

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army (DA) Environmental Assessment and Statement of Finding for Above-Numbered Permit Application

This document constitutes the Environmental Assessment, 404(b)(1) Guidelines Evaluation, Public Interest Review, and Statement of Findings.

1. Application as described in the public notice.

APPLICANT: Indiana Department of Transportation

WATERWAY & LOCATION: North Fork Jordan Creek, its tributaries, and adjacent wetlands in Owen County, Indiana.

LATITUDE & LONGITUDE: Latitude: 39.4480
Longitude: -86.9286

PROJECT PURPOSE: Improve the structural integrity, hydraulic capacity, and safety for motorists traveling across three deteriorated bridges.

Water Dependency Determination: The replacement of stream crossings is a water dependent activity. A crossing, by its very nature, is required to be in proximity to or sited within the streams and associated wetlands it is crossing.

PROPOSED WORK: The applicant proposes the replacement of three deteriorated structures on State Road 42 to meet current hydraulic and safety standards. A bridge at North Fork Jordan Creek would be replaced and widened 12.5 feet, and riprap scour protection would be placed below the ordinary high water mark (OHWM) for 125 linear feet (lf), including the length of the new bridge. Due to the close proximity of a jurisdictional roadside ditch (RSD2) to the bridge replacement, 275 lf of RSD2 would be relocated 8.2 feet to the north of its existing location, and 56.25 lf of the ditch would be lined with riprap to prevent erosion at its mouth to North Fork Jordan Creek. Fill material would be discharged into 2 adjacent wetlands (H, I) totaling 0.09 acre. A structure at an unnamed tributary of North Fork Jordan Creek (UNT 1) would be replaced and widened 10 feet, and riprap scour protection would be placed below the OHWM for 133.3 lf, including the length of the new bridge. Due to the close proximity of a jurisdictional roadside ditch (RSD1), 550 lf of RSD1 would be relocated an average of 12 feet to the south of its existing location. Fill material would be discharged into 2 adjacent wetlands (C,G) totaling 0.4 acre. A triple-pipe culvert at a second unnamed tributary to North Fork Jordan Creek (UNT 2) would be replaced with a new box structure 22.4 feet longer than the existing pipes. The structure would be skewed 30 degrees to match the channel, resulting in the relocation and encapsulation of a total of 172.4 linear feet of permanent impact. Riprap scour protection and bank stabilization would be placed below the OHWM for 61 lf. Immediately downstream from the proposed culvert replacement on State Road 42, a driveway culvert would be removed and the stream channel restored to natural conditions. Fill material would be discharged into 3 adjacent wetlands (A, B, D) totaling 0.43 acre. All three structure replacements would utilize a temporary sandbag dike and pump around system to dewater the construction sites and prevent downstream sedimentation. At North Fork Jordan Creek, temporary fill would be required within Wetland K to stage the dewatering equipment. All temporary fill material in waters of the United States (totaling 0.1 acre within waters of the U.S.) would be removed and the sites restored and stabilized upon completion of the project.

Avoidance and Minimization Information: The applicant has avoided impacts to over 0.5 acre of Waters of the United States by redesigning the structure replacements to meet minimum safety standards rather than the desirable design standards. The design was further refined to minimize impacts to the jurisdictional roadside ditches by utilizing natural stabilization methods instead of riprap, and wetland impacts were minimized by reducing construction limits.

Compensatory Mitigation: Proposed mitigation for unavoidable impacts is located on-site and off-site. The on-site stream mitigation for relocation of RSD1 and RSD2 involves creation of new, stabilized channels planted with native herbaceous vegetation for a total length of 809 lf. The proposed off-site mitigation is located on adjacent private property near the center of the project area. Wetland mitigation involves creation of 0.6 acre emergent, 0.5 acre scrub-shrub, and 0.5 acre forested wetland and enhancement of 1.5 acres of existing emergent wetland. Off-site stream mitigation involves creation of a 50 foot wide forested riparian buffer on the south side of an unnamed tributary to North Fork Jordan Creek (upstream segment of UNT1) for a length of 870 lf. The mitigation areas would be protected in perpetuity with a land-use restriction.

EXISTING CONDITIONS: The project site is located in Owen County along State Road 42 east of the town of Poland, Indiana. Crossing 1 has a narrow riparian corridor and a jurisdictional ditch to the north that transports water from the surrounding fields and wetlands to North Fork Jordan Creek. The downstream end of Crossing 1 is surrounded by agricultural pasture and cropland. Wetlands are present in this area due to the lack of drainage appurtenances such as field tile or roadside ditches.

The north side of Crossing 2 is located in abandoned pasture and emergent wetland, directly adjacent to a private drive. The channel has been historically modified (channelization and riprap stabilization) to prevent erosion of the drive and direct the stream under the highway. The downstream end of the crossing is mostly agricultural (crop) with a narrow shrub corridor on the east side of the channel.

The north side of Crossing 3 is predominantly agricultural (crop and pasture) and emergent wetland. The downstream end of the crossing is scrub-shrub wetland and residential. The stream flows under a private drive and continues through wet pasture.

2. Authority.

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403).
 Section 404 of the Clean Water Act (33 U.S.C. §1344).
 Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

3. Scope of Analysis.

a. NEPA. *(Write an explanation of rationale in each section, as appropriate)*

(1) Factors.

- (i) Whether or not the regulated activity comprises "merely a link" in a corridor type project.

The proposed project is a single and complete project and it not associated with a corridor type project.

- (ii) Whether there are aspects of the upland facility in the immediate vicinity of the

regulated activity which affect the location and configuration of the regulated activity.

The alignment of the highway in the immediate vicinity of the proposed bridge replacements does affect the location and configuration of the crossings. The proposed approach configurations in the immediate vicinity of the regulated activity were designed to avoid and minimize impacts to "waters of the U.S." to the greatest extent possible.

- (iii) The extent to which the entire project will be within the Corps jurisdiction.

The entire project is within the Corps jurisdiction as the only aspect of the project is to discharge fill into regulated waters.

- (iv) The extent of cumulative Federal control and responsibility.

The federal control and responsibility for this project is for the Corps review of the project and verification that the project complies with the 404 (b)(1) guidelines.

- (2) Determined scope.

- Only within the footprint of the regulated activity within the delineated waters.
 Over entire property. *Explain.*

b. NHPA "Permit Area".

- (1) Tests. Activities outside the waters of the United States are/are not included because all of the following tests are/are not satisfied: Such activity would/would not occur but for the authorization of the work or structures within the waters of the United States; Such activity is/is not integrally related to the work or structures to be authorized within waters of the United States (or, conversely, the work or structures to be authorized must be essential to the completeness of the overall project or program); and Such activity is/is not directly associated (first order impact) with the work or structures to be authorized. *Explain.* The location and configuration of some of the activities that would occur outside the "waters of the U.S." would be determined by the location and configuration of one of the stream crossings. As a result, these activities would meet all three tests; and therefore, they are considered in the NHPA "Permit Area."
- (2) Determined scope. *Describe.* The portion of the Right of Way (ROW) immediately adjacent to the crossing that encompasses the approaches of the crossing is within the Corps' NHPA "Permit Area."

c. ESA "Action Area".

- (1) Action area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.
- (2) Determined scope. *Describe.* Impacts within a 100-foot buffer around the project area (from Crossing 1 to Crossing 3) were considered in the ESA "Action Area."

d. Public notice comments. NA

- (1) The public also provided comments at public hearing, public meeting, and/or *Explain.*
- (2) Commenters and issues raised.

Name	Issue
U.S. Fish and Wildlife Service	In a letter dated June 30, 2011, and electronic correspondence dated December 2, 2011, USFWS stated the proposed project is not likely to adversely affect the Indiana Bat (<i>Myotis sodalis</i>) due to lack of suitable habitat in the project area.
DNR, Division of Fish and Wildlife	In electronic correspondence dated November 21, 2011, the DNR indicated the project meets the bridge exemption under the Flood Control Act and does not require formal approval from their department.
Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology	In letters dated May 3, 2006, and December 19, 2011, the SHPO concurred with the FHWA finding of No Historic Properties Affected for the project area and proposed mitigation site.

- (3) Site was/ was not visited by the Corps to obtain information in addition to delineating jurisdiction. A site visit was conducted on April 28, 2011, by Corps staff and the applicant. In general, each crossing is located in areas dominated by agricultural pasture and crop lands with a few residential properties situated outside the project limits at higher elevations. Much of the pasture land has been abandoned and has converted to mostly scrub-shrub and emergent wetland. The streams have been historically manipulated and are susceptible to increased erosion due to the soil types. The proposed mitigation site was also inspected during this site visit. The property is located upstream from Crossing 2 and consists of recently abandoned cattle pasture. There is a slight elevation rise traveling north from the stream (UNT 2) to the northern forested boundary. At approximately the central area of the site, a poor quality, 1.5-acre emergent wetland would be enhanced as part of the proposal. The rest of the pasture would be developed into a variety of wetland types, and a forested riparian corridor would be created along both banks of the stream. The tributary is perennial and would provide a direct hydrologic connection to the proposed wetland mitigation. Additionally, the stream exhibits signs of severe bank erosion due to excessive grazing by cattle and has near-vertical banks. Replacement of riparian vegetation may reduce bank erosion, create habitat, and provide a habitat corridor between the forested areas to the north and east and the tributary.
- (4) Issues identified by the Corps. *Describe.* No issues were identified.
- (5) Issues/comments forwarded to the applicant. NA/ Yes.

- (6) Applicant replied/provided views. NA/ Yes. Applicant received a copy or had already received all correspondence from agencies.
- (7) The following comments are not discussed further in this document as they are outside the Corps purview. NA/ Yes *Explain.*

4. Alternatives Analysis.

a. Basic and Overall Project Purpose (as stated by applicant and independent definition by Corps).

- Same as Project Purpose in Paragraph 1.
- Revised: *Insert revised project purpose here and explain why it was revised.*

b. Water Dependency Determination:

- Same as in Paragraph 1.
- Revised: *Insert revised water dependency determination here if it has changed due to changing project purpose or new information.*

c. Applicant preferred alternative site and site configuration.

- Same as Project Description in Paragraph 1.
- Revised: *Explain any difference from Paragraph 1*

Criteria. Activities were evaluated based on their ability to meet the purpose and need of the project, impacts on aquatic resources, impacts on other environmental resources, and practicability.

Issue	Measurement and/or constraint
Wetland Impact	Acres of impact
Stream Impact	Linear feet of impact
Impacts to other sensitive environmental resources	The extent of unavoidable impacts to these resources
Floodplains	Acres of impact
Purpose and Need	Whether the purpose and need are satisfied

d. Off-site locations and configuration(s) for each. (e.g. alternatives located on property not currently owned by the applicant are not practicable under the Section 404(b)(1) Guidelines as this project is the construction or expansion of a single family home and attendant features, such as a driveway, garage, storage shed, or septic field; or the construction or expansion of a barn or other farm building; or the expansion of a small business facility; and involves discharges of dredged or fill material less than two acres into jurisdictional wetlands.)

Off-site locations and configurations

Description	Comparison to criteria
Relocating State Road 42 to new location/alignment.	This is the only available offsite alternative; however it is neither practicable nor feasible and is discussed under paragraph "h" of this section.

e. NA) Site selected for further analysis and why.

f. On-site configurations.

Description	Comparison to criteria
Rehabilitate existing bridges to INDOT minimum design criteria.	Crossing 1: This alternative would require extensive work on most features of the existing bridge to extend the service life 35 years (versus 100 years for full replacement), and it would cost nearly the same amount of money to rehabilitate as to replace. This alternative does not meet the stated need to increase hydraulic capacity of the bridge and is not the most economical solution for the applicant.
	Crossing 2: This alternative would require complete replacement of the bridges due to their advanced rate of deterioration and inability to rehabilitate major supporting features.
	Crossing 3: This alternative would involve installation of 3 slip liners, thereby exacerbating the hydraulic inadequacy of the pipes. Additionally, this alternative is more expensive than replacement and is less desirable due to the tendency for multiple pipe structures to clog with debris and prevent movement of aquatic fauna.
Replace existing bridges to INDOT desirable criteria.	All Crossings: This alternative would widen the bridges and the road throughout the project area for a total cross sectional width of 101 feet. While this would provide increased safety appurtenances for drivers, there is insufficient daily traffic, crash history, and traffic capacity issues to justify widening the cross sections to more than the minimum standard. This alternative would also greatly increase impacts to streams, wetlands, and private property.
Replace existing bridges to INDOT minimum criteria.	This alternative would meet the stated need while minimizing impacts to streams, wetlands, and private property.

g. Other alternatives not requiring a permit, including No Action.

Description	Comparison to criteria
No Action	This alternative would not have any impacts on open water or other aquatic resources; however, the bridges would continue to deteriorate at an accelerating rate to the point of failure, causing disruption of traffic and loss of access to residential property. This alternative does not meet the applicant's stated purpose and need.

h. Alternatives not practicable or reasonable. *Describe/explain*

Relocating State Road 42 to a new alignment is neither practicable nor feasible due to the increased costs and impacts to the environment and residents in the region.

i. Least environmentally damaging practicable alternative. *Describe/explain*

The Corps has reviewed the information on alternatives contained in the permit application and supporting documentation, and for the reasons stated in d, e, f, and h above have determined that the proposed project, replacement of the bridges to minimum INDOT design criteria, is the least damaging practicable alternative.

5. Evaluation of the 404(b)(1) Guidelines. (NA)

a. Factual determinations.

<p>Physical Substrate.</p> <p><input type="checkbox"/> See Existing Conditions, paragraph 1</p> <p><input checked="" type="checkbox"/> The proposed project would result in direct impact to substrate as fresh concrete, riprap, and earthen material would be placed in the North Fork Jordan Creek, its two unnamed tributaries, and their adjacent wetlands. Each crossing consists primarily of silt and sand, and it is not anticipated that the proposed project would permanently change the substrate due to the minimal scope of the project. The earthen fill material would comply with INDOT's 2010 Standard Specifications, which require borrow material to be "free of substances that will form deleterious deposits, or produce toxic concentrations or combinations that may be harmful to human, animal, plant or aquatic life, or otherwise impair the designation uses of the stream or area."</p>
<p>Water circulation, fluctuation, and salinity.</p> <p><input checked="" type="checkbox"/> Addressed in the Water Quality Certification.</p> <p><input type="checkbox"/></p>
<p>Suspended particulate/turbidity.</p> <p><input checked="" type="checkbox"/> Turbidity controls in Water Quality Certification.</p> <p><input type="checkbox"/></p>
<p>Contaminant availability.</p> <p><input checked="" type="checkbox"/> General Condition requires clean fill.</p> <p><input type="checkbox"/></p>
<p>Aquatic ecosystem and organism.</p> <p><input checked="" type="checkbox"/> Wetland/wildlife evaluations, paragraphs 5, 6, 7 & 8.</p> <p><input type="checkbox"/></p>
<p>Proposed disposal site.</p> <p><input checked="" type="checkbox"/> Public interest, paragraph 7.</p> <p><input type="checkbox"/></p>
<p>Cumulative effects on the aquatic ecosystem.</p> <p><input checked="" type="checkbox"/> See Paragraph 7.e.</p> <p><input type="checkbox"/></p>
<p>Secondary effects on the aquatic ecosystem.</p> <p><input checked="" type="checkbox"/> See Paragraph 7.e.</p> <p><input type="checkbox"/></p>

b. Restrictions on discharges (230.10).

- (1) It has/has not been demonstrated in paragraph 5 that there are no practicable nor less damaging alternatives, which could satisfy the project's basic purpose. The activity is/is not located in a special aquatic site (wetlands, sanctuaries, and refuges, mudflats, vegetated shallows, coral reefs, riffle & pool complexes). The activity does/does not need to be located in a special aquatic site to fulfill its basic purpose.
- (2) The proposed activity does/does not violate applicable State water quality standards or Section 307 prohibitions or effluent standards (based on information from the certifying agency that the Corps could proceed with a provisional determination). The proposed activity does/does not jeopardize the continued existence of federally listed threatened or endangered species or affects their critical habitat. The proposed activity does/does not violate the requirements of a federally designate marine sanctuary.

- (3) The activity will/ will not cause or contribute to significant degradation of waters of the United States, including adverse effects on human health; life stages of aquatic organisms, ecosystem diversity, productivity and stability; and recreation, esthetic, and economic values.
 - (4) Appropriate and practicable steps have/ have not been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (see Paragraph 8 for description of mitigative actions).
6. Public Interest Review: All public interest factors have been reviewed as summarized here. Both cumulative and secondary impacts on the public interest were considered. Public interest factors that have had additional information relevant to the decision are discussed in number 7.

				+ Beneficial effect
				0 Negligible effect
				- Adverse effect
				M Neutral as result of mitigative action
+	0	-	M	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Conservation.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Economics.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Aesthetics.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	General environmental concerns.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Wetlands.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Historic properties.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fish and wildlife values
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flood hazards.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Floodplain values.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Land use.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Navigation.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shore erosion and accretion.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Recreation.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water supply and conservation.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Water quality.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Energy needs.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Safety.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Food and fiber production.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mineral needs.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Considerations of property ownership.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Needs and welfare of the people.

7. Effects, policies and other laws.

a. NA

Public Interest Factors. (add factors that are relevant to specific project that you checked in number 6 above and add a discussion of that factor)

Factor	Discussion
Conservation	This is not a factor associated with this activity.

Economics	This is not a factor associated with this activity.
Aesthetics	<p>Temporary impacts include the sighting of construction equipment and the clearing of areas to construct the crossings. These would be mitigated by limiting clearing of vegetation to the construction limits and quick re-vegetation upon completion of construction.</p> <p>The effect on aesthetics is generally considered to be a matter of personal preference. However, the net effect is expected to be negligible.</p>
General Environmental Concern	This is not a factor associated with this activity.
Wetlands	<p>The proposed replacement of the three crossings would result in fill material being discharged into 0.9 acres of emergent wetlands and 0.03 acres of forested wetlands. The existing wetlands' functions are to provide surface water storage for precipitation, overland flow, and flood water. The wetlands would also be expected to provide functions relating to nutrient transformations and processing, biomass accumulation, decomposition, and habitat for wildlife.</p> <p>Compensation for wetland impacts would be provided through wetland creation and enhancement at a nearby offsite location adjacent to UNT 1 upstream from Crossing 2. The mitigation site would include creation of 0.6 acre of emergent, 0.5 acre of scrub-shrub, and 0.5 acre of forested wetland and enhancement of 1.5 acres emergent wetland.</p>
Historic Properties	There are no known historic buildings, structures, districts, objects, or archaeological resources listed in or eligible for inclusion in the National Register of Historic Places within the project's Area of Potential Effect.
Fish and Wildlife Values	The three crossings are located in predominantly agricultural areas with low wildlife habitat value whose substrates consist of silt and sand. The north side of Crossing 1 has a narrow, wooded riparian corridor that may provide habitat for fish, avifauna, reptiles, rodents and other small mammals, and large mammals such as deer. The bridge replacements and construction footprint have been designed to minimize impacts to these streams and aquatic habitat.
Flood Hazards	The proposed project would entail replacement of three hydraulically inadequate and undersized bridges with bridges that meet current design criteria to withstand 100-year storm events. The proposed project would reduce localized flooding by eliminating "bottlenecks" in the streams and increasing drainage during rain events.
Floodplain Values	This is not a factor associated with this activity as the nearest mapped floodplain is located south of the project area.
Land use	This is not a factor associated with this activity since there will be no permanent conversion of use on surrounding property.
Navigation	This is not a factor associated with this activity.
Shore erosion and accretion	This is not a factor associated with this activity.

Recreation	This is not a factor associated with this activity.
Water Supply and Conservation	The proposed project would not adversely impact any public or private drinking water wells as there are no known wells in the project area or immediate vicinity.
Water Quality	During construction, fill material would be placed in wetlands at each crossing. Since these waters would be eliminated as a result of the proposed project, water quality impacts would be considered long-term adverse impacts without mitigation. The applicant has proposed mitigation for wetland impacts through wetland creation and enhancement at an off-site location. Water quality impacts to streams would be limited to the construction period and would be considered temporary. Best management practices would be utilized to stabilize the fill and minimize water quality impacts to the streams.
Energy Needs	The proposed project would result in a temporary increase in energy consumption due to construction activities and the need to divert through traffic to another route. These impacts would be short-term and would be at a level commensurate with other construction activities of this type.
Safety	The proposed project would increase safety for motorists traveling through this segment of State Road 42 by replacing structures that are in poor condition and installing traffic barriers at each crossing to prevent motorists from driving off the bridges.
Food and Fiber Production	The proposed project would have no impact on food and fiber production.
Mineral Needs	The project would have no impacts on mineral needs.
Consideration of Property Owners	Due to the reduction of project scope and overall footprint, the state would purchase less permanent right-of-way from adjacent owners than originally planned. It is anticipated that minimal temporary disturbance to landowners may occur during construction in order to rebuild private drives along the highway. The adjoining property owners were mailed a copy of the public notice to provide an opportunity for comment. No comments were received. Adjoining property owners should not be adversely affected by the proposed bridge replacement.
Needs and welfare of the people	The public and private need for the proposed project is to increase safety for motorists driving through the area and reduce instances of flooding over the highway by increasing the hydraulic capacity of each crossing.

b. Endangered Species Act. NA

The proposed project:

(1) Will not affect these threatened or endangered species:

Any/ . Explain.

(2) May affect, but is not likely to adversely affect:

Species: Indiana bat (*Myotis sodalis*). Explain. In a letter dated June 30, 2011, and electronic correspondence dated December 2, 2011, USFWS stated the proposed project is

not likely to adversely affect the Indiana Bat (*Myotis sodalis*) due to lack of suitable habitat within the project area.

(3) Will/ Will not adversely modify designated critical habitat for the .

Explain.

(4) Is/ Is not likely to jeopardize the continued existence of the . *Explain.*

(5) The Services concurred/ provided a Biological Opinion(s). *Explain.*

c. Essential Fish Habitat. Adverse impacts to Essential Fish Habitat will/ will not result from the proposed project. *Explain.* There is no Essential Fish Habitat within the project area.

d. Historic Properties. The proposed project will/ will not have any affect on any sites listed, or eligible for listing, in the National Register of Historic Places, or otherwise of national, state, or local significance based on letter from SHPO/. *Explain.* In letters dated May 3, 2006, and December 19, 2011, the SHPO concurred with the FHWA finding of No Historic Properties Affected for the project area and proposed mitigation site.

e. Cumulative & Secondary Impacts. The geographic area for this assessment is the Lower Eel watershed.

(1) Baseline. (from Indiana Rapid Watershed Assessments <http://www.in.gov/isda/2348.htm>) Approximately 1.16% of the Lower Eel watershed area is wetland. This watershed has approximately 840.72 miles of stream of which 530.23 miles are first order, 133.26 are second order, 97.3 miles are third order, 14.78 miles are fourth order, and 52.52 miles are fifth order. There are no streams that are sixth order or higher within the Lower Eel watershed. The stream order for 12.63 miles is not available.

A search of the Corps database and project files was conducted for projects within 2 miles of the proposed project. The search was limited to a 2 mile radius because impacts from the proposed project would be negligible beyond this area. The search revealed that no Corps authorizations have been issued in the study area. Since there is missing information in both the database and project files, there may have been more impacts than those quantified above.

(2) Context. The proposed project is typical of / a precedent / very large compared to / other activities in the watershed. The surrounding area is primarily agriculture lands. Using the land for agriculture is anticipated to continue into the foreseeable future. Natural resource changes and stresses from agricultural activities include the continued erosion of sediments and runoff of herbicides, pesticides, fertilizer and animal waste into surface waters. Most agricultural operations have crops or pastures on all suitable land, leaving unsuitable land as woods or floodplains. Conversion of these woods is not expected.

(3) Mitigation and Monitoring. The project affects the following key issue(s): the proposed crossings include 0.92 acre of wetland that would be permanently filled and 1,256 linear feet of stream that would be permanently relocated, encapsulated, and/or lined with riprap. The magnitude of the proposed effect is approximately 0.01% of

total wetland area within the watersheds. The applicant has avoided impacts to over 0.5 acre of Waters of the United States by redesigning the bridge replacements to meet minimum, rather than desirable, design standards. The design was further refined to minimize impacts to the jurisdictional roadside ditches by utilizing natural stabilization methods instead of riprap, and wetland impacts were minimized by reducing construction limits. Compensatory mitigation and monitoring described herein would result in the creation or restoration of 1,679 linear feet of stream with forested and herbaceous riparian corridor, creation of 0.6 acre of emergent, 0.5 acre of scrub-shrub, and 0.5 acre of forested wetlands and enhancement of 1.5 acres of existing emergent wetland.

- f. Corps Wetland Policy. Based on the public interest review herein, the beneficial effects of the project outweigh the detrimental impacts of the project.
 - g. NA Water Quality Certification under Section 401 of the Clean Water Act has/ has not yet been issued by / State/ Commonwealth.
 - h. Coastal Zone Management (CZM) consistency/permit: Issuance of a State permit certifies that the project is consistent with the CZM plan. There is no evidence or indication from the that the project is inconsistent with their CZM plan.
 - i. Other authorizations.
 - j. NA Significant Issues of Overriding National Importance. *Explain.*
8. Compensation and other mitigation actions.
- a. Compensatory Mitigation
 - (1) Is compensatory mitigation required? yes no [If “no,” do not complete the rest of this section]
 - (2) Is the impact in the service area of an approved mitigation bank? yes no
 - (i) Does the mitigation bank have appropriate number and resource type of credits available? yes no
 - (3) Is the impact in the service area of an approved in-lieu fee program?
 yes no
 - (i) Does the in-lieu fee program have appropriate number and resource type of credits available?
 yes no
 - (4) Check the selected compensatory mitigation option(s):
 - mitigation bank credits
 - in-lieu fee program credits
 - permittee-responsible mitigation under a watershed approach
 - permittee-responsible mitigation, on-site and in-kind

permittee-responsible mitigation, off-site and out-of-kind

- (5) If a selected compensatory mitigation option deviates from the order of the options presented in §332.3(b)(2)-(6), explain why the selected compensatory mitigation option is environmentally preferable. Address the criteria provided in §332.3(a)(1) (i.e., the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project):

The proposed off-site mitigation is located within the Lower Eel USGS 8-digit watershed (05120203) directly north of the project site along an unnamed tributary to North Fork Jordan Creek (UNT 1). The 11.5-acre mitigation site is located in a rural area of the county and highly disturbed by cattle grazing activities. Land use adjacent to the mitigation site includes agricultural land (grazing pasture) to the west and south, forest to the north and east, and UNT 1 to the south. A 1.5-acre, poor quality emergent wetland exists in the approximate center of the site. The mitigation site has been designed to enhance the existing wetland and create additional emergent, scrub-shrub, and forested wetland habitat areas. The Websoil Survey, maintained by the Natural Resources Conservation Service (NRCS), indicates the soil types for the site to be Holton and Otwell silt loams that are common in floodplain systems and are frequently flooded and somewhat poorly drained. This was confirmed by delineation data provided from the applicant. Hydrology for the site would be provided primarily through the floodwaters of UNT 1 and surface runoff from the surrounding landscape that is higher in elevation. A 50-foot wooded riparian buffer would be constructed along 870 feet of the stream to partially compensate for stream impacts. It is anticipated the plantings will help reduce active erosion of the banks by replacing vegetation that was removed when cattle were allowed to overgraze the site.

This mitigation site was selected due to its proximity to UNT 1 and the likelihood that the mitigation would be successful. An emergent wetland already exists at the site, indicating that the mitigation should receive adequate hydrology for development. Once successful, the mitigation would connect UNT 1 with the forested areas to the north and east, providing an important wildlife corridor and habitat in a portion of the state dominated by agricultural use. The mitigation would also help improve downstream water quality by filtering sediment and excluding livestock from access to the stream. The successful development of the mitigation site would most likely restore the historic condition of the property prior to being used as farmland.

The proposed on-site mitigation is located at the proposed new locations of relocated RSD 1 (7 to 18 feet to the south of its existing location) and RSD 2 (8.2 feet to the north of its existing location). These are poor quality jurisdictional roadside ditches that provide a direct hydrological connection between the adjacent wetlands and streams in the project area. The new channels would be a total of 809 linear feet, constructed with 3:1 slopes, and vegetated with native herbaceous species. On-site mitigation was chosen as compensation for a portion of the stream impacts because the ditches are poor quality and contribute to the high sediment load in North Fork Jordan Creek and its tributary. The proposed reconstruction would stabilize the channels and eliminate non-native invasive species that may spread to adjacent wetlands and downstream areas in the watershed.

- (6) Other Mitigative Actions – The proposed bridge replacement at UNT 2 is designed to relocate a private drive to upland areas and eliminate an existing 40-foot long driveway culvert in UNT 2 downstream from Crossing 3. The restoration of this part of the channel is independent from the proposed compensatory mitigation plan, and it is a voluntary proposal by the applicant to restore and improve the stream in the project area.
9. General evaluation criteria under the public interest review. We considered the following within this document:
- a. The relative extent of the public and private need for the proposed structure or work. (e.g. Public benefits include employment opportunities and a potential increase in the local tax base. Private benefits include land use and economic return on the property; for transportation projects benefits include safety, capacity and congestion issues.) *Explain.* The public and private need for the proposed project is to increase safety for motorists driving through the area and reduce instances of flooding over the highway by increasing the hydraulic capacity of each crossing.
 - b. There are no unresolved conflicts as to resource use.
 - c. The extent and permanence of the beneficial and/or detrimental effects, which the proposed work is likely to have on the public, and private uses to which the area is suited. Detrimental impacts are expected to be minimal although they would be permanent in the construction area. The beneficial effects associated with utilization of the property would be permanent. *Explain.* The proposed bridge replacements are located in primarily agricultural areas and would permanently impact 0.92 acre of wetland and 1,256 linear feet of stream that would be relocated, encapsulated, and/or lined with riprap. To offset the losses of wetland and stream, the applicant would create and enhance wetlands and streams on-site and off-site at a location in the project vicinity.
10. Determinations.
- a. Public Hearing Request: NA
 - I have reviewed and evaluated the requests for a public hearing. There is sufficient information available to evaluate the proposed project; therefore, the requests for a public hearing are denied.
 - b. Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed de minimis levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.
 - c. Relevant Presidential Executive Orders.
 - (1) EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians.
 This action has no substantial direct effect on one or more Indian tribes. *Explain.* Received no response to the public notice from any Native American tribes.

- (2) EO 11988, Floodplain Management. Not in a floodplain. (Alternatives to location within the floodplain, minimization, and compensation of the effects were considered above.)
- (3) EO 12898, Environmental Justice. In accordance with Title III of the Civil Right Act of 1964 and Executive Order 12898, it has been determined that the project would not directly or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin nor would it have a disproportionate effect on minority or low-income communities.
- (4) EO 13112, Invasive Species.
There were no invasive species issues involved.
The evaluation above included invasive species concerns in the analysis of impacts at the project site and associated compensatory mitigation projects.
Through special conditions, the permittee will be required to control the introduction and spread of exotic species.
- (5) EO 13212 and 13302, Energy Supply and Availability. The project was not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety. (The review was expedited and/or other actions were taken to the extent permitted by law and regulation to accelerate completion of this energy-related (including pipeline safety) project while maintaining safety, public health, and environmental protections.)
- b. Finding of No Significant Impact (FONSI). Having reviewed the information provided by the applicant and all interested parties and an assessment of the environmental impacts, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an Environmental Impact Statement will not be required.
- c. Compliance with 404(b)(1) guidelines. NA

Having completed the evaluation in paragraph 5, I have determined that the proposed discharge complies/does not comply with the 404(b)(1) guidelines.

- d. Public Interest Determination: I find that issuance of a Department of the Army permit is not/is contrary to the public interest, if properly conditioned. Therefore, I have decided to issue the requested Department of the Army permit subject to all Standard Conditions and the following Special Conditions:
1. The permittee shall be responsible for implementing the restoration and mitigation in accordance with the Mitigation and Monitoring Plan dated January 10, 2012.
 2. The permittee shall monitor the on-site stream mitigation annually for a period of five years and monitor the off-site wetland and stream mitigation for a period of 10 years. The permittee shall submit monitoring reports to the U.S. Army Corps of Engineers, Indianapolis Regulatory Office by December 31 of each monitoring year.
 3. The permittee shall permanently protect the entire mitigation area through the implementation of the Corps approved deed restriction. A copy of the signed and recorded deed restriction for the mitigation area shall be submitted with the final monitoring report. The Corps shall be

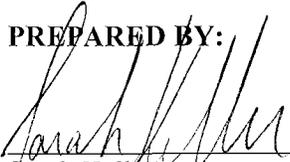
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notified in writing prior to the transfer of the mitigation site to another entity or individual. Permanent protection shall transfer with the property.

4. The permittee's responsibility to complete the required compensatory mitigation, as set forth in Special Condition 1 shall not be considered fulfilled until they have demonstrated compensatory mitigation project success and have received written verification of that success from the U.S. Army Corps of Engineers.

PREPARED BY:



Sarah Keller
Project Manager
Indianapolis Regulatory Office

Date: 2/2/2012

APPROVED BY:



Greg McKay
Chief, North Section
Regulatory Branch

Date: 2/2/12