

CELRL-OP-FN
Application LRL-2007-1043

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army 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. Proposed project

- a. Application as described in the public notice.

APPLICANT: Indiana Department of Transportation
100 North Senate Avenue, Room N642
Indianapolis, Indiana 46204

AGENT: Bernardin Lochmueller and Associates, Inc.
6200 Vogel Road
Evansville, Indiana 47715

LOCATION: On unnamed tributaries to Smith Creek in Gibson County, Indiana.

Latitude: 38.2564
Longitude: -87.4309
7.5 Minute Quad: Francisco, Indiana

PURPOSE: To construct a stream crossing for the Evansville to Indianapolis extension of Interstate 69 at the State Route 168 interchange.

PROJECT BACKGROUND: The proposed construction of Section 1 of Interstate 69 would include thirty crossings of "waters of the U.S." between Interstate 64 and State Route 64 in Gibson and Warrick Counties, Indiana. Twenty-nine of these crossings would impact a total of 13,793 linear feet of stream and 1.93 acres of emergent and forested wetlands and open water. The twenty-nine crossings were verified as being eligible for Indiana Regional General Permit (RGP) No. 1 with special conditions. The remaining crossing has impacts that exceed those allowed by the RGP and is being processed as a standard permit.

DESCRIPTION OF WORK: The applicant proposes to discharge 1,149 cubic yards (cys) of fill material below the Ordinary Highway Water Mark (OHWM) of 1,780 linear feet of four unnamed tributaries to Smith Creek to construct a crossing on Section 1 of the Interstate 69 extension. The fill material would consist of clean earthen fill, limestone riprap, and concrete. The project would facilitate the construction of the proposed Interstate 69 and State Route 168 interchange.

AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES: Impacts to streams and wetlands were unavoidable considering the proposed project involves constructing 13 miles of a new 4-lane interstate.

The applicant prepared a Final Environmental Impact Statement (FEIS) which considered impacts from two separate alternative alignments at the crossing. The preferred alternative had fewer impacts to “waters of the U.S.” at this crossing as well as along the entire Section 1 corridor. Impacts to streams and wetlands were minimized to the greatest extent possible.

Mitigation would be required to compensate the proposed impacts to the streams located at the site. The applicant proposes to create 11,970 linear feet of ephemeral stream channels using natural stream design, enhance 6,300 linear feet of riparian corridor by planting herbaceous plants, and create 5 acres of wetlands (2 acres of forested wetlands and 3 acres of emergent wetlands) as mitigation for impacts from the entire Section 1 corridor, including the proposed crossing. An additional 31.9 acres of wetlands, bottomland forest and riparian habitats that exist on the mitigation site would be preserved. The mitigation would be constructed off-site on a 161.2-acre parcel within the same 8-digit HUC watershed (05140202) as the crossing.

- b. Additional information not included in the public notice.

Overall Project Purpose: To construct a stream crossing to facilitate construction of Section 1 of the proposed Evansville to Indianapolis extension of Interstate 69. Section 1 would start at Interstate 64 near Evansville in Warrick County and continue for approximately 13 miles to State Route 64 near Oakland City in Gibson County, Indiana. The National Interstate 69 Project is needed to facilitate interstate and international movement of freight through the Interstate 69 corridor. The construction of Section 1 would advance the overall goals of the Interstate 69 project, increase personal accessibility for area residents, improve traffic safety, and support local economic development initiatives.

Water Dependency Determination: The construction of the proposed stream crossing does not involve impacts to special aquatic sites and is not water dependent.

MITIGATION MEASURES: For the impacts from the crossing covered in this Memorandum, the creation or restoration of 1,780 linear feet of stream would be provided out of the total mitigation provided at the I-69 Section 1 Mitigation Site.

EXISTING CONDITIONS: The four unnamed tributaries to Smith Creek are channelized ditches completely surrounded by agricultural fields with a riparian area consisting of a few small trees and grasses. One of the four unnamed tributaries to Smith Creek at the proposed crossing is intermittent and the remaining three are ephemeral. The three ephemeral tributaries flow into the intermittent tributary. All four tributaries primarily function to transport stormwater.

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 construction of Section 1 of the Interstate 69 Evansville to Indianapolis extension would include thirty separate and complete crossings of "waters of the U.S." Each crossing would be a link in a corridor 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 proposed crossing is part of a proposed Interstate highway. The alignment of the highway in the immediate vicinity of the crossing affects the location and configuration of the crossing. The highway, in the immediate vicinity of the regulated activity, was 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 portion of the project that is within the Corps' jurisdiction will include jurisdictional "waters of the U.S." that would be filled, directly or indirectly, by the construction of each separate and complete crossing and the immediate adjacent riparian corridor. The CWA does not provide the Corps legal authority to regulate interstate highway projects, such as the proposed Interstate 69 Evansville to Indianapolis extension, beyond the limits of the "waters of the U.S." Overall responsibility for the construction and approval of interstate highway projects is the responsibility of the Federal Highways Administration (FHWA).

In a letter dated January 25, 2010, the Corps of Engineers verified that twenty-nine of the thirty proposed crossings, which would impact a total of 13,793 linear feet of stream and 1.93 acres of emergent and forested wetlands and open water, are eligible for Indiana Regional General Permit (RGP) No. 1 with special conditions. The remaining crossing would have impacts that exceed those allowed by Indiana RGP No. 1 and is being processed as a standard permit.

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

The project is a federal project. As stated above, overall responsibility for the construction and approval of interstate highway projects is the responsibility of the Federal Highways Administration (FHWA). FHWA conducted a tiered NEPA review process for the proposed Interstate 69 Evansville to Indianapolis extension. As part of this tiered NEPA review process FHWA: prepared a Tier I Environmental Impact Statement (EIS) that evaluated whether or not to build the proposed Evansville to Indianapolis extension and alternative corridors for the proposed extension; issued a Record of Decision (ROD) for the Tier I EIS that approved a build alternative, the Alternative 3C corridor; prepared a Tier II EIS for Section 1 of the proposed Interstate 69 extension that evaluated different alignments for Section 1 within the Alternative 3C corridor; and issued a ROD for the Tier II FEIS approving Alternative 4, the alternative associated with the proposed crossing, for Section 1 of the Interstate 69 Evansville to Indianapolis extension.

(2) Determined scope.

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

b. NHPA "Permit Area".

- (1) Tests. Activities outside the waters of the United States, the location of which is determined by the location of each separate and complete crossing, are/are not included because all of the following tests are/are not satisfied: (box is checked if test is satisfied) Such activity would not occur but for the authorization of the work or structures within the waters of the United States; Such activity is 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 directly associated (first order impact) with the work or structures to be authorized. *Explain.* The location and configuration of some of the activities that will 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, the activities are considered in the NHPA "Permit Area."

Activities outside the waters of the United States the location of which is not determined by the location of each separate and complete crossing are/are not included because all of the following tests are/are not satisfied: (box is checked if test is satisfied) Such activity would not occur but for the authorization of the work or structures within the waters of the United States; Such activity is 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 directly associated (first order impact) with the work or structures to be authorized. *Explain.* The proposed crossing is part of a linear project. As such, the location and configuration of each separate and complete crossing will only determine the location and configuration of activities outside "waters of the U.S." that are in proximity to a crossing. Beyond a certain distance, the location and configuration of activities outside "waters of the U.S." may be modified without modifying the crossing. These activities would not meet all three tests; therefore, those activities are not 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 to the crossing is within the Corps' NHPA "Permit Area." The configuration of this portion of the ROW typically is determined by the location of the crossing.

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.

Determined scope. *Describe.* The federal action for the purposes of this decision is the proposed crossing. The proposed crossing and the upland area around it that would be impacted directly or indirectly by the construction of the crossing are the ESA "Action Area." The FHWA has overall responsibility for construction of Section 1 of the proposed Interstate 69 extension. The areas directly and indirectly affected by the overall construction of Section 1 are within FHWA's "Action Area."

d. Public notice comments. NA

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

(2) Commentors and issues raised.

| Name | Issue |
|--|---|
| Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology | No historic properties are known to be within, or in close proximity to, the location where fill material will be discharged. |
| U.S. Environmental Protection Agency | Did not object to issuing the permit but recommended additional performance standards for proposed stream mitigation. |
| Steven Meyer, Hoosier Environmental Council | Objected to tiered NEPA approach; and to the impacts to recreation and aesthetic values. Expressed concern about the sufficiency of FHWA's NEPA documentation, the quality of fill material, and the adequacy of mitigation for forest and wildlife impacts. Stated that impacts to streams and wetlands in project area could be avoided and that the Corps should complete independent analysis of alternative routes and evaluation of the least environmentally damaging practicable alternative. Requested public hearing. |

(3) Site was/ was not visited by the Corps to obtain information in addition to delineating jurisdiction. *Include dates and synopsis of information gathered if site was visited.* Site inspections of the proposed crossing and mitigation site were conducted on October 28 and November 10, 2010. The streams at the proposed crossing are channelized ditches completely surrounded by agricultural fields with a riparian area consisting of a few small trees and grasses. The I-69 Section 1 Mitigation Site is located in an agricultural field adjacent to Pigeon Creek east of CR 450 East in Gibson County, Indiana. In addition to Pigeon Creek itself, there are two channelized tributaries at the mitigation site. The site has already been planted for wetland mitigation for the entire Section 1 corridor and channels for proposed ephemeral stream mitigation have been constructed.

(4) Issues identified by the Corps. *Describe.* No issues were identified.

(5) Issues/comments forwarded to the applicant. NA/ Yes.

On January 11, 2011, comments were forwarded to the applicant to provide the applicant with an opportunity to respond.

(6) Applicant replied/provided views. NA/ Yes.

On April 18, 2011, an electronic mail message was received from the applicant responding to the comments.

(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. Alternatives 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 impacts | Acres of impact |
| Stream impacts | Linear feet of impact |
| Impacts to other sensitive environmental resources | The extent of unavoidable impacts to these resources |
| Purpose and Need | Whether the purpose and need are satisfied |
| Impacts to Historic Resources | The extent of unavoidable impacts to these resources |
| Upland forests | Acres of impact |
| Floodplains | Acres of impact |
| Farmlands | Acres of impact |

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 |
|----------------------------|------------------------|
| Alternatives in Tier I EIS | See discussion below |

To accommodate the large, complex scope of the Interstate 69 Evansville to Indianapolis extension project, the FHWA used a “tiered” environmental process pursuant to NEPA, 42 U.S.C. §4321 *et seq.*; the NEPA regulations issued by the Council on Environmental Quality, 40 C.F.R. Part 1500; and the FHWA’s NEPA regulations, 23 C.F.R. Part 771. For the Interstate 69 extension, the tiered process involved two levels of NEPA review – Tier I and Tier II. The Tier I review looked at alternative corridors and the “no build” alternative for the proposed Interstate 69 extension between Evansville and Indianapolis, Indiana and identifies a preferred alternative corridor. The Tier II review looks at alternative alignments, including the “no build” alignment, within 6 sections of the approved corridor. The alternative corridors in Tier I are considered the off-site locations for the proposed project.

The following paragraph provides a summary of the alternatives identified and evaluated by FHWA during the Tier I NEPA review for the Interstate 69 Evansville to Indianapolis extension. A detailed discussion of these alternatives is contained in the Tier I FEIS and ROD prepared by FHWA.

For the Tier I review, FHWA prepared an FEIS, which included a 404(b)(1) consistency analysis, for the proposed Interstate 69 extension between Evansville and Indianapolis, Indiana that evaluated 12 alternative corridors and the “no build” alternative. FHWA identified 19 route concepts during the scoping process for initial analysis. From these 19 route concepts 5 routes were identified. The 12 alternative corridors evaluated represented different options located within the 5 routes. Of the 12 alternative corridors 8 were ultimately determined not to be practicable alternatives. Four of those eight corridors that were determined not to be practicable were eliminated because they involved unavoidable impacts to sensitive environmental resources. The other 4, including the corridor that utilized the existing US Route 41 and Interstate 70, were determined not to be practicable because they failed to satisfy project goals (particularly core goals) and, thereby, the purpose and need for the Interstate 69 Evansville to Indianapolis extension project. Of the 4 remaining alternative corridors, FHWA identified Alternative 3C as the environmentally preferred alternative – the least environmentally damaging practicable alternative. Based on the FEIS for Tier I, FHWA issued a ROD that approved one of the alternative corridors – Alternative 3C – and the termini for the 6 sections to be evaluated in Tier II.

In response to the public notice a comment letter was received that raised some issues related to the evaluation of alternatives. One issue raised was FHWA’s use of a tiered environmental process for the Interstate 69 Evansville to Indianapolis extension. The decision to use a tiered process was made by FHWA. The legality of a tiered process was addressed in *Hoosier Environmental Council v. U.S. Department of Transportation*, No. 1:06-cv-1442-DFH-TAB, 2007 U.S. Dist. LEXIS 90840, *17-25 (S.D. Ind. Dec 10, 2007) and the court held that the tiered process “does not violate NEPA or other environmental laws.”

A second issue raised was the sufficiency of the cost information utilized in the Tier 1 FEIS and changes in estimated project costs and project features as a result of subsequent studies. The changes in the project costs and features do not affect the evaluation of alternatives

within the Tier I FEIS and ROD. The alternatives that were eliminated in Tier I because they were not practicable were determined not to be practicable because they involved unavoidable impacts to sensitive environmental resources or failed to satisfy the purpose and need, not because of their cost. Further, the increase in cost reflected in the Tier II NEPA evaluation for Tier I Alternative 3C have also similarly increased the cost of the other Tier I alternatives, including the No Build Alternative, which would have required upgrading existing County Roads, State Routes and US Routes.

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

For the reasons stated in 4.d., the Alternative 3C corridor was selected from the sites evaluated in the Tier I FEIS for further analysis in Tier 2.

For the Tier II evaluation, a computer-aided tool was utilized to identify the possible alternative alignments for Section 1 and develop alignments based on specific criteria that included avoiding large clusters of homes, cemeteries, and large bodies of water and minimizing impacts on key resources and large electric power transmission lines.

For the Section 1 Tier II review, FHWA evaluated alternative alignments in 3 Segments of Section 1 (South, Central, and North). The proposed crossing is located in the Central Segment. For the preliminary analysis, FHWA evaluated 4 alternative alignments for the South Section, 3 for the Central Segment, and 4 for the North Segment. As a result of the preliminary analysis, FHWA eliminated 2 South Segment alternatives, 1 Central Segment alternative, and 1 North Segment alternative because the alternatives would have required either more impacts to farmland and forest areas; more residential relocations; or severing access to farms.

The crossings associated with Alternative 1-C3 and Alternative 1-C1, the two Central Segment alternatives that were selected for further analysis, are considered the on-site alternatives for the proposed project.

f. On-site configurations.

| Description | Comparison to criteria |
|------------------|---|
| Alternative 1-C3 | Proposed project alternative for crossing - would impact 1,780 linear feet of stream. Would not impact wetlands, forests, floodplains, or historic resources. Based on the information available, impacts to farmland would be similar to Alternative 1-C1. |
| Alternative 1-C1 | Based on information available, would impact more linear feet of stream and have similar impacts to farm land at the proposed crossing than Alternative 1-C3. Would not impact wetlands, forest, floodplains, or historic resources. |

For the Section 1 Tier II FEIS, FHWA analyzed the potential social, economic, and environmental impacts of each Segment's alternative alignments and used this information

to compare the potential impacts of the eight end-to-end build alternatives that were considered. Alternative 4, the preferred alternative, consists of Segment alternatives 1-S1, 1-C3, and 1-N2. Alternative 4 would have fewer impacts to streams and riparian habitat than the other alternatives but greater impacts to wetlands. In the Section 1 Tier II FEIS, Alternative 4 was found to have the potential to impact 14,810 linear feet of streams and 2.05 acres of wetland and open water. The final design for Alternative 4 would impact a total of 15,573 linear feet of streams and 1.93 acres of wetland and open water.

Alternatives 1-C1 was not developed to the same level of detail as Alternative 1-C3. The information provided in the Tier II FEIS on linear feet of stream and acres of wetlands for Alternatives 1-C1 is based on the right-of-way for the alignment. The information provided in the permit application for Alternative 4, which includes Alternative 1-C3 was taken to the next level and is based on the actual construction impacts for the roadway within the right-of-way. Therefore, a comparison of the linear feet and acreage impacts identified for Alternative 1-C1 in the Tier II FEIS and the linear feet and acreage impacts identified for the Alternative 1-C3 in the permit application would not give an accurate numerical picture of the impacts.

Therefore, potential impacts to streams from Alternatives 1-C1 and 1-C3 were compared based on the proposed crossing for Alternative 1-C3 and the crossing that would be required for the preferred pavement location for Alternative 1-C1 depicted in the Tier II FEIS. The potential impacts of the alternative crossings were compared and a determination was made whether they were similar or whether one would have more or less impacts. The discussion below summarizes that comparison.

Alternative 1-C3 - The Central Segment of Section 1 would be approximately 5.4 miles long, beginning 900 feet north of Pigeon Creek to 3,000 feet south of CR 450 South in Pike County. The crossing covered in this Memorandum would impact a total of 1,780 linear feet of stream. Segment alternative 1-C3 was included in end-to-end build Alternatives 2, 4, 6, and 8 and was estimated to have the potential to impact a total of 6,660 linear feet of streams and 0.11 acre of wetland.

Alternative 1-C1 Crossing – Segment Alternative 1-C1 would be approximately 5.4 miles long with the same starting and ending points and generally the same alignment as Segment Alternative 1-C3. In the area of the proposed crossing covered in this decision document, the alignment of Alternative 1-C1 would be northwest of the Alternative 1-C3 alignment and would impact more linear feet of stream. Segment Alternative 1-C1 was included in end-to-end Build Alternatives 1, 3, 5, and 7 and was estimated to have the potential to impact a total of 8,135 linear feet of stream and 0.01 acre of wetland.

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

| Description | Comparison to criteria |
|-------------|--|
| No Action | Neither the proposed crossing, nor Section 1 of the proposed Interstate 69 Evansville to Indianapolis extension would be built. The no action alternative would not cause any adverse impacts to the general ecology of any "waters of the U.S." in the Section 1 corridor, including the unnamed tributaries to Smith Creek. However, this alternative would not satisfy the applicant's stated purpose and need. |

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

Of the 12 alternative corridors evaluated in the Tier I FEIS, four involved unavoidable impacts to sensitive environmental resource, another four, including the corridor that utilized the existing US Route 41 and Interstate 70, were determined not to be practicable because they failed to satisfy project goals (particularly core goals) and, thereby, the purpose and need for the Interstate 69 Evansville to Indianapolis extension project.

In the Tier II FEIS, the alternative Segment alignments were identified using a computer-aided tool. Alternatives that failed to meet the project criteria were eliminated and are considered not to be practicable. Criteria utilized included the avoidance of sensitive environmental resources and certain existing manmade resources of importance and the ability to satisfy highway design standards and project purposes.

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

The Corps has reviewed the information on alternatives contained in the Tier I and II FEIS and ROD and the permit application, and for the reasons stated in d, e, f and h above have determined that the proposed crossing is the least damaging practicable alternative.

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

a. Factual determinations.

Physical Substrate.

See Existing Conditions, paragraph 1

The substrate composition at the proposed crossing was identified using the U.S. Department of Agriculture's Web Soil Survey for Gibson County. Section 1 traverses three major soil associations: Stendal-Bonnie-Birds, Hosmer, and Peoga-Iva. Soils in Section 1 primarily consist of moderate deposits of alluvium associated with Pigeon Creek and West Fork Keg Creek, lowland silt complex, and loess. The corridor primarily overlays a lowland silt complex with small areas of alluvium and loess.

| |
|--|
| <p>Substrate composition at the proposed crossing is dominated by Stendal silt loam. Approximately 1,780 linear feet of four unnamed tributaries to Smith Creek would be filled with 1,149 cys of clean earthen fill, concrete, and riprap. Direct impacts to the substrate in the four unnamed tributaries to Smith Creek would consist of fill material being placed in these waters in order to construct a separate and complete crossing of Section 1 of the Interstate 69 Evansville to Indianapolis extension. The substrate at the crossing would be completely changed due to the fill.</p> <p>Indirect and cumulative impacts from the proposed project to the substrate of jurisdictional waters and their immediately adjacent riparian corridor would consist of fill material being placed in a total of 13,793 linear feet of stream and 1.93 acres of wetland and open water from the construction of the twenty-nine crossings that were verified as qualifying for Indiana RGP No. 1. The substrate at these crossings would be completely and permanently changed due to the fill material.</p> <p>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 checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Conservation. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Economics. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" 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 type="checkbox"/> | <input checked="" 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 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 type="checkbox"/> | <input checked="" 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 type="checkbox"/> | <input checked="" 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 type="checkbox"/> | <input checked="" 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)*

Conservation: The proposed crossing would impact 1,780 linear feet of channelized agricultural ditches and would not have an impact on conservation in the area of the crossing. The proposed construction of Section 1 of Interstate 69 includes numerous measures that would have a positive impact on conservation in the project area. Direct impacts to upland forest would be replaced at a 1 to 1 ratio of plantings and an additional 2 to 1 ratio of forest preservation. In Section 1, the applicant would provide approximately 27 acres of new plantings and 55 acres of existing forest to be preserved to replace forest acres directly impacted.

In addition, impacts to wetlands and streams would be mitigated for through enhancement and re-establishment of aquatic habitats at the mitigation site. A total of 3 acres of emergent wetland and 2 acres of forested wetland would be restored or created as mitigation for the impacts to a total of 1.16 acres of emergent wetland and 0.02 acre of forested wetland. A total of 11,970 linear feet of ephemeral stream would be created using natural stream design and a total of 6,300 linear feet of perennial stream would be enhanced through riparian plantings. This mitigation would be for impacts to a total of 15,159 linear feet of stream at all of the crossings in Section 1.

Economics: There would be both beneficial and adverse socio-economic impacts from the proposed project. However, overall the impacts are anticipated to be beneficial. Direct socio-economic impacts of the proposed crossing would include the loss of farm income due to the removal of farmland from production, increased employment during construction and for maintenance and operation, changes in the local property tax base as a result of taking taxable property for public right-of-way, and changes in property values due to improved or diminished access or exposure. The proposed crossing would have the indirect socio-economic impact of increased business and employment associated with changes in land use due to development induced by improved access. Socio-economic benefits associated with the improved highway access would go to the travelling public, commercial trucking companies, and the residents of Southwest Indiana and would be long-term.

Aesthetics: The proposed crossing would result in both temporary and permanent visual impacts. Temporary impacts include the sighting of construction equipment and the clearing of areas to construct the crossing. These would be mitigated by limiting vegetation clearing to the area in the construction limits and quick re-vegetation upon completion of construction. Permanent impacts would include the conversion of farmland and a rural landscape to an Interstate highway.

The proposed crossing is in a rural environment with viewshed typical of agricultural land use in the region. This land use typically contains level to rolling fields containing crops, pastures, water features including creeks and ditches, and occasional forested areas interspersed with rural residences. There is currently a residence located within 2,000 feet of the proposed crossing. Since this residence is located within the right of way for Interstate 69, it would be removed for the construction of the highway.

Section 1 would be constructed as an elevated roadway, obstructing the view in the relatively flat and open areas. There would be adverse visual impacts to residences located within sight of the crossing due to the proximity of the new road, the effects of traffic, and the loss of trees and shrubs. Lighting may be provided for the proposed interchange at the proposed crossing.

Indirect visual impacts would be expected as the result of induced development projected to occur at the SR 168 interchange, which would be located at the proposed crossing. It is projected that there would be some commercial development in this area connected with the Interstate. Commercial structures and the lighting and signage associated with the structures would alter the viewshed.

The other crossings in the Section 1 corridor are dominated by cultivated land. There are also some wooded areas, fencerows and ditches or streams interspersed throughout the area. Most of the residents live on lots surrounded by cultivated fields. The indirect and cumulative visual impacts would be similar to those at the crossing covered in this Memorandum and would also include the permanent conversion of woods and wetlands to an Interstate highway.

The applicant would mitigate for the aesthetic impacts by incorporating context sensitive solutions, an approach involving all stakeholders to “develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility.” Examples would include planting wildflowers as roadside enhancements and planting shrubs or trees to help screen the roadway.

General environmental concerns: Karst ecosystems, landscapes characterized by caves, sinkholes, underground streams, and other features formed by the slow dissolving of bedrock, are a unique feature of Southern Indiana. The Section 1 corridor is generally located west of the potential karst areas of Indiana. The sections of Warrick and Gibson Counties crossed by the Section 1 corridor do not contain any karst features.

The Evansville Area (including Warrick County), the southern terminus of Section 1, is a designated maintenance area for the 8-hour Ozone standard and is in nonattainment with the fine particulate matter standard under the 1990 Clean Air Act (CAA) Amendments. A conformity analysis pursuant to the Long-Range Transportation Plan was performed in May 2005 and updated in 2007. The analysis considered the highest level of traffic from the proposed Interstate 69 extension from Evansville to Henderson, Kentucky. The Evansville Metropolitan Planning Organization, INDOT, and FHWA found the 2035 Transportation Plan, the 2008-2011 Transportation Improvement Plan, and projects within the non-attainment area outside of the Metropolitan Planning Area "conform with the 8-hour ozone and annual fine particulate matter standards specified by the United States Environmental Protection Agency." FHWA issued the conformity finding on June 8, 2007. The proposed crossing is in compliance with the CAA, therefore, no significant adverse impacts to air quality are anticipated.

The proposed crossing would be located in a rural area and nearby residents would experience an increase in levels of construction-related noise temporarily and highway-related noise in the long-term. FHWA and INDOT conducted an analysis of noise impacts for the Section 1 Tier II FEIS that included measuring noise levels at a location representing four residences located near the proposed crossing. Since these residences are located in the proposed right of way for Interstate 69 and would be removed, future noise levels were not modeled.

Two residential locations along the entire Section 1 alignment have existing noise levels that exceed the Noise Abatement Criteria. Noise level modeling demonstrated that these two locations would have modeled noise levels exceeding the Noise Abatement Criterion with both the no-build alternative and the preferred alternative. No other receiver type (churches, schools, parks, or commercial sites) would have noise levels exceeding the Noise Abatement Criterion. Therefore, the proposed project would not have an adverse impact on noise levels in the Section 1 corridor.

Wetlands: The construction of the proposed crossing would not result in fill material being discharged into wetlands or open water.

The construction of Section 1 would result in the placement of fill into a total of 1.16 acres of emergent wetland, 0.02 acre of forested wetland, and 0.75 acre of open water at the crossings authorized under Indiana RGP No. 1. The existing wetlands provide a limited surface water storage function, but very limited or no flood protection is provided because the wetlands are restricted to a relatively small, localized portion of the watershed. Some subsurface water storage and groundwater recharge also occurs. The wetland hydrology is primarily driven by precipitation and overland flow. The wetlands would also be expected to provide the following functions: nutrient transformations and processing, biomass accumulation, and decomposition. The wetlands provide habitat for wildlife.

Compensation for all of wetland impacts would be provided through wetland creation at a mitigation site located within the same USGS 8-digit HUC watershed (Highland Pigeon) as

the proposed impacts and is adjacent to Pigeon Creek in southern Gibson County. The mitigation site is discussed in detail in section 8 below. A total of 3 acres of emergent wetland and 2 acres of forested wetland would be restored or created as mitigation for the impacts from the crossings in Section 1.

If approved, during project construction, wetlands that are within the right of way but outside of the construction area would be protected from secondary construction impacts with best management practices. To prevent herbicides from entering these wetland areas, "Do Not Spray" signs would be posted as appropriate in the right of way.

Historic properties: FHWA completed Section 106 consultation for the Section 1 Tier II FEIS and determined that no above ground resources in Section 1 are listed in the National Register of Historic Places (NRHP), and no districts or individual properties were determined eligible for listing in the NRHP. Consultation ended with the finding of "No Historic Properties Affected." The Indiana SHPO concurred with this finding in a letter dated March 3, 2006. The proposed crossing would not adversely affect any aboveground historic property.

The Phase Ia archaeological investigation involved reviewing state records, shovel testing, a pedestrian survey, visual investigation and deep testing. The investigation identified thirteen archaeological sites within the Area of Potential Effects (APE) for the entire Section 1 corridor. Four of these sites were re-identified at their previously recorded locations and nine were newly discovered. Five of the sites were prehistoric, four were historic, and four had both historic and prehistoric components. None of these sites were recommended eligible for listing in the NRHP and no further work was recommended for sites identified during the Phase Ia investigation. The Indiana SHPO has concurred with these recommendations.

On July 16, 2007, FHWA signed a "Revised Section 106 Findings and Determinations: Area of Potential Effect, Eligibility Determinations, Effect Finding," that incorporated the findings of archaeological investigations together with findings for aboveground properties. FHWA, in consultation with the Indiana SHPO, determined that there are no NRHP-eligible resources affected within the APE of Section 1. However, completion of three recommended Phase Ic investigations was not possible at that time because the landowners denied access. Commitments for completion of Phase Ic work and any subsequent phases of investigation identified through that investigation were included in a Memorandum of Agreement (MOA). Therefore, "the finding is 'No adverse effect' with conditions to be set forth in the Memorandum of Agreement." On August 13, 2007, the SHPO concurred with FHWA's revised findings and determinations.

The Phase Ic subsurface reconnaissance required in the MOA was subsequently conducted at the three recommended locations within floodplains to assess the potential for buried deposits within the APE. No evidence of buried deposits or a buried A-Horizon was recovered. The Indiana SHPO concurred with these findings.

Fish and wildlife values: The proposed crossing is located in an agricultural area with low

wildlife habitat value. The remainder of the crossings in the Section 1 corridor area also mainly located in agricultural areas.

One of the four unnamed tributaries to Smith Creek at the proposed crossing is intermittent and the remaining three are ephemeral. All four tributaries are currently channelized agricultural ditches with the primary function of transporting stormwater. A box culvert would be installed in the intermittent tributary while the ephemeral tributaries would be relocated from their current location to alongside the roadway. The ephemeral tributaries are currently agricultural ditches with the primary function of transporting stormwater. These ditches would be relocated, mitigating any impacts. In addition, the applicant proposes to create 1,095 linear feet of ephemeral channels using natural stream design as additional mitigation for these impacts. For the impacts to the 685 linear feet of intermittent stream at the crossing, the applicant proposes to create 685 linear feet of ephemeral tributaries and enhance 685 linear feet of riparian corridor by planting herbaceous plants at the off-site mitigation area. All mitigation would be constructed at the Section 1 Mitigation Site.

In addition to the impacts from the proposed crossing, Section 1 would impact approximately 845 linear feet of aquatic habitat at Pigeon Creek, a perennial stream. Pigeon Creek provides the necessary habitat for some fish species including darters, chubs, stonerollers, and shiners. The riparian habitat of Pigeon Creek in the project area would be replaced with a single span bridge and riprap along the banks. The applicant proposes to enhance 845 linear feet of Pigeon Creek at the Section 1 Mitigation Site, which is located downstream from the proposed impact, as mitigation for the impact. None of the other crossings in Section 1 provide the habitat for fish or other species.

Compensation for impacts to aquatic habitat in the streams throughout the Section 1 corridor would be provided by the creation/restoration of streams at the mitigation site. The proposed mitigation for the project's impacts on aquatic habitat in streams would consist of the creation of a total of 11,970 linear feet of ephemeral stream channel using natural stream design and the enhancement of a total of 6,300 linear feet of riparian corridor by planting herbaceous plants. This mitigation is for the proposed impact to 1,780 linear feet at the crossing covered in this decision document and 13,379 linear feet of stream resulting from the 29 crossings that were verified as qualifying for Indiana RGP No. 1 with special conditions. The mitigation would be constructed off-site within the same 8-digit HUC watershed as the impact sites.

The construction of the proposed crossing would not cause loss of upland forest habitat. There would be a loss of some upland forest habitat in connection with the construction of five of the crossings that were verified as qualifying for Indiana RGP No. 1. The loss associated with these crossings would be mitigated. The mitigation would be part of the overall mitigation for loss of upland forest habitat for the entire Section 1 alignment, which consists of the creation of 27 acres and the preservation of 55 acres of forested habitat. This mitigation is discussed in more detail in 8.a(6). This habitat combined with the habitat provided by the wetland and stream mitigation would provide adequate compensation for lost wildlife habitat resources although local wildlife communities would suffer long-term

negative impacts. Wildlife communities in the area of the mitigation sites would benefit.

One comment was received in response to the public notice objecting to the proposed mitigation for impacts to forest, stating that they were insufficient. The proposed mitigation for non-wetland forest which, is generally outside the Corps' scope of analysis, was coordinated with the USFWS as part of mitigation requirements for the Tier I BO and Section 1 Tier II BO.

Other measures that will be taken during construction to avoid or minimize impacts to aquatic and terrestrial species and their habitat are discussed in 8.a(6).

The applicant coordinated with the USFWS to determine the potential impacts to Federally-listed threatened and endangered species. This coordination and the impacts to such species are discussed in 7.b.

The applicant coordinated with the Indiana Department of Natural Resources to determine potential impacts on state-listed species. State listed-species that were determined to potentially be impacted by the proposed crossings are the state-listed endangered Northern crawfish frog (*Rana areolata*), Barn owl (*Tyto alba*), Loggerhead shrike (*Lanius ludovicianus*), Northern harrier (*Circus cyaneus*), Sedge wren (*Cistothorus platensis*), Indiana bat (*Myotis sodalis*), Evening bat (*Nycticeius humeralis*), Southeastern myotis (*Myotis austroriparius*), Swamp rabbit (*Sylvilagus aquaticus*), Copperbelly water snake (*Nerodia erythrogaster neglecta*), Kirtland's snake (*Clonophis kirtlandii*), and Eastern mud turtle (*Kinosternon subrubrum*); the state-listed rare species Climbing dogbane (*Trachelospermum difforme*), Primrose willow (*Ludwigia decurrens*), Water purslane (*Didiplis diandra*); and the state-listed species of special concern Eastern spadefoot (*Scaphiopus holbrookii*), Mudpuppy (*Necturus malculosus*), Red-shouldered hawk (*Buteo lineatus*), Little brown bat (*Myotis lucifugus*), Eastern pipistrelle (*Perimyotis subflavus*), Eastern red bat (*Lasiurus borealis*), Northern long-eared myotis (*Myotis septentrionalis*), Silver-haired bat (*Lasionycteris noctivagans*), Hoary bat (*Lasiurus cinereus*), Bobcat (*Lynx rufus*), American badger (*Taxidea taxus*), Northern river otter (*Lontra canadensis*), Least weasel (*Mustela nivalis*), Rough green snake (*Ophedrys aestivus*), and Western ribbon snake (*Thamnophis proximus*). The applicant assessed the potential for effect on state-listed species by assessing the suitability of habitat in the project area and conducting field surveys. The potential for impacting most of the state-listed species was determined to be low since these species were not observed during field surveys and appropriate habitat did not exist within the project corridor.

Flood hazards: The proposed crossing would be sized appropriately to allow the unimpeded flow of the unnamed tributaries to Smith Creek. The proposed crossing should not adversely affect existing flood control functions.

The 29 crossings of "waters of the U.S." authorized under Indiana RGP 1 along Section 1 would be sized so that the 100-year floodway elevations would not be substantially affected. The flood control functions provided by the existing wetlands along Section 1 would be mitigated through the creation of wetlands at the mitigation site, which is located

in the same 8-digit HUC watershed. There would be no indirect or cumulative adverse effect on flood control functions from these crossings.

Floodplain values: The proposed crossing is not located in a FEMA 100-year floodplain.

The only FEMA 100-year floodplain identified in Section 1 occurs in the Pigeon Creek area, in the South Segment of the project corridor. During the Tier I EIS, the project corridor was narrowed to about 550 feet in the vicinity of the crossing of Pigeon Creek to avoid wetlands east and west of the Interstate 69 corridor. Although complete bridging of the floodplain is not proposed, the preferred alternative would avoid most of the wetlands, and the crossing would span enough of the floodplain to prevent a rise in the existing high water elevation.

Land use: The proposed crossing would have a direct impact on land use. It would convert property that is currently agricultural into an interstate.

Gibson and Warrick Counties have developed comprehensive plans that include plans to protect natural resources, manage growth and promote economic growth spurred by Interstate 69. The entire corridor of Section 1, including the proposed crossing, has been incorporated into local land use classifications.

Shore erosion and accretion: No adverse effect to erosion and accretion rates or patterns is expected from any of the crossings in Section 1. Erosion control measures, which are discussed in more detail in 8.a(6), would be implemented on the worksites to protect the waterways from receiving increased sedimentation from the work area.

Recreation: There are no known recreational areas existing at the proposed crossing or along the remainder of the Section 1 corridor. This project would have no effect on water related recreation.

Water supply and conservation: Along the Section 1 corridor, drinking water is supplied by private wells and municipally owned systems including Pike-Gibson Counties Water, Inc., Francisco Water and Sewer, Oakland City Water Company, and Elberfeld Water Works. Pike-Gibson Counties Water, Inc. is the largest of the suppliers, supplying approximately 3,200 customers with water from the Patoka Lake Reservoir and from wells in Petersburg. Its service area extends from I-64 north into Pike County and includes northwest Warrick County, and the communities of Buckskin, Mackey, and Somerville. Oakland City has its own municipally owned water system, obtaining water from the Patoka Lake Reservoir and from New Lake, a reservoir southeast of the city.

Any utility relocation plans required in connection with the crossings would be coordinated with the utility companies during the final design phase of the project.

No public water wells would be impacted by the construction of Section 1. There is one private ground-water well that would be impacted by the construction of Section 1. This well would be located and capped according to the Indiana State Regulations. The well

would no longer act as a water supply.

Water quality: 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 adjacent streams.

Along the entire length of Section 1, fill material would be placed in wetlands at seven of the twenty-nine crossings of “waters of the U.S.” that were verified as qualifying for Indiana RGP No. 1. Since these waters would be eliminated as a result of the proposed project, water quality impacts would be considered long-term adverse impacts. The applicant has proposed mitigation for wetland impacts from these crossings through wetland creation at the mitigation site. The other crossings are all stream crossings. As with the proposed crossings, water quality impacts associated with these crossing would be short-term impacts limited to the construction period; and best management practices would be utilized to minimize impacts.

A comment was received during the public comment period expressing concern with the composition of the proposed fill material and the possibility of contaminated earthen fill being used for the proposed projects. While the source of fill material has not been identified, 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.” Therefore, in accordance with 40 CFR 230.60(c), no chemical or biological testing is required to make the factual determination of this fill material.

There are both bedrock (consolidated) and unconsolidated aquifers in the Section 1 area. The two predominant consolidated aquifer systems in the region, the Inglefield Sandstone and Busseron Sandstone aquifers, are both bedrock aquifers composed of upper Pennsylvanian fluvial and deltaic sandstones. The Section 1 corridor lies primarily over the Busseron aquifer. The predominant unconsolidated aquifers along the Section 1 corridor consist of outwash plain deposits. There are shallow sand and gravel aquifers throughout the Wabash Valley in Section 1. The Illinoisan and Wisconsin sediment ranges from up to 140 feet along the floodplain of the Wabash River to less than 10 feet in the southeast. Neither the proposed crossing nor the entire length of Section 1 would create areas of impermeable surfaces large enough to have an adverse effect on aquifer recharge.

Energy needs: The proposed crossing and the construction of Section 1 would lead to an increase in the energy consumed by vehicle travel in the project area. The increase in roadway miles and diversion of through traffic from outside the Interstate 69 corridor would result in an increase of total vehicle-miles of travel in the project area. The increase in energy consumption is necessary to achieve the project’s purposes. These impacts would be permanent.

Safety: The proposed crossing is part of a larger project that would improve traffic safety by reducing the number of automobile crashes. The proposed Interstate 69 extension is

projected to reduce the annual number of crashes in the Section 1 area despite a large increase in vehicle miles travelled. The impact of the project on safety, if constructed, would be positive and long-term.

The construction of Section 1 would change traffic volumes on local roads as traffic is diverted to Interstate 69 and as local roads feed the interchanges of Interstate 69. For the design year 2030, the construction of Section 1 would cause a decrease in traffic on SR 57 and on SR 168 east of Interstate 69 and SR 57. There would be an increase in traffic on Interstate 164 south of the Interstate 64 interchange, SR 68 east of SR 57 and east and west of Interstate 69, SR 168 west of Interstate 69 and west and east of CR 550 East, and SR 64 west and east of CR 650 East, west and east of CR 850 East, and east of CR 950 East. The changes in traffic are necessary to achieve the proposed project's purposes of strengthening the transportation network in southwest Indiana and completing the National Interstate 69 Project between Evansville and Indianapolis.

Food and fiber production: The proposed crossing would have an adverse impact on food and/or fiber production. The riparian corridors immediately adjacent to the streams at the proposed crossing and some of the 29 crossings authorized under Indiana RGP No. 1 have been cultivated. Construction within the riparian corridor of these streams would result in some loss of acres harvested. Impacts to farmland were unavoidable and were minimized by following property lines to avoid/minimize severances, crossing fields at perpendicular angles to avoid/minimize point rows, providing access to parcels that would otherwise be landlocked, and maintaining the connectivity of county crossroads. These impacts would be permanent.

The crossing is located in a mapped area of Stendal silt loam, which is classified by the National Resources Conservation Service (NRCS) as prime farmland if drained and either protected from flooding or not frequently flooded during the growing season. Since this area is currently agricultural fields, it qualifies as prime and unique farmland. The crossing would have the permanent effect of converting prime and unique farmland into a highway crossing. The entire Section 1 corridor would convert approximately 551 acres of prime and unique farmland to an Interstate Highway. Some of the crossings authorized under Indiana RGP No. 1 may impact some of this prime and unique farmland. Impacts to prime and unique farmland were unavoidable given the nature of the project and the land use in the area. These impacts are necessary to attain the project goals. The NRCS assessed impacts to farmlands for the Section 1 Tier II FEIS and determined that the proposed alignment would have no significant impact to farmland.

Mineral needs: The proposed crossing would have no impact on mineral needs as no known mineral resources exist in the area. The construction of Section 1 would result in the loss of a total of 123 acres of identified coal resources and one oil well storage tank. Some of the crossings that qualified for Indiana RGP No. 1 were located in or near coal resources. Since Warrick and Gibson counties are located in an area rich in coal deposits, impacts to coal resources were unavoidable. The applicant would conduct a Phase II investigation on the existing storage tank with the goal of removing the tank and remediating the site.

Consideration of property ownership: Along the entire Section 1 right of way, owners of 44 parcels declined INDOT's offer to purchase their acreage. These parcels would be condemned. Two of these parcels are located in the proposed crossing. These two parcels would have been impacted by all of the project alternatives with the exception of the no-action alternative.

The adjoining property owners were mailed a copy of the public notice to provide an opportunity for comment. No comments were received from adjoining property owners. Adjoining property owners should not be adversely affected by the proposed crossings.

Needs and welfare of the people: The public and private need for the proposed project is to provide improved regional accessibility and Interstate and international movement of freight. The proposal would provide employment during construction and after for maintenance of the proposed crossing. Indirectly, the changes in land use due to development induced by improved access are expected to yield an increase in business and employment.

- 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: Eastern fanshell mussel (*Cyprogenia stegaria*). Explain. During the applicant's coordination for the Tier I NEPA studies, the USFWS indicated that the proposed Interstate 69 corridor is within the range of the Federally-listed endangered Eastern fanshell mussel (*Cyprogenia stegaria*). The USFWS's Revised Programmatic Biological Opinion (BO) for Tier I indicated that the Interstate 69 project is "not likely to adversely affect the eastern fanshell mussel." USFWS's Section 1 Tier II BO stated there are no additional adverse effects anticipated beyond those discussed in the Tier I BO.

- (3) Will/ Will not adversely modify designated critical habitat for the Indiana bat (*Myotis sodalis*). Explain. During the applicant's coordination for the Tier I NEPA studies, the USFWS indicated that the proposed Interstate 69 corridor is within the range of the Federally-listed endangered Indiana bat (*Myotis sodalis*). The USFWS's Revised Programmatic BO for Tier I indicated that the Interstate 69 project "is not likely to adversely modify the bat's designated Critical Habitat." The Section 1 Tier II BO states that there are no additional adverse effects anticipated beyond those discussed in the Tier I BO.

- (4) Is/ Is not likely to jeopardize the continued existence of the Indiana bat (*Myotis sodalis*) and the bald eagle (*Haliaeetus leucocephalus*). Explain. During the

applicant's coordination for the Tier I NEPA studies, the USFWS indicated that the proposed Interstate 69 corridor is within the range of the Federally-listed endangered Indiana bat (*Myotis sodalis*) and the Federally protected bald eagle (*Haliaeetus leucocephalus*). The USFWS's Revised Programmatic BO for Tier I indicated that the Interstate 69 project "is still likely to adversely affect but not jeopardized the bald eagle" and "is not likely to jeopardize the continued existence of the Indiana bat." The Tier I USFWS BO contained an "incidental take" statement that included reasonable and prudent measures necessary and appropriate to minimize taking of Indiana bats.

The Section 2 Tier II BO states that there are no additional adverse effects anticipated beyond those discussed in the Tier I BO. The Tier II BO contains an "incidental take" statement with additional reasonable and prudent measures that would be implemented along with the Tier I measures to minimize incidental take of Indiana bats.

(5) The Services concurred/ provided Biological Opinions. *Explain.* The USFWS issued a Revised Programmatic BO for Tier I on August 24, 2006 and a Section 1 Tier II BO on August 29, 2007. The issuance of the Tier II BO concluded formal Section 7 consultation in Section 1.

- c. Essential Fish Habitat. Adverse impacts to Essential Fish Habitat will/ will not result from the proposed project. *Explain.* No Essential Fish Habitat would be impacted by the proposed project.
- d. Historic Properties. The proposed project will have an effect/ will not have any effect on 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/ FHWA's finding of effects dated July 16, 2007. *Explain.* FHWA issued a finding of effects for Section 1 on July 16, 2007 that incorporated the findings of archaeological investigations together with aboveground properties. FHWA, in consultation with the Indiana SHPO, determined that there are no NRHP-eligible resources affected within the APE of Section 1; however, pending completion of Phase Ic investigations, "the finding is 'No adverse effect' with conditions to be set forth in the Memorandum of Agreement." On August 13, 2007, the SHPO concurred with the revised findings and determinations. FHWA and the SHPO signed the MOA with INDOT, the project applicant, as an invited signatory. The conditions in the MOA have subsequently been met. No NRHP-eligible resources were identified. The SHPO concurred in a letter dated January 20, 2011.
- e. Cumulative & Secondary Impacts. The geographic area for this assessment is the Highland-Pigeon and Patoka watersheds.
- (1) Baseline. (from Indiana Rapid Watershed Assessments <http://www.in.gov/isda/2348.htm>) Approximately 2% of the Highland-Pigeon and 3% of the Patoka of the watershed areas are water and wetland. The

Highland-Pigeon watershed has approximately 392.9 miles of stream of which 250.4 miles are first order, 71.8 miles are second order, 17.6 miles are third order, 32.5 miles are fourth order, 0 miles are fifth order, and 0.19 miles are sixth or higher order streams. The stream order for 20.4 miles is not available. The Patoka watershed has approximately 716 miles of stream of which 398.5 miles are first order, 116.7 miles are second order, 44.6 miles are third order, 52.9 miles are fourth order, 86.6 miles are fifth order, and 0 miles are sixth or higher order streams. The stream order for 16.5 miles is not available.

The watersheds that the proposed crossing and Section 1 are located in have been substantially modified in the past 200 years. In the project area, most of the impact to "waters of the U.S." has been from the development of agricultural fields. In addition to wetland fill, streams were channelized and relocated to facilitate the cultivation of the land. More recently, most of the impacts to "waters of the U.S." have been from the development of surface mines. The mining process involves excavating and filling streams and wetlands to extract underlying minerals. It is estimated the state of Indiana has lost approximately 87% of the wetlands that were present in the 1780s (Dahl, 1990). The impact from the proposed crossing would be in the immediate area of the crossing. Cumulative impacts to the watershed would be minimal since a very small proportion of the watershed would be impacted by the crossing and appropriate mitigation would be implemented to further ensure minimization of impacts.

A search of the Corps database and project files was conducted for projects within 2 miles of the proposed crossing. The search was limited to a 2 mile radius because impacts from the crossing would be negligible beyond this area. The search revealed that there have been no Corps permits authorizing fill of "waters of the U.S." Since there is missing information in both the database and project files, it is likely that there have been more impacts than those that are quantified above.

The projection is that Section 404 CWA authorizations would increase due to the construction of the proposed project. The Section 1 Tier II FEIS projected that a total of 295 acres of new development would be induced by the construction of Section 1 within Gibson and Warrick Counties, including both residential and employment-related development. Induced development is predicted to occur primarily near the proposed interchanges with SR 168 (the location of the proposed crossing), SR 68, and SR 64 (locations of crossings verified under Indiana RGP No. 1). It is likely that some of this development would require Section 404 CWA authorization for wetland fill or stream crossings. Any such induced development would be required to avoid, minimize, and mitigate for any impacts to "waters of the U.S." There are no natural resource issues of particular concern from Corps and non-Corps activities.

- (2) Context. The proposed project is typical of a precedent for very large compared to other activities in the watershed.

There are many other road crossings in the area, but Interstate 69 would be the first Interstate built in the area. Each separate and complete crossing for this project would have larger impacts than historic projects, which involved road crossings for local and county roads and State and US Routes. Future conditions in the project area are expected to remain mainly agricultural in nature. Because Section 1 of the Interstate 69 Evansville to Indianapolis extension borders Evansville, some induced residential development is expected. Besides Corps authorized projects, other past and present activities include coal mining and maintenance of agricultural fields.

Resulting natural resource changes and stresses from coal mining include conversion of woods, streams, and wetlands into mined and spoil areas. While impacts from coal mining are expected to increase from the creation of new mining facilities, the Surface Mining Control and Restoration Act requires stringent reclamation work to return mined lands to their pre-mining land uses. IDNR permit requirements now include returning the land to the approximate original contour, subsoil and topsoil replacement, and, for cropland, revegetation with several years of cultivation of specified crops. While the land use effects of any particular mining operation may continue in a specific location for a number of years, the requirements of the IDNR Reclamation program are designed to ultimately return the mined lands to their original pre-mining land uses. Also, requirements from the Corps of Engineers regulatory program result in on-site and off-site mitigation for stream and wetland losses. 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 farmed or created pastures on all suitable land, leaving unsuitable land as woods. Conversion of these woods is not expected.

The key issues of concern in these watersheds are loss of streams and wetlands, water quality, and habitat fragmentation. There should be no significant secondary or cumulative impacts from the proposed project related to these issues. The applicant's proposed mitigation would offset impacts to streams from the proposed Section 1 crossings and result in a net increase in wetland acres in the affected watersheds. Water quality issues are addressed in the applicant's Section 401 Water Quality Certification. The crossings are not expected to cause further habitat fragmentation as the project area has already been developed into agricultural field to the maximum extent possible and habitat only exists in fragments.

- (3) Mitigation and Monitoring. The project affects the following key issue(s): The proposed crossing would impact 1,780 linear feet of stream that would be relocated, culverted, and/or lined with riprap. The magnitude of the proposed

effect would be minor within the watershed. Avoidance and minimization methods include – refining the highway alignments and crossings during the Tiered NEPA evaluation to avoid wetlands, streams, and forests; and modifying the crossing designs to limit use of fill material, minimizing the impacts to “waters of the U.S.” These avoidance and minimization measures would result in fewer overall impacts to the “waters of the U.S.” The other alignment for the Central Segment was estimated to have the potential to impact 1,475 more linear feet of streams along the entire Central Segment. Compensatory mitigation, namely the proposed “I-69 Section 1 Compensatory Mitigation Plan” and monitoring described therein will result in the creation of 11,970 linear feet of ephemeral stream channels using natural stream design, the enhancement of 6,300 linear feet of riparian corridor by planting herbaceous plants, and the creation of 5 acres of wetlands (2 acres of forested wetlands and 3 acres of emergent wetlands) as mitigation for impacts from the entire Section 1 corridor, including the proposed crossing. An additional 31.9 acres of wetlands, bottomland forest, and riparian habitats that exist on the mitigation site would be preserved. The mitigation would be constructed off-site on a 161.2-acre parcel within the same 8-digit HUC watershed (Lower White 05140202) as the impact site.

The USEPA commented that additional performance standards should be included in the permit’s special conditions to ensure success of the proposed stream mitigation. They specifically suggested the following special conditions: (1) Five years of annual stream monitoring should be performed, using the Headwater Habitat Evaluation Index (HHEI) or the Qualitative Habitat Evaluation Index (QHEI), as appropriate for the size of the stream. The annual survey data should be collected at the same time each year, selected during the June-September period, at each mitigation stream reach. The survey should be designed to be readily comparable from year to year. (2) Adaptive management/corrective actions should be assessed, proposed, approved, and performed if 30 per cent of the survey channel segments fail to maintain at least their original length in linear feet and to achieve a HHEI/QHEI score of at least 30 during any annual monitoring event. This value represents a moderate quality. The Corps considered incorporating these suggestions as special conditions to the permit, if issued. However, since the HHEI score at 20 of the 29 impacted intermittent/ephemeral sites and the QHEI score at 5 of the 9 impacted perennial sites was 25 or lower, the Corps modified this special condition to read “...and to achieve a HHEI/QHEI score of at least 25 during any annual monitoring event.” USEPA agreed to this revision. Both suggested special conditions, as revised, would be included in the permit, if issued.

Expand this section commensurate with the level of impact and appropriate level of existing and reasonably foreseeable watershed stress to aquatic resources.

- 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 the /State/Commonwealth.
 - h. (NA) 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. As noted above, 29 crossings were authorized under Indiana RGP No. 1.
 - 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] The compensatory mitigation is discussed in 1 above.
 - (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 Section 1 Mitigation Site is located within the Highland-Pigeon USGS 8-digit watershed (05140202), east of CR 450 East in Gibson County along Pigeon Creek. The site is approximately 161.2 acres in size and consists of agricultural fields along and to the north and south of Pigeon Creek. The Section 1 Mitigation Site will include the development of approximately 3.0 acres of emergent wetlands, 2.0 acres of forested wetlands, 11,970 linear feet of stream development, 6,300 linear feet of herbaceous filter strips along existing regulated drains (located within the 75 foot regulated drain easements on both sides of the drains), 95.4 acres of upland forest development (including 25.4 acres of riparian habitat along the 11,970 linear feet of stream development), and 31.9 acres of existing wetland, bottomland forest, and riparian habitat preservation (including 0.3 acres of open water created from the dredging of a portion of the Old Pigeon Creek channel). Access easements, existing stream channels, and existing roadways comprise 8.8 acres of the mitigation property. The Section 1 Mitigation Site is located in close proximity to the impacted wetlands and streams within the Interstate 69 Section 1 project corridor. Land use adjacent to the Section 1 Mitigation Site includes agricultural fields to the north and along portions of the south, east, and west boundaries of the site; and forested wetlands along the other portions of the south, east, and west boundaries of the site. CR 450 E follows the west boundary of the Section 1 Mitigation Site. The bridge carrying CR 450 E across Pigeon Creek is no longer in existence; therefore traffic along this County Road is minimal. There are residential properties located within 1,000 feet of this mitigation site to the southeast and to the north. Existing wetlands along Pigeon Creek in the area of the Section 1 Mitigation Site are primarily classified as palustrine forested wetlands with inclusions of palustrine scrub/shrub areas. The mitigation site would be designed such that additional palustrine forest (PFO), palustrine emergent (PEM), bottomland forest, stream habitat, and riparian habitat areas would be created. The majority of the 161.2 acre Section 1 Mitigation Site property has been disturbed through land clearing and agricultural practices. There are three primary regulated drains which flow through the mitigation site. These regulated drains include Pigeon Creek, which runs through the entire property from the northwest corner of the mitigation site to the center of the east boundary of the mitigation site; the Besing Lateral, which flows under CR 450 E in the southwest quarter of the mitigation site and makes a 90 degree turn and flows to Pigeon Creek; and the Stunkel lateral, which flows from the center of the north boundary of the mitigation site south to Pigeon Creek. Each of these regulated drains has a 75 foot wide easement from the top of the bank on both sides of the drain. Currently, as water levels in Pigeon Creek rise, floodwater first flows into the site through the breaches in the berm associated with the Besing and Stunkel laterals and inundates the lowest areas of the site. Under typical flood conditions associated with multiple annual rain events, floodwaters overtop the berm and would inundate the entire mitigation site, with the exception of the southwest corner. As the floodwater recedes, water would be retained in small local depressions within the site and the existing wetland, bottomland forest, and riparian habitat areas. Currently, approximately 31.9

acres of the site is existing wetland, bottomland forest, and riparian habitat.

Given the research, planning, and design associated with the above site and its likelihood of success and sustainability, this site meets the fundamental objective of offsetting the losses from unavoidable impacts to “waters of the U.S.”

(6) Other Mitigative Actions:

Forest Impacts: For the proposed Interstate 69 Evansville to Indianapolis extension project as a whole, INDOT and FHWA committed to mitigate impacts to upland forests at a 3 to 1 ratio. Mitigation goals are to replace direct forest impacts at a 1 to 1 ratio and provide an additional 2 to 1 ratio of forest preservation. The 3 to 1 ratio would be achieved for the overall Interstate 69 Evansville to Indianapolis extension; the ratio for an individual Tier II section could be higher or lower than 3 to 1. Based on the 3 to 1 ratio and the estimated 27.4 acres of direct impact with Section 1's Preferred Alternative 4, a total of 82 acres could be needed for mitigation—approximately 27 acres of new plantings to replace forest acres directly impacted and 55 acres of existing forest to be preserved.

Construction: Environmentally-sensitive locations (e.g., wetlands, historic structures, archaeology sites, sinkholes) in the general area would be clearly shown on construction plans. Sites within the right-of-way would be delineated. These sites would not be permitted for use as staging areas, borrow, or waste sites. Erosion control devices would be used to minimize sediment and debris from leaving the project site in runoff. Timely revegetation after soil disturbance would be implemented and monitored. Erosion control measures would be put in place as a first step in construction and maintained throughout construction. Any riprap used below the high water mark would be of a large diameter in order to allow space for habitat for aquatic species after placement. Slopes would be designed that resist erosion. If slopes exceed 2 to 1, they would include stabilization techniques. Soil bioengineering techniques for bank stabilization would be considered where situations allow. To protect sources of potable water, grassy swales would be constructed to divert stormwater from the road to ditches and streams. Construction methods would be used to reduce temporary turbidity caused by construction. Prior to construction, planning for parking and turning areas for heavy equipment would be located outside the construction limits, but within the right-of-way, to minimize soil erosion and impacts to identified resources. To avoid any direct take of Indiana bats, no trees with a diameter of 3 or more inches would be removed between April 1 and September 30. Tree clearing and snag removal would be kept to a minimum and limited to within the construction limits. In the median, outside the clear zone and considering other safety factors, tree clearing would be kept to a minimum with woods kept in as much a natural state as reasonable. Forested medians would be managed following IDNR State Forest timber management

plan. INDOT would consult IDNR to determine appropriate measures during tree clearing to address concerns about the emerald ash borer. Revegetation of disturbed areas would occur in accordance with INDOT standard specifications. Woody vegetation would only be used a reasonable distance beyond the clear zone to ensure a safe facility. Revegetation of disturbed soils in the right-of-way and medians would utilize native grasses and wildflowers as appropriate. The Rule 5 permit that contractors must obtain would require that all have spill containment plans in their contract documents. Noise impacts would be controlled through the regulation of construction time and hours worked, using noise-controlled construction equipment, limitations of construction vehicles during evening and weekend hours and by locating equipment storage areas away from noise sensitive areas. Solid waste generated by clearing and grubbing, demolition or other construction practices would be removed from the location and properly disposed. Burning of construction related debris would be conducted in accordance with all applicable local, state, and federal regulations. All burning would be conducted a reasonable distance from all homes and care would be taken to alleviate any potential atmospheric conditions that may be a hazard to the public. All burning would be monitored. Contractors are required to follow safeguards established in INDOT's *Standard Specifications* (Section 203.08 Borrow or Disposal) that include obtaining required permits, and identify and avoid or mitigate impacts at borrow/disposal sites that contain wetlands or archaeological resources. Special Provisions would include prohibiting tree clearing from April 1 to September 30 within the Summer Action Area of the Indiana bats, as identified in the revised Tier I BO; and prohibiting the filling of wetlands outside the construction limits. Wetlands within the right-of-way that are not within the construction limits would be delineated and protected from construction impacts. All Interstate 69 engineering supervisors, equipment operators, and other construction personnel and INDOT and/or other maintenance staff would receive mandatory environmental awareness training that discloses where known sensitive Indiana bat sites are located in the project area, addresses any other concerns regarding Indiana bats, and presents a protocol for reporting the presence of any live, injured, or dead bats observed or found within or near the construction limits or right-of-way during construction, operation, and maintenance of Interstate 69.

Farmland impacts: Where reasonable, Alternative 4 follows existing property lines and minimizes dividing or splitting large tracts of farmland to reduce the creation of point rows and uneconomic remnants. Many farm parcels that would have lost access as a result of the project would be provided access via new roads as features of the project. Where providing access is not deemed reasonable from an economic standpoint during final design, the disposition of landlocked parcels and uneconomic remnants would be addressed during final design and right-of-way acquisition process. In several locations, overpasses would be provided to maintain the connectivity of local roads. The overpasses would facilitate access to farm operations divided by Interstate 69.

Water Body Modifications Impacts: The following measures will be utilized to address impacts on water bodies. (1) Water bodies, wetlands and other natural areas outside the construction limits but within the right-of-way would be delineated and posted with "Do Not Disturb" signs. (2) Tree clearing and snag removal would be kept to a minimum and limited to within the construction limits and calendar requirements. (3) The realignment of surface streams or impacts to riffle-pool complexes and natural stream geomorphology would be avoided where reasonable. Stream relocations would be completed using the natural channel design features that are identified through coordination with IDNR and other water resource agencies to develop a channel that is as good as or better than the impacted channel considering a channel's status as a legal drain. (4) Where reasonable, below-water work would be restricted to placement of piers, pilings and/or footings, shaping of spill slopes around the bridge abutments, and placement of riprap. (5) Where reasonable, channel work and vegetation clearing would be restricted to within the width of the normal approach road right-of-way. (6) The extent of artificial bank stabilization would be minimized. Soil bioengineering techniques for bank stabilization would be considered where situations allow. (7) If riprap is utilized for bank stabilization, it would be of appropriate size and extend below the low-water elevation to provide for aquatic habitat. (8) Culverts and other devices would be placed so that they do not preclude the movement of fish and other aquatic organisms. Culverts and other devices would be used to preserve existing drainage patterns. Consideration would be given to oversized culverts to allow for the passage of small fauna at locations where it is determined to be appropriate and reasonable, and natural bottoms would be preserved when feasible. A field reconnaissance has identified a suitable location for a culvert that would serve as a wildlife crossing south of County Road 600 South. (9) Erosion control devices such as erosion control matting, grading, seeding and sodding would be used to minimize sediment and debris in tributaries of the project.

Ecosystems Impacts: The following measures will be utilized to address impacts on ecosystems. (1) Where woody vegetation, wetlands, wildflowers or environmentally sensitive areas occur, "Do Not Spray or Mow" signs would be posted. (2) In mitigation sites and within the proposed right-of-way for Interstate 69, INDOT would use appropriate herbicides and/or physical mechanisms to control invasive plants, such as purple loosestrife, canary reed grass, kudzu, Japanese knotweed and others. (3) Coordination with USFWS would continue pursuant to the Migratory Bird Treaty Act of 1918. (4) Transportation designers would work with appropriate agencies to determine the most feasible and practical conservation measures for the maintenance of wildlife movements and landscape connectivity. At this time, efforts are concentrated along Pigeon Creek, CR 600S, and CR 450S, where wildlife crossings are proposed. (5) Mitigation measures for impacts on wildlife movements and populations are proposed to include two underpass wildlife crossings: in the vicinity of Interstate 69's crossing of Pigeon Creek and where Interstate 69 overpasses CR 450S. Both structures would be of sufficient

clearance (at least 8' x 24') to permit the passage of large mammals. A third wildlife corridor, at the crossing of an intermittent stream south of CR 600S, would provide a structure with a natural substrate bottom to facilitate the passage of small to moderate-sized fauna. Other measures could include, but are not limited to: barrier fencing (large species), all wildlife crossing types would be determined and designed considering size, placement, substrate, vegetative cover, moisture, temperature, light, and human disturbance, roadway warning signs and flashers, planting unpalatable species near roadway to reduce likelihood of wildlife attraction.

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 proposed crossings would advance the National Interstate 69 Project, which is needed to facilitate interstate and international movement of freight through the Interstate 69 corridor. Benefits from the proposed crossings would include: (1) increased access of area communities to the Interstate system; (2) reduction in travel time to regional business destinations (Evansville, Bloomington, and Indianapolis); (3) reduction in congestion on rural roadways; (4) reduction in number of crashes in the Section 1 area; (5) reduction in the number of trucks on area highways; (6) increase in access of area businesses to the Interstate system; and (7) provision of interchange locations suitable for stimulating economic development.
 - b. There are unresolved conflicts as to resource use however there are no practicable reasonable alternative locations and methods to accomplish the objective of the proposed work. *Explain.* One of the Hoosier Environmental Council's objections to the proposed project is that the alternative that would use existing US 41 and Interstate 70 would be the least environmentally damaging practicable alternative. The alternative that would use existing US 41 and Interstate 70 would not meet the project goals and has been determined not to be practicable. As discussed in the alternatives section, the proposed project has fewer impacts to aquatic resources than any of the other alternatives.
 - 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 crossing would be located in an agricultural field. This area is currently privately owned and it would be converted to a public Interstate. The proposed crossing would impact 1,780 linear feet of stream that would be relocated, culverted, and/or lined with riprap to facilitate the construction of the Interstate. In addition to the impacts from this crossing, the construction of Section

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above-Numbered Permit Application

1 would impact 13,793 linear feet of stream and 1.93 acres of emergent and forested wetlands and open water. Mitigation for the impacts to stream and wetland would be provided at the Interstate 69 Section 1 Mitigation Site. The proposed crossing would have the beneficial effect of providing a crossing for an Interstate that would improve personal accessibility for the local population, improve traffic safety, and support local economic development initiatives.

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. The determination not to hold a public hearing was made in writing on April 28, 2011.

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, if appropriate.*
- (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:

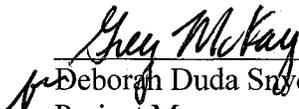
1. The permittee shall create 11,970 linear feet of stream, enhance 6,300 linear feet of riparian corridor, and create or restore 5 acres of wetland to include 3 acres of emergent and 2 acres of forested wetland in accordance with the "I-69 Section 1 Compensatory Mitigation Plan" dated October 16, 2007 and revised February 8, 2008.
2. The permittee shall monitor the mitigation site annually for a period of five years. This monitoring shall include annual stream monitoring, using the Headwater Habitat Evaluation Index (HHEI) or the Qualitative Habitat Evaluation Index (QHEI), as appropriate for the size of the stream, at the mitigation sites. The annual survey data should be collected at the same time each year, selected during the June-September period, at each mitigation stream reach. The survey should be designed to be readily comparable from year to year. The permittee shall submit monitoring reports to the U.S. Army Corps of Engineers, Indianapolis Regulatory Office by December 31 every year of monitoring.
3. If 30 percent of the survey channel segments at the mitigation sites fail to maintain at least their original length in linear feet and to achieve a HHEI/QHEI score of at least 25 during any annual monitoring event, adaptive management/corrective actions shall be proposed, assessed, approved by the U.S. Army Corps of Engineers, and performed.

CELRL-OP-FN (Application LRL-2007-1043)

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above-Numbered Permit Application

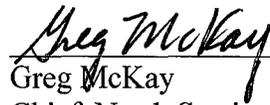
4. The permittee's responsibility to complete the required compensatory mitigation as set forth in Special Conditions 1, 2, and 3 shall not be considered fulfilled until they have demonstrated compensatory mitigation project success and have received written verification of that success from the U.S. Army Corps of Engineers.

PREPARED BY:


Deborah Duda Snyder
Project Manager
Indianapolis Regulatory Office

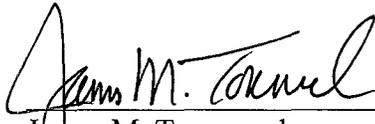
Date: 6/8/11

REVIEWED BY:


Greg McKay
Chief, North Section
Regulatory Branch

Date: 6/8/11

RECOMMENDED BY:


James M. Townsend
Chief, Regulatory Branch
Operations Division

Date: 6/13/11

APPROVED BY:


Keith A. Landry
Colonel, Corps of Engineers
Commander and District Engineer

Date: 6/14/11