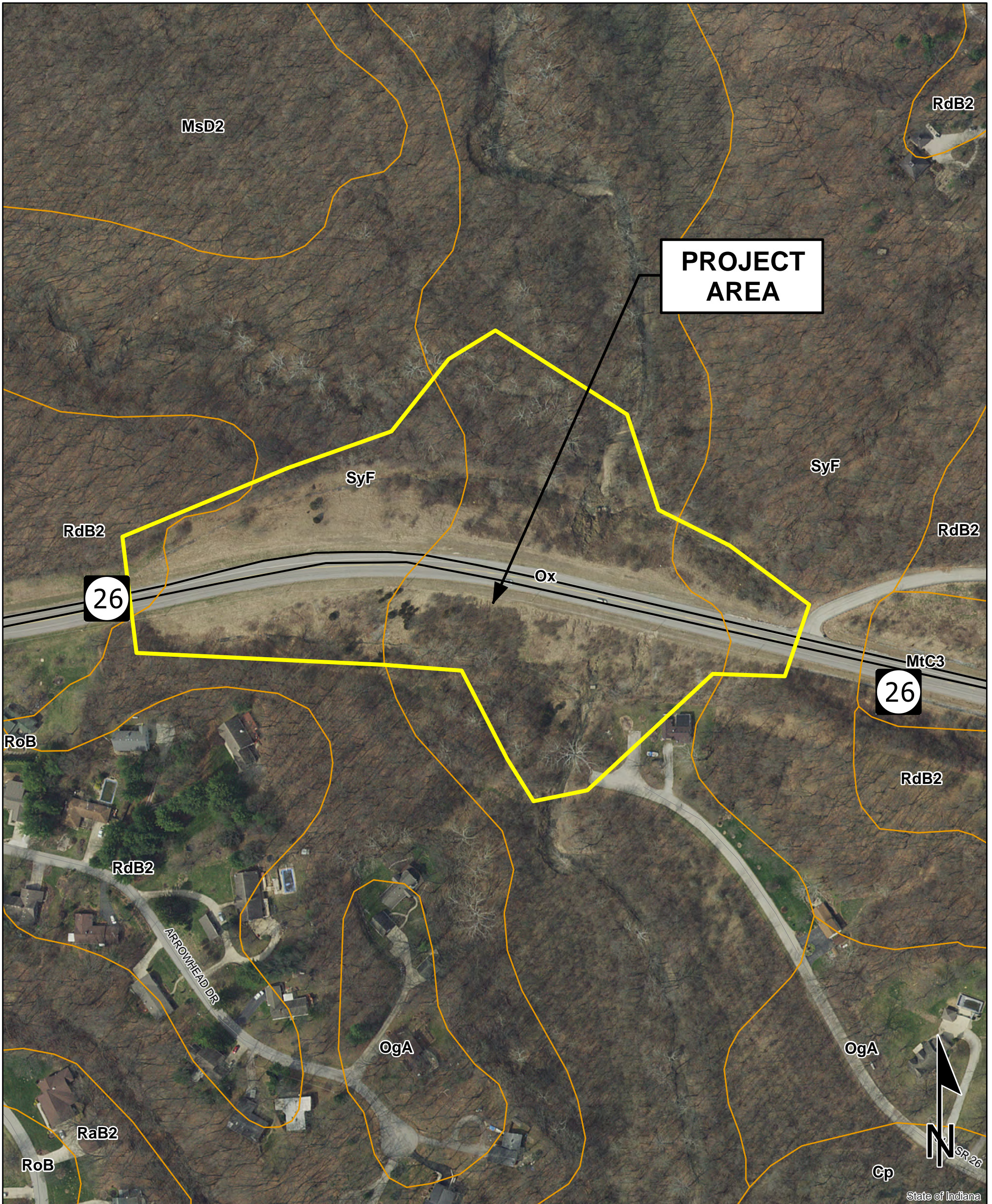
General Flow Statistics Citations

Martin, G.R., Fowler, K.K., and Arihood, L.D., 2016, Estimating selected low-flow frequency statistics and harmonic-mean flows for ungaged, unregulated streams in Indiana (ver 1.1, October 2016): U.S. Geological Survey Scientific Investigations Report 2016–5102, 45 p. (<http://dx.doi.org/10.3133/sir20165102>)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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Soils Map
 SR 26, 4.98 Miles West of US 52/231
 Des. No. 1900333, Small Structure Replacement
 Tippecanoe County, Indiana



Sources:
 Non Orthophotography
 Data - Obtained from the State of Indiana Geographical Information Office Library
 Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
 Map Projection: UTM Zone 16 N Map Datum: NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

**NRCS
SOILS DATA**

Legend

- Ox = Ouiatenon Sandy Loam, 3% hydric
- RdB2 = Richardville Silt Loam, 0% Hydric
- SyF = Strawn-Rodman Complex, 0% hydric

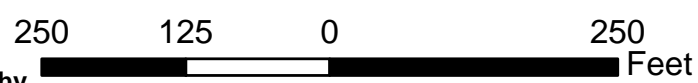
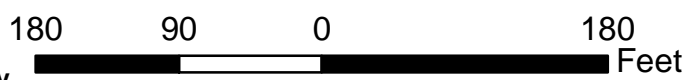


Photo Key Map
 SR 26, 4.98 Miles West of US 52/231
 Des. No. 1900333, Small Structure Replacement
 Tippecanoe County, Indiana



State of Indiana



Sources:
Non Orthophotography
 Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
 Map Projection: UTM Zone 16 N Map Datum: NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

INDIANA STATEWIDE AERIAL IMAGERY FLOWN 2016

Legend

- | | | | |
|--|--------------------------|--|--------------------|
| | Flow Direction | | Investigative Area |
| | Tributary | | Roadside Ditch |
| | Ordinary High Water Mark | | Culvert |
| | | | Data Point |

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 1—Goose Creek upstream and west project structure CV 026-079-28.10 , north view; 1 SEP 2021.



Picture 2— Goose Creek upstream and detached project culvert CV 026-079-28.10 piece; north view; 1 SEP 2021.



Picture 3—Goose Creek east project structure CV 026-079-28.10 ; north view; 1 SEP 2021.



Picture 4—Goose Creek west structure CV 026-079-28.10 ; north view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 5—Goose Creek upstream and project structure CV 026-079-28.10 ; north view; 1 SEP 2021.



Picture 6—Goose Creek downstream view from structure; south view; 1 SEP 2021.



Picture 7—East slope from Goose Creek; east view; 1 SEP 2021.



Picture 8—Goose Creek OHWM measurement; southeast view; 1 SEP 2021.

**OHWM : 40.445474; -87.024085
Width 16 feet; Depth 0.25 foot**

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 9—Goose Creek upstream; north view; 1 SEP 2021.



Picture 10—Goose Creek downstream; south view; 1 SEP 2021.



Picture 11—Goose Creek debris north of structure CV 026-079-28.10 inlet; southeast view; 14 SEP 2021. Note that steel beams have collected debris.



Picture 12—Goose Creek structure CV 026-079-28.10 inlet; southwest view; 1 SEP 2021. Note that culvert end pieces have detached.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 13—Goose Creek upstream including debris; north view; 1 SEP 2021.



Picture 14—Goose Creek upstream; north view; 1 SEP 2021.



Picture 15—Goose Creek downstream; south view; 1 SEP 2021.



Picture 16—Goose Creek downstream; south view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 17—Goose Creek slope ; west view; 1 SEP 2021.



Picture 18—UNT₁ to Goose Creek from Goose Creek; east view; 1 SEP 2021.



Picture 19—UNT₁ to Goose Creek at Goose Creek; west view; 1 SEP 2021.



Picture 20—UNT₁ to Goose Creek upstream; southeast view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 21—UNT₁ to Goose Creek upstream and OHWM location; southeast view; 1 SEP 2021.

OHWM : 40.446344; -87.023444

Width 2.0 feet; Depth 0.25 foot



Picture 22—UNT₁ to Goose Creek downstream; northwest view; 1 SEP 2021.



Picture 23—Goose Creek from UNT₂ to Goose Creek; southeast view; 14 SEP 2021.



Picture 24—Goose Creek from UNT₂ to Goose Creek ; northeast view; 14 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 25—UNT2 to Goose Creek from Goose Creek; west view; 14 SEP 2021.



Picture 26—UNT2 to Goose Creek upstream; northwest view; 14 SEP 2021.



Picture 27—UNT2 to Goose Creek upstream; west view; 14 SEP 2021.



Picture 28—UNT2 to Goose Creek downstream and OHWM location; east view; 14 SEP 2021.

**OHWM : 40.447003; -87.024476
Width 9.0 feet; Depth 0.75 foot**

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



**Picture 29 —UNT₂ to Goose Creek downstream;
southeast view; 14 SEP 2021.**



**Picture 30—UNT₂ to Goose Creek upstream—
bed and bank becomes obscure in this area;
northwest view; 14 SEP 2021.**



**Picture 31—Goose Creek from UNT₃ to Goose
Creek ; northeast view; 1 SEP 2021.**



**Picture 32—UNT₃ to Goose Creek from Goose
Creek; northwest view; 1 SEP 2021.**

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 33—UNT₃ to Goose Creek downstream—note that bed and bank structure begins to obscure; southeast view; 1 SEP 2021.



Picture 34—UNT₃ to Goose Creek upstream—note large shrubs (*Lonicera*) within bed; northwest view; 1 SEP 2021.



Picture 35—UNT₃ to Goose Creek downstream from end of bed and bank structure—note riprap; east view; 1 SEP 2021.



Picture 36—UNT₃ to Goose Creek end of bed and bank structure—note riprap; west view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 37—RSD1 at Goose Creek; northwest view; 1 SEP 2021.



Picture 38—RSD1 toward Goose Creek; southeast view; 1 SEP 2021.



Picture 39—RSD1 vegetated area; northwest view; 1 SEP 2021.



Picture 40—RSD1 sparsely vegetated area; southeast view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 41—RSD1 riprap area—note medium-sized tree (*Juglans*) in bed; southeast view; 1 SEP 2021.



Picture 42—RSD1 riprap area; southwest view; 1 SEP 2021.



Picture 43—RSD1 riprap from open area; northeast view; 1 SEP 2021.



Picture 44—RSD1 open area; northeast view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 45—RSD1 open area; southwest view; 1 SEP 2021.



Picture 46—RSD1 from SR 26; north view; 1 SEP 2021.



Picture 47—SR 26 roadside from RSD1 end ; southwest view; 1 SEP 2021.



Picture 48—SR 26 roadside northwest quadrant; southwest view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 49—SR 26 roadside northwest quadrant; northeast view; 1 SEP 2021.



Picture 50—Eroded area west of the Goose Creek structure CV 026-079-28.10 inlet. Erosion is extensive upslope to SR 26; southwest view; 1 SEP 2021.



Picture 51—Project center north of SR 26; north view; 1 SEP 2021.



Picture 52—Project center north of SR 26; northwest view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 53—SR 26 roadside northeast quadrant and drive; southeast view; 1 SEP 2021.



Picture 54—SR 26 roadside northeast quadrant; northwest view; 1 SEP 2021.



Picture 55—SR 26 roadside southeast quadrant; southeast view; 1 SEP 2021.



Picture 56—SR 26 roadside southeast quadrant; northwest view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 57—Project center south of SR 26; east view; 1 SEP 2021.



Picture 58—Project center south of SR 26; south view; 1 SEP 2021.



Picture 59—Project center south of SR 26; west view; 1 SEP 2021.



Picture 60—Project center north of SR 26; southeast view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 61—SR 26 roadside southwest quadrant; southwest view; 1 SEP 2021.



Picture 62—SR 26 roadside southwest quadrant; northeast view; 1 SEP 2021.



Picture 63—Southwest quadrant slope; north view; 1 SEP 2021.



Picture 64—Northwest quadrant slope; south view; 1 SEP 2021.

DES# 1900333 Waters of the U.S. Determination Report—Photo Log



Picture 65—UNT₃ to Goose Creek at the junction with Goose Creek; east view; 14 SEP 2022.



Picture 66—UNT₃ to Goose Creek OHHM location; east view; 14 SEP 2022.
OHWM : 40.445554 -87.024138
Width 2.0 feet; Depth 0.25 foot



Picture 67—UPL-1 data point; northwest view; 14 SEP 2022.



Picture 68—UPL-1 soil sample ; 14 SEP 2022.
40.446740 -87.024022

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: DES 1900333 - SR 26 City/County: Tippecanoe Sampling Date: 9-14-22
 Applicant/Owner: INDOT State: IN Sampling Point: UPL-1
 Investigator(s): Kirk Roth Section, Township, Range: Section 7, Township 23 N, Range 5 W
 Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Convex
 Slope (%): 1 Lat: 40.446740 Long: -87.024022 Datum: NAD83
 Soil Map Unit Name: Ouiatenon Loamy Sand NWI classification: PFO1A

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

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

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Site characteristics do not support wetland status.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Tilia americana</u>	<u>50</u>	Yes	FACU	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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20.0%</u> (A/B)																																
2. <u>Juglans nigra</u>	<u>20</u>	Yes	FACU																																	
3. <u>Platanus occidentalis</u>	<u>10</u>	No	FACW																																	
4. <u>Celtis occidentalis</u>	<u>10</u>	No	FAC																																	
5. <u>Amelanchier arborea</u>	<u>10</u>	No	FACU																																	
<u>100</u> =Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>10</u></td> <td>x 2 =</td> <td align="center"><u>20</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>30</u></td> <td>x 3 =</td> <td align="center"><u>90</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>125</u></td> <td>x 4 =</td> <td align="center"><u>500</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>40</u></td> <td>x 5 =</td> <td align="center"><u>200</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>205</u> (A)</td> <td></td> <td align="center"><u>810</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>3.95</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>10</u>	x 2 =	<u>20</u>	FAC species	<u>30</u>	x 3 =	<u>90</u>	FACU species	<u>125</u>	x 4 =	<u>500</u>	UPL species	<u>40</u>	x 5 =	<u>200</u>	Column Totals:	<u>205</u> (A)		<u>810</u> (B)	Prevalence Index = B/A = <u>3.95</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
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UPL species	<u>40</u>	x 5 =	<u>200</u>																																	
Column Totals:	<u>205</u> (A)		<u>810</u> (B)																																	
Prevalence Index = B/A = <u>3.95</u>																																				
Sapling/Shrub Stratum (Plot size: <u>15 feet</u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </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 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
1. <u>Lonicera maackii</u>	<u>40</u>	Yes	UPL																																	
2. <u>Smilax rotundifolia</u>	<u>10</u>	Yes	FAC																																	
3. <u> </u>																																				
4. <u> </u>																																				
<u>50</u> =Total Cover																																				
Herb Stratum (Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																																
1. <u>Asarum canadense</u>	<u>40</u>	Yes	FACU																																	
2. <u>Sanicula odorata</u>	<u>10</u>	No	FAC																																	
3. <u>Botrypus virginianus</u>	<u>5</u>	No	FACU																																	
4. <u> </u>																																				
5. <u> </u>																																				
6. <u> </u>																																				
7. <u> </u>																																				
8. <u> </u>																																				
9. <u> </u>																																				
<u>55</u> =Total Cover																																				
Woody Vine Stratum (Plot size: <u>30 feet</u>)																																				
1. <u> </u>																																				
2. <u> </u>																																				
<u> </u> =Total Cover																																				

Remarks: (Include photo numbers here or on a separate sheet.)
 Vegetation does not support dominant hydrophytic status.

SOIL

Sampling Point: UPL-1

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 3/3	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Dark Surface (S7) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | <input type="checkbox"/> Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
 Soil characteristics do not support hydric status.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
 No signs of wetland hydrology were observed.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 9/19/22

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Kirk Roth, 200 S. Meridian St, Ste 330, Indianapolis, IN 46225

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The project (DES No. 1900333) is on SR 26, 4.98 miles west of US 52/231 at structure CV 026-079-28.10. The project will include the construction of a single span reinforced concrete three-sided structure. A new access road, approximately 900 feet in length, will be constructed on the existing fill slopes of SR 26. Incidental work will include approximately 400 feet of asphalt replacement, milling and resurfacing to tie the new pavement into the existing. Scour protection (riprap on geotextiles) will be placed at the inlet, along the structure, and at the outlet. 0.65 acre of additional right-of-way is anticipated for this project. Construction is expected to begin in 2024 and last approximately 3 months. Water that passes through the structure will be maintained during construction with appropriate erosion and sediment control techniques.

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

State: Indiana County/parish/borough: Tippecanoe City: Montmorenci

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

Lat.: 40.44609 Long.: -87.02433

Universal Transverse Mercator: 16T 497936m E 4477271 m N

Name of nearest waterbody: Goose Creek

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

Office (Desk) Determination. Date:

Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH “MAY BE” SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource “may be” subject (i.e., Section 404 or Section 10/404)
Goose Creek	40.445474 +	-87.024085	701 l.f.	non-wetland waters	Section 404, non-wetland
UNT1 to Goose Creek	40.446344 +	-87.023444	265 l.f.	non-wetland waters	Section 404, non-wetland
UNT2 to Goose Creek	40.447003	-87.024476	349 l.f.	non-wetland waters	Section 404, non-wetland
UNT3 to Goose Creek	40.445554	-87.024138	373 l.f.	non-wetland waters	Section 404, non-wetland

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

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

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

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: Corradino, LLC
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report. Rationale: _____
- Data sheets prepared by the Corps: _____
- Corps navigable waters' study: _____
- U.S. Geological Survey Hydrologic Atlas: _____
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:20,000 Otterbein
- Natural Resources Conservation Service Soil Survey. Citation: NRCS Soil Survey - Tippecanoe County
- National wetlands inventory map(s). Cite name: USFWS-NWI V2 Wetland Mapping for SR 26, 4.98 Miles West of US 52/231
- State/local wetland inventory map(s): _____
- FEMA/FIRM maps: Tippecanoe County, Indiana
- 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Indiana Statewide Aerial Imagery, 2016
or Other (Name & Date): Corradino, LLC - September 1 & 14, 2021; September 14, 2022
- Previous determination(s). File no. and date of response letter: _____
- Other information (please specify): _____

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

Signature and date of
Regulatory staff member
completing PJD

Kirk Roth

Digitally signed by Kirk Roth
Date: 2022.09.19 08:31:16 -04'00'

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

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

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment

DNR #: ER-24365

Request Received: December 22, 2021

Requestor: The Corradino Group, Inc.
Zed Z Hott
200 South Meridian Street, Suite 330
Indianapolis, IN 46225

Project: SR 26 small structure replacement over Goose Creek, about 4.98 miles west of US 52/US 231; Des #1900333

County/Site info: Tippecanoe

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

Regulatory Assessment: This proposal will require the formal approval of our agency for construction in a floodway pursuant to the Flood Control Act (IC 14-28-1), unless it qualifies for a bridge exemption (see enclosure). Please include a copy of this letter with the permit application if the project does not meet the bridge exemption criteria.

Natural Heritage Database: The Natural Heritage Program's data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

Fish & Wildlife Comments: Avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. The following are recommendations that address potential impacts identified in the proposed project area:

1) Stream Crossing Design:

For purposes of maintaining fish and wildlife passage through a crossing structure, the Environmental Unit recommends bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culverts are better than narrow culverts, and culverts with shorter through lengths are better than culverts with longer through lengths. If box or pipe culverts are used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings must span the entire channel width (a minimum of 1.2 times the ordinary high water mark width). Crossings must maintain the natural stream substrate within the structure (natural stream substrate must be replaced in sumped box and pipe culverts up to the existing flowline). Scour protection at the inlet and outlet must not extend above the existing flowline elevation. Stream depth, channel width and water velocities in the crossing structure during low-flow conditions must approximate those in the natural stream channel.

The new, replacement, or rehabbed structure, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. Upgrading wildlife passage for replacement/rehabilitated structures is recommended whenever possible to improve wildlife/vehicle safety. White-tailed deer passage must be incorporated into all new structures where no structure previously existed. Minimum structure dimensions for

Attachments: A - Bridge Exemption Criteria

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment

white-tailed deer passage are 20 feet of width clearance (overall span of the structure) and 8 feet of height clearance measured from the OHWM. Bank lines must be restored within structures to allow for wildlife passage above the ordinary high water mark. All wildlife passage designs must include a smooth level pathway a minimum of 1-2 feet in width composed of natural substrate (soil, sand, gravel, etc.) or compacted aggregate fill over riprap (#2, #53, #73, etc.) tied into existing elevations both upstream and downstream.

There are a number of techniques and materials for incorporating wildlife passage into the design of a crossing structure if restoring bank lines is not an option. Coordination with the Regional Environmental Biologist to address wildlife passage issues before submitting a permit application, if required, is encouraged to avoid delays in the permitting process. The following links are good resources to consider in the design of stream crossing structures to maintain fish and wildlife passage:

<http://www.fs.fed.us/wildlifecrossings/library/>,
https://roadeology.ucdavis.edu/files/content/projects/DOT-FHWA_Wildlife_Crossing_Structures_Handbook.pdf, https://www.fs.fed.us/biology/nsaec/fishxing/aop_pdfs.html,
<https://www.fhwa.dot.gov/engineering/hydraulics/pubs/11008/hif11008.pdf>.

2) Bank Stabilization:

Some form of bank and/or streambed stabilization is almost always needed with the construction, repair, replacement, or modification of a stream channel or crossing structure. For streambank stabilization and erosion control, regrading to a stable slope (2:1 or shallower) and establishing native vegetation along the banks are typically the most effective techniques. A variety of methods to accomplish this include: planting plugs, whips, container stock, seeding, and live stakes. In addition to vegetation establishment, some additional level of bioengineered bank stabilization may be needed under certain circumstances (inability to regrade to a stable slope, flow velocities that exceed the limits of vegetation alone, etc.). Combining vegetation with any of the following bank stabilization methods can provide additional bank protection while not compromising benefits to fish, wildlife, and botanical resources: geotextiles (erosion control blankets and/or turf reinforcement mats that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles), vegetated geogrids or soil lifts, fiber rolls, glacial stone, or riprap. Information about bioengineering techniques can be found at the following link to a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization:

<http://directives.sc.egov.usda.gov/17553.wba>.

Riprap or other hard bank stabilization materials should be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM) with the exception of areas directly under bridges for instance. The banks above the OHWM should be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. For streambed stabilization or scour protection, riprap or other stabilization materials should not be placed in the active stream channel above the existing streambed or flowline elevation unless specifically designed and installed for grade control and aquatic organism passage. This is to prevent obstructions to the movement of aquatic organisms upstream and downstream.

3) Riparian Habitat:

We recommend a mitigation plan be developed (and submitted with the permit application, if required) for any unavoidable habitat impacts that will occur. The DNR's Habitat Mitigation Guidelines (and plant lists) can be found online at:
<http://iac.iga.in.gov/iac/20200527-IR-312200284NRA.xml.pdf>.

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment

Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, 1 inch to 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater (5:1 mitigation based on the number of large trees) or by using the 1:1 replacement ratio based on area depending on the type of habitat impacted (individual canopy tree removal in an urban streetscape or park-like environment versus removal of habitat supporting a tree canopy, woody understory, and herbaceous layer). Impacts under 0.10 acre in an urban area may still involve the replacement of large diameter trees but typically do not require any additional mitigation or additional plantings beyond seeding and stabilizing disturbed areas. There are exceptions for high quality habitat sites however.

It should be noted that impacts to non-wetland wooded habitat in excess of 5 acres could be subject to an increased mitigation ratio. Coordination with the Regional Environmental Biologist to address habitat impacts and mitigation before submitting a permit application, if required, is encouraged to avoid delays in the permitting process.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:

1. Revegetate all bare and disturbed areas that are not currently mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in currently mowed areas only. A native herbaceous seed mixture must include at least 5 species of grasses and sedges and 5 species of wildflowers.
2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
5. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds.
6. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
7. Do not use broken concrete as riprap.
8. Underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap.
9. Minimize the movement of resuspended bottom sediment from the immediate project area.
10. Do not deposit or allow demolition/construction materials or debris to fall or otherwise enter the waterway.
11. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
12. Seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch

THIS IS NOT A PERMIT

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment

on all other disturbed areas.

Contact Staff:

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife
Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.

Christie L. Stanifer

Date: January 21, 2022

Christie L. Stanifer
Environ. Coordinator
Division of Fish and Wildlife



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Indiana Ecological Services Field Office

620 South Walker Street

Bloomington, IN 47403-2121

Phone: (812) 334-4261 Fax: (812) 334-4273

<http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html>

In Reply Refer To:

March 10, 2022

Project code: 2022-0017452

Project Name: Des. No. 1900333, SR 26, 4.98 Miles West of US 52/231

Subject: Concurrence verification letter for the 'Des. No. 1900333, SR 26, 4.98 Miles West of US 52/231' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated March 10, 2022 to verify that the **Des. No. 1900333, SR 26, 4.98 Miles West of US 52/231** (Proposed Action) may rely on the concurrence provided in the February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, but is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*). Consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required.

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Proposed Action does not meet the criteria for a NLAA determination under the PBO. If we do not notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Proposed Action under the terms of the NLAA concurrence provided in the PBO. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances,

Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities: If your initial bridge/culvert or structure assessments failed to detect Indiana bats, but you later detect bats prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office. In these instances, potential incidental take of Indiana bats may be exempted provided that the take is reported to the Service.

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or Northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required. If the Proposed Action may affect any other federally-listed or proposed species, and/or any designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please contact this Service Office.

The following species may occur in your project area and **are not** covered by this determination:

- Monarch Butterfly *Danaus plexippus* Candidate
-

Project Description

The following project name and description was collected in IPaC as part of the endangered species review process.

Name

Des. No. 1900333, SR 26, 4.98 Miles West of US 52/231

Description

The project is located on SR 26 4.98 miles west of US 52/231 in Tippecanoe County, Indiana. 5 acres of trees will be cleared for this project. Dominant tree species include Eastern Sycamore (*Platanus occidentalis*), Black Walnut (*Juglans nigra*), Sugar Maple (*Acer saccharum*), Eastern Redbud (*Cercis canadensis*), American Basswood (*Tilia americana*), Flowering Dogwood (*Cornus florida*), and Eastern Redcedar (*Juniperus virginiana*). There is suitable summer habitat within the project area. The expected construction date for this project is Spring 2024 and last the entire construction season. A review of the USFWS GIS database for Indiana bat and Northern Long-eared bat roosting was conducted on May 27, 2021 by Crawfordsville District and states that no documented sites were found within 0.5 mile of the project area. No federally endangered species are within the 0.5 mile radius of the project. No bats were seen in the most recent Bridge Inspection Report, dated May 13, 2021. No permanent lighting will be installed and it is unknown whether temporary lighting will be needed, thus temporary lighting will be assumed.

The existing twin reinforced concrete boxes have an overall rating of 4 (poor condition) out of 9 (excellent condition). There is substantial debris build up at the inlet and scour has caused the end sections of the box to complete detach from the rest of the structure. Due to the severity of the deterioration of the existing structures, the proposed scope for this project is a small structure replacement with a bridge. The structure is under approximately 50 feet of fill and significant excavation (up to 70 feet deep) of the existing wooded sideslopes will be necessary to remove and replace the existing structures. To allow for future access to the inlet of the structure for inspection and debris removal, an access road will also be constructed as part of this project along the north side of SR 26.

Determination Key Result

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the threatened Northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

Qualification Interview

1. Is the project within the range of the Indiana bat^[1]?

[1] See [Indiana bat species profile](#)

Automatically answered

Yes

2. Is the project within the range of the Northern long-eared bat^[1]?

[1] See [Northern long-eared bat species profile](#)

Automatically answered

Yes

3. Which Federal Agency is the lead for the action?

A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction^[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

[1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces^[1]?

[1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum^[1]?

[1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

No

7. Is the project located **within** a karst area?

No

8. Is there *any* suitable^[1] summer habitat for Indiana Bat or NLEB **within** the project action area^[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the [national consultation FAQs](#).

Yes

9. Will the project remove *any* suitable summer habitat^[1] and/or remove/trim any existing trees **within** suitable summer habitat?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?
No

11. Have presence/probable absence (P/A) summer surveys^{[1][2]} been conducted^{[3][4]} **within** the suitable habitat located within your project action area?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

[3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

[4] Negative presence/probable absence survey results obtained using the [summer survey guidance](#) are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

No

12. Does the project include activities **within documented Indiana bat habitat**^{[1][2]}?

[1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry triangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

[2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

No

13. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors?

Yes

14. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors occur^[1]?

[1] Coordinate with the local Service Field Office for appropriate dates.

B) During the inactive season

15. Does the project include activities **within documented NLEB habitat**^{[1][2]}?

[1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry triangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

[2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

No

16. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

Yes

17. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

B) During the inactive season

18. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

Yes

19. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

No

20. Are *all* trees that are being removed clearly demarcated?
Yes
21. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?
No
22. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?
No
23. Does the project include slash pile burning?
No
24. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?
Yes
25. Is there *any* suitable habitat^[1] for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's current [summer survey guidance](#) for our current definitions of suitable habitat.

Yes

26. Has a bridge assessment^[1] been conducted **within** the last 24 months^[2] to determine if the bridge is being used by bats?

[1] See [User Guide Appendix D](#) for bridge/structure assessment guidance

[2] Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges that meet the physical characteristics described in the Programmatic Consultation, regardless of whether assessments have been conducted in the past. Due to the transitory nature of bat use, a negative result in one year does not guarantee that bats will not use that bridge/structure in subsequent years.

Yes

SUBMITTED DOCUMENTS

- CV 026_079_28.10 Culvert Replacement Insp_Rpt-2021-05-13.pdf <https://ipac.ecosphere.fws.gov/project/CN5PBNX5VNH7ZJTDUTY6E6FLDQ/projectDocuments/106692750>

27. Did the bridge assessment detect *any* signs of Indiana bats and/or NLEBs roosting in/under the bridge (bats, guano, etc.)^[1]?

[1] If bridge assessment detects signs of *any* species of bats, coordination with the local FWS office is needed to identify potential threatened or endangered bat species. Additional studies may be undertaken to try to identify which bat species may be utilizing the bridge prior to allowing *any* work to proceed.

Note: There is a small chance bridge assessments for bat occupancy do not detect bats. Should a small number of bats be observed roosting on a bridge just prior to or during construction, such that take is likely to occur or does occur in the form of harassment, injury or death, the PBO requires the action agency to report the take. Report all unanticipated take within 2 working days of the incident to the USFWS. Construction activities may continue without delay provided the take is reported to the USFWS and is limited to 5 bats per project.

No

28. Will the bridge removal, replacement, and/or maintenance activities include installing new or replacing existing **permanent** lighting?

No

29. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

No

30. Will the project involve the use of **temporary** lighting *during* the active season?

Yes

31. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?

Yes

32. Will the project install new or replace existing **permanent** lighting?

No

33. Does the project include percussives or other activities (**not including tree removal/trimming or bridge/structure work**) that will increase noise levels above existing traffic/background levels?

No

34. Are *all* project activities that are **not associated with** habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

Examples: lining roadways, unlighted signage, rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

Yes

35. Will the project raise the road profile **above the tree canopy**?

No

36. Are the project activities that are not associated with habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives consistent with a No Effect determination in this key?

Automatically answered

Yes, other project activities are limited to actions that DO NOT cause any additional stressors to the bat species as described in the BA/BO

37. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

Automatically answered

Yes, because the tree removal/trimming that occurs outside of the Indiana bat's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

38. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

Automatically answered

Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

39. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

Automatically answered

Yes, because the bridge has been assessed using the criteria documented in the BA and no signs of bats were detected

40. **General AMM 1**

Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

Yes

41. **Tree Removal AMM 1**

Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal^[1] in excess of what is required to implement the project safely?

Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

[1] The word “trees” as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS’ current summer survey guidance for our latest definitions of suitable habitat.

Yes

42. **Tree Removal AMM 3**

Can tree removal be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits)?

Yes

43. **Tree Removal AMM 4**

Can the project avoid cutting down/removal of *all* (1) **documented**^[1] Indiana bat or NLEB roosts^[2] (that are still suitable for roosting), (2) trees **within** 0.25 miles of roosts, and (3) documented foraging habitat any time of year?

[1] The word documented means habitat where bats have actually been captured and/or tracked.

[2] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

Yes

44. **Lighting AMM 1**

Will *all* **temporary** lighting be directed away from suitable habitat during the active season?

Yes

Project Questionnaire

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

Yes

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

No

3. How many acres^[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

[1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

0.45

4. Please describe the proposed bridge work:

The existing twin reinforced concrete boxes have an overall rating of 4 (poor condition) out of 9 (excellent condition). There is substantial debris build up at the inlet and scour has caused the end sections of the box to completely detach from the rest of the structure. Due to the severity of the deterioration of the existing structures, the proposed scope for this project is a small structure replacement with a bridge. The structure is under approximately 50 feet of fill and significant excavation (up to 70 feet deep) of the existing wooded sideslopes will be necessary to remove and replace the existing structures. To allow for future access to the inlet of the structure for inspection and debris removal, an access road will also be constructed as part of this project along the north side of SR 26.

5. Please state the timing of all proposed bridge work:

Spring 2024

6. Please enter the date of the bridge assessment:

May 13, 2021

Avoidance And Minimization Measures (AMMs)

This determination key result includes the commitment to implement the following Avoidance and Minimization Measures (AMMs):

TREE REMOVAL AMM 3

Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

TREE REMOVAL AMM 4

Do not remove **documented** Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or **documented** foraging habitat any time of year.

GENERAL AMM 1

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

TREE REMOVAL AMM 1

Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.

LIGHTING AMM 1

Direct temporary lighting away from suitable habitat during the active season.

TREE REMOVAL AMM 2

Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and **outside of documented** roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.

Determination Key Description: FHWA, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat

This key was last updated in IPaC on February 24, 2022. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's [February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects](#). The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPaC User Contact Information

Agency: Indiana Department of Transportation

Name: Benjamin Neild

Address: 41 W. 300 N.

City: Crawfordsville

State: IN

Zip: 47933

Email: bneild@indot.in.gov

Phone: 7653615259



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

In Reply Refer To:

November 02, 2022

Project Code: 2022-0017452

Project Name: Des. No. 1900333, SR 26, 4.98 Miles West of US 52/231

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

To Whom It May Concern:

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

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

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

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. This website contains step-by-step instructions which will help you

determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process. For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

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

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

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

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

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

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

Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

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

Attachment(s):

- Official Species List
 - Migratory Birds
 - Wetlands
-

Official Species List

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

This species list is provided by:

Indiana Ecological Services Field Office

620 South Walker Street
Bloomington, IN 47403-2121
(812) 334-4261

Project Summary

Project Code: 2022-0017452

Project Name: Des. No. 1900333, SR 26, 4.98 Miles West of US 52/231

Project Type: Bridge - Maintenance

Project Description: The project is located on SR 26 4.98 miles west of US 52/231 in Tippecanoe County, Indiana. 5 acres of trees will be cleared for this project. Dominant tree species include Eastern Sycamore (*Platanus occidentalis*), Black Walnut (*Juglans nigra*), Sugar Maple (*Acer saccharum*), Eastern Redbud (*Cercis canadensis*), American Basswood (*Tilia americana*), Flowering Dogwood (*Cornus florida*), and Eastern Redcedar (*Juniperus virginiana*). There is suitable summer habitat within the project area. The expected construction date for this project is Spring 2024 and last the entire construction season. A review of the USFWS GIS database for Indiana bat and Northern Long-eared bat roosting was conducted on May 27, 2021 by Crawfordsville District and states that no documented sites were found within 0.5 mile of the project area. No federally endangered species are within the 0.5 mile radius of the project. No bats were seen in the most recent Bridge Inspection Report, dated May 13, 2021. No permanent lighting will be installed and it is unknown whether temporary lighting will be needed, thus temporary lighting will be assumed.

The existing twin reinforced concrete boxes have an overall rating of 4 (poor condition) out of 9 (excellent condition). There is substantial debris build up at the inlet and scour has caused the end sections of the box to complete detach from the rest of the structure. Due to the severity of the deterioration of the existing structures, the proposed scope for this project is a small structure replacement with a bridge. The structure is under approximately 50 feet of fill and significant excavation (up to 70 feet deep) of the existing wooded sideslopes will be necessary to remove and replace the existing structures. To allow for future access to the inlet of the structure for inspection and debris removal, an access road will also be constructed as part of this project along the north side of SR 26.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.44603465,-87.02399110416003,14z>



Counties: Tippecanoe County, Indiana

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> ▪ Incidental take of the NLEB is not prohibited here. Federal agencies may consult using the 4(d) rule streamlined process. Transportation projects may consult using the programmatic process. See www.fws.gov/midwest/endangered/mammals/nleb/index.html Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

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

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

NAME	BREEDING SEASON
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Cerulean Warbler <i>Dendroica cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 21 to Jul 20
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Henslow's Sparrow <i>Ammodramus henslowii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

NAME	BREEDING SEASON
Upland Sandpiper <i>Bartramia longicauda</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9294	Breeds May 1 to Aug 31
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

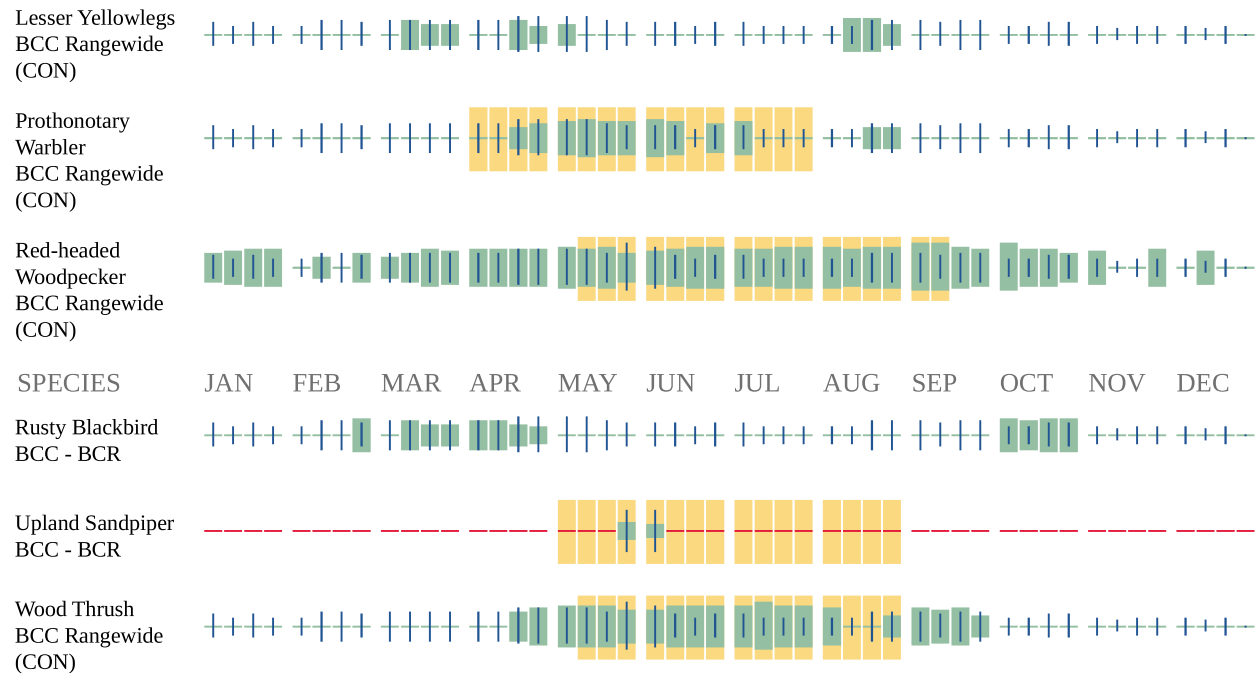
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
 2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
 3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).
-

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- [Riverine](#)
-

IPaC User Contact Information

Agency: Corradino LLC
Name: Rachel Pluckebaum
Address: 200 South Meridian Street Suite 330
City: Indianapolis
State: IN
Zip: 46225
Email: rpluckebaum@corradino.com
Phone: 3174882363

Lead Agency Contact Information

Lead Agency: Indiana Department of Transportation



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
 Room N642
 Indianapolis, Indiana 46204

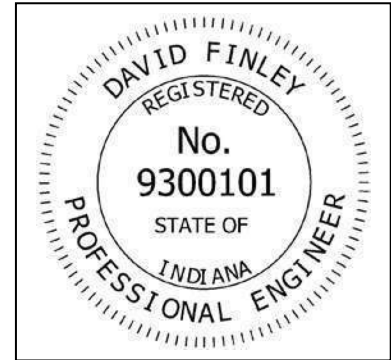
Eric Holcomb, Governor
Joe McGuinness, Commissioner

March 1, 2017

TO: Chris Wheeler, PE
 Bridge Asset Engineer

FROM: Vanessa McCauley, E.I.
 Hydraulics Engineer

THROUGH: David Finley, P.E.
 Hydraulics Engineer



SUBJECT: Hydraulic Review
 Status: Final Design
 Des. #: 1500096
 Str. #: 26-79-28.1
 County: Tippecanoe
 Location: SR 26, 0.47 miles East of SR 650W
 Crossing: Goose Creek

After the review of the above noted project, the proposed structure options have been approved. The tables below summarize the hydrologic and hydraulic parameters.

Site Parameters		
Drainage Area	5.21	sq mi
Q ₁₀₀ Discharge	1680	cfs
Q ₁₀₀ Water Surface Elevation	577.89	ft.
Legal Drain	No	
CIF Permit Needed	No	

Culvert Properties						
Parameter	Existing		Replacement 1		Replacement 2	
Structure	Twin 7'x7' RCB		22' x 9' concrete flat top sumped 18"		24' x 9' concrete arch top sumped 18"	
Road Overflow Area Below Q ₁₀₀ Elevation	No		No		No	
Waterway Area Below Q ₁₀₀	98	sq ft	162	sq ft	152	sq ft
Backwater	9.25	ft	2.16	ft	2.92	ft
Q ₁₀₀ Headwater Elevation	588.92	ft	581.83	ft	582.59	ft
Outlet Velocity	17.15	ft/s	10.37	ft/s	11.03	ft/s

The existing structures, twin 7 ft span by 7 ft rise reinforced concrete boxes, are in poor condition. The recommendation is to replace the structures with either a 22 ft span by 9 ft rise concrete flat top sumped 18 in or a 24 ft span by 9 ft rise concrete arch top sumped 18 in. Class 2 riprap should be placed at the outlet to protect the structure from scour. The above elevations are based on a flowline datum of 569.81 ft.

The designer needs to add a note to the plans stating, "Contractor shall verify the existing flowline elevation to set the appropriate sump depth." See technical advisory 13-04 for more details.

If you have any questions or comments, please contact me at (317) 233-2273.

VAM

Minor Projects PA Project Submittal and Assessment Form

SECTION 1

Submittal of this form is only required for projects where Category B applies. Projects qualifying under Category A do not require submittal of this form. SECTION 2 (for Conditions of Category B.1 for curb/sidewalk) or SECTION 3 (for Conditions of Category B.9 for drainage structures) may be required as determined by INDOT-Cultural Resources Office (INDOT-CRO) review. INDOT-CRO will notify applicant if the Minor Projects PA does not apply.

Part 1: Project Information-Completed by Applicant (Consultant/PM/Project Sponsor/INDOT District Staff)*

**A qualified professional historian (QP) is not required to complete Part I INDOT-Cultural Resources Office (INDOT-CRO) staff will be responsible for completion of Part II.*

Original Submission Date: July 6, 2022

Amended Submission Date*:

**Consult with INDOT-CRO to determine whether an amendment is required. For revisions/updates to original form, please detail in applicable sections below. Please use red font to distinguish the revisions/updates.*

Submitted By (Provide Name and Firm/Organization):

Candy Hudziak
Metric Environmental, LLC

Project Designation Number: 1900333

Route Number: State Road (SR) 26

Feature crossed (if applicable): Goose Creek

City/Township: Shelby Township

County: Tippecanoe County

Project Description:

The project is located approximately five miles west of United States 52/231 (US 52/231) on State Road (SR) 26 where it crosses Goose Creek in Shelby Township, Tippecanoe County, Indiana. The project involves the replacement of small structure No. CV 026-079-28.10 carrying Goose Creek beneath SR 26, to be replaced with a three-sided, single-span concrete structure. The project scope also includes resurfacing and widening of SR 26, construction of a twelve-foot-wide access road with shoulders, and installation of riprap and erosion control materials. The anticipated total project length is 0.057 mile.

The existing structures (No. CV 026-079-28.10) are two precast concrete-box culverts that were built in 1993. Most recently, the roadway within the project limits was milled to two inches and resurfaced in 2016. The existing cross section of SR 26 consists of one 12-foot-wide lane in each direction with 10-foot-wide shoulders on each side of the roadway.

The easternmost structure has experienced a loss of two box sections from the existing structure. The failed sections lie downstream nearly 20 feet and are embedded into the stream bed. There are no apparent issues present with the westernmost structure at the time of this report. Erosion of the roadway embankment is also present. At the north end, the end box sections have settled nearly 2 feet. Erosion of the roadway embankment is also present.

The downstream ends of the existing structures are being undermined by scour and have broken away from the main portion of the structure. The upstream end of the structure catches a significant amount of debris. Due to the structure being underneath approximately 60 feet of roadway fill, steep side slopes and poor access, it is difficult for the Crawfordsville District to maintain the structure and clear the built-up debris at the upstream end. Sections of the structure at the upstream end have also broken away from the main part of the structure.

Minor Projects PA Project Submittal and Assessment Form

The existing banks on the north and south side of SR 26 have developed gullies and rills resulting in the loss of embankment material. Significant loss of embankment can be seen around the ends of the inlet of the structures which may be largely due to stream action and granular fill.

INDOT Office of Hydraulics performed a hydraulic analysis of this location and found the existing structure to be hydraulically inadequate. Backwater of the existing condition is 9.25-feet, and the existing outlet velocity is 17.15-feet per second.

The purpose of this project is to address the structural deficiencies/segment separation of the existing box culverts, address the erosion/scour of the channel and embankments upstream and downstream. Additionally, the purpose of the project is to reduce the tendency of debris to collect upstream and downstream and to reduce the existing backwater to less than 3-feet to reduce upstream flooding and comply with INDOT's current hydraulic requirements. An access road will be constructed for ease of maintenance due to the steep decline to reach the two culverts.

Discussion with the Crawfordsville District was undertaken regarding the maintenance of traffic for this project. The shortest official detour route is approximately 45 miles in length. The route uses SR 26, SR 55, SR 352, US 52, and US 231 as these are the nearest state or federal route available in the area. A map of the proposed detour route is provided in Figure 3. Coordination with Tippecanoe County will be required for the local detour, however, the local detour is likely to be CR 750W, to CR 725 W to Baseline Road to CR 500W. The local detour is approximately 6.5 miles in length.

Proposed anticipated right-of-way includes 0.1 acre of temporary and 0.8 acre of permanent.

If the project includes any curb, curb ramp, or sidewalk work, please specify the location(s) of such work:

For bridge or small structure projects, please list feature crossed, structure number, NBI number, and structure type:

The structures (CV 026-079-28.10) are precast concrete box culverts below SR 26 conveying Goose Creek

For bridge projects, is the bridge included in INDOT's Historic Bridge Inventory (<https://www.in.gov/indot/2531.htm>)?

Yes No

If yes, did the inventory determine the bridge eligible for or listed in the National Register of Historic Places? Please provide page # of entry in Historic Bridge Inventory.

Yes No

Inventory Page # _____

Will there be right-of-way acquisition as part of this project?

Yes No

If yes was checked above, please check all that apply:

Permanent Temporary Reacquisition

If applicable, identify right-of-way acquisition locations in text below and in attached mapping. Please specify how much (both temporary and permanent) and indicate what activities are included in the proposed right-of-way:

0.1 acre of temporary and 0.8 acre of permanent

Minor Projects PA Project Submittal and Assessment Form

Is there any potential for additional temporary right-of-way to be needed later for purposes such as access, staging, etc.?
 Yes No

Archaeology (check one):

All proposed activities are presumed to occur in previously disturbed soils*

*INDOT-CRO will notify you if project area includes undisturbed soils and requires an archaeological reconnaissance.

Project takes place in undisturbed soils and the archaeology report is included in submission or will be forthcoming*

* If an archaeology report is required, the Minor Projects PA Form will not be finalized until the report is reviewed and approved by INDOT-CRO. For INDOT-sponsored projects, INDOT-CRO may be able to complete the archaeological investigation. If you would like to request that INDOT-CRO complete an archaeological investigation, please contact the INDOT-CRO archaeology team lead. See CRM Pt. 1 Ch. 3 for current contact information.

Please specify all applicable categories and condition(s) (highlight applicable conditions in yellow)*: **Include full category text, including any conditions. INDOT-CRO will finalize categories upon their review.*

B-6: Other minor actions if deemed appropriate for coverage under this MPPA, by consultation and mutual agreement between INDOT, FHWA, and the SHPO. The Tribes shall be provided information on all projects proposed to be cleared under this category for review prior to an agreement being signed between the agencies.

Check if SECTION 2: Minor Projects PA Category B-1, Condition B-ii Submission is included

Check if SECTION 3: Minor Projects PA Category B-9, Condition B-i-e-2 or B-ii-b-3 Submission is included

Part II: Completed by INDOT-CRO

Amendments will be shown in red font.

Information reviewed (please check all that apply):

General project location map USGS map Aerial photograph Soil survey data

General project area photos Archaeology Reports Historic Property Reports

Indiana Historic Buildings, Bridges, and Cemeteries Map/Interim Report

Bridge inspection information/BIAS Historic Bridge Inventory Database

SHARD SHARD GIS Streetview Imagery County GIS Data/Property Cards

Other (please specify):

Cochran, Donald R.
 1988 Archaeological Field Reconnaissance, Replacement of Portions of SR 26, Tippecanoe County, Indiana. Archaeological report (AR-79-00155) prepared for the Indiana Department of Highways by Archaeological Resources Management Service, Ball State University, Muncie, IN.

Minor Projects PA Project Submittal and Assessment Form

Are there any commitments associated with this project? If yes, please explain and include in the Additional Comments Section below. yes no

Does the project result in a de minimis impact to a Section 4(f) protected historic resource? If yes, please explain in the Additional Comments Section below. yes no

Additional Comments:

Above-ground Resources

An INDOT Cultural Resources Office (CRO) historian, who met the Secretary of the Interior’s Professional Qualification Standards as per 36 CFR Part 61, performed a desktop review, checking the Indiana Register of Historic Sites and Structures (State Register) and National Register of Historic Places (National Register) lists for Tippecanoe County. No listed resources are located immediately adjacent to the project area, a distance that serves as an adequate potential area of effects given the setting and scope of work.

The Indiana Historic Sites and Structures Inventory (IHSSI) and National Register information for Tippecanoe County are available in the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM). The *Tippecanoe County Interim Report* (1990; Shelby Township) of the IHSSI was also consulted. All sites were reviewed through the IHBBCM, which contains the most recently updated SHAARD information. No IHSSI documented resources are located immediately adjacent to the project area a.

According to the IHSSI rating system, generally properties rated "contributing" do not possess the level of historical or architectural significance necessary to be considered individually National Register-eligible, although they would contribute to a historic district. If they retain material integrity, properties rated “notable” might possess the necessary level of significance after further research. Properties rated “outstanding” usually possess the necessary level of significance to be considered National Register eligible if they retain material integrity.

The INDOT CRO historian reviewed structures adjacent to the project area utilizing online aerial, street-view photography, and the Tippecanoe County GIS website. The project area is located in a rural, wooded setting with agricultural fields nearby. The adjacent building stock is primarily mid-twentieth to early twenty-first century residential buildings. None of the structures appear to possess the historic significance or material integrity required to be considered NRHP-eligible. Both sides of the project area are bordered by thickets of trees and vegetation. The new access road will be screened by the trees and vegetation adding another layer of protection from any potential impacts.

The most recent inspection report (J. Gould; 5/10/2022) from the Bridge Inspection Application System (BIAS) was referenced to review the culvert. The subject structure (CV 026-079-28.10) carries SR 26 over Goose Creek and consists of twin four-sided concrete box culverts that are each approximately 35 feet long and 7 feet wide. Both structures were constructed in 1993. The project proposes to replace the structure with a 291-foot single span three-sided concrete box culvert with a twenty-foot span. Examination of online street view photography and BIAS images show the subject structure does not exhibit non-modern wood, stone, or brick structures or parts therein. In addition, the structure lacks a context that would suggest that it might have engineering or historical significance.

Based on the available information, as summarized above, no above-ground concerns exist.

Archaeological Resources

An INDOT-CRO archaeologist who meets the Secretary of the Interior’s Professional Qualification Standards as per 36 CFR Part 61, reviewed the archaeology report submitted by Metric Environmental, LLC on behalf of Corradino, LLC on July 11, 2022.

Minor Projects PA Project Submittal and Assessment Form

An archaeological records check and Phase 1a reconnaissance survey were conducted by Metric LLC (Snell 2022). The records check found that the east side of the project had been previously surveyed by Cochran in 1988 for archaeological resources (Cochran 1988). A total of 10 archaeological sites were recorded, one of which was located within the current project area (12T745). Due to the age of the survey and because it did not comply with current DHPA standards, the previous survey area was resurveyed by Snell. A 10.6-acre survey was examined through the excavation of 28 shovel probes, and a visual inspection of disturbed areas and/or those locations with a slope of greater than 20%. No new evidence of archaeological deposits was identified by the field reconnaissance, nor was site 12T745 relocated, which is believed to be destroyed by the relocation of SR 26. It is our opinion that the report is acceptable, and we concur with the evaluation and recommendations made by Metric Environmental, LLC (Snell 2022). Therefore, there are no archaeological concerns as long as the scope of the project does not change.

Accidental Discovery: If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, construction within 100 feet of the discovery will be stopped, and INDOT-CRO and the Division of Natural Resources-Division of Historic Preservation and Archaeology (DNR-DHPA) will be notified immediately.

INDOT-CRO staff reviewer(s): John Baeten and Clint Kelly

INDOT Approval Date: 8/3/2022

Amendment Approval Date (if applicable):

****Be sure to attach this form to the National Environmental Policy Act documentation for this project. Also, the NEPA documentation shall reference and include the description of the specific stipulation in the PA that qualifies the project as exempt from further Section 106 review.*

Signatures for concurrence that the project falls under B-6 of the Minor Projects PA:

SHPO:

Chad W. Slider		09/23/22
Printed Name	Signature	Date

FHWA:

Karstin Carmany-George	KARSTIN MARIE CARMANY- GEORGE 	9/27/22
Printed Name	Signature	Date

Digitally signed by KARSTIN MARIE CARMANY-GEORGE
Date: 2022.09.27 13:06:04 -04'00'

INDOT:

Matthew S. Coon		8/23/2022
Printed Name	Signature	Date

****Be sure to attach this form to the National Environmental Policy Act documentation for this project. Also, the NEPA documentation shall reference and include the description of the specific stipulation in the PA that qualifies the project as exempt from further Section 106 review.*

Minor Projects PA Project Submittal and Assessment Form

Please attach the following to this form:

- **General Location Map.** This map should allow the INDOT-CRO reviewer to quickly locate the project.
- **Aerial photography map(s) of project area.** This map must include project limits. It may also include SHAARD data, but SHAARD data is not required.
- **If bridge or small structure project, please attach photographs of bridge or small structure.** Photographs can be found in inspection reports located in INDOT's Bridge Inspection Application System (BIAS), as well as other project documents, such as engineering assessments or mini-scopes.

Map depicting potential temporary and/or permanent right-of-way acquisitions. In the email submission to INDOT-CRO, please also include:

- **A GIS polygon shapefile or KMZ file of the project area** (shapefiles are preferred). Shapefiles should use "NAD_1983_UTM" projected coordinate system. In addition, these files should contain the following *text* attribute field: DES_NO. The project designation number should be entered in this field.
- **If the project takes place in undisturbed soils, attach the results of the archaeological investigation, if completed.** *Note: The MPPA Submission Form may be submitted before the archaeology report. INDOT-CRO staff will process the above-ground portion of the form in advance of the archaeological portion of the form. However, a completed determination form will not be returned to the applicant until after the archaeology report has been reviewed and approved by INDOT-CRO.*