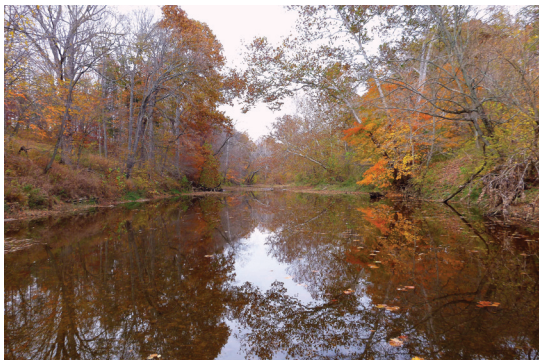
Jennings County, Indiana • Des. No. 1173374 • June 2014

# US 50 NORTH VERNON BYPASS - EAST
# Additional Information

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# DES: 1173374

U.S. 50 North Vernon Bypass East; Jennings County
Additional Information Addendum

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## *Indiana Department of Transportation*

County Jennings Route U.S. 50 Des. No. 1173374

**FHWA-Indiana Environmental Document**

# CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

**GENERAL PROJECT INFORMATION**

| | |
|---|---|
| **Road No./County:** | U.S. 50 North Vernon Bypass-East, Jennings County |
| **Designation Number:** | 1173374 |
| **Project Description/Termini:** | Construction of the eastern half of the U.S. 50 bypass around North Vernon; from S.R. 3 north of North Vernon to existing U.S. 50 east of town. |

After completing this form, I conclude that this project qualifies for the following type of Categorical Exclusion (FHWA must review/approve if Level 4 CE):

| | |
|---|---|
| | **Categorical Exclusion, Level 2** – The proposed action meets the criteria for Categorical Exclusion Manual Level 2 - table 1, CE Level Thresholds. Required Signatories: ESM (Environmental Scoping Manager) |
| | **Categorical Exclusion, Level 3** – The proposed action meets the criteria for Categorical Exclusion Manual Level 3 - table 1, CE Level Thresholds. Required Signatories: ESM, ES (Environmental Services Division) |
| | **Categorical Exclusion, Level 4** – The proposed action meets the criteria for Categorical Exclusion Manual Level 4 - table 1, CE Level Thresholds. Required Signatories: ESM, ES, FHWA |
| | **Environmental Assessment (EA) –** EAs require a separate FONSI. Additional research and documentation is necessary to determine the effects on the environment. Required Signatories: ES, FHWA |
| ✓ | **Additional Information Addendum (AI) –** This document is an addition to the Environmental Assessment (EA) for the above mentioned document, approved on December 2, 2013. It does not negate or replace the original document. |

Note: For documents prepared by or for Environmental Services Division, it is not necessary for the ESM of the district in which the project is located to release for public involvement or sign for approval.

**Approval** _____ _____ _____ _____
ESM Signature Date ES Signature Date

_____ _____
FHWA Signature Date

**Release for Public Involvement**

_____ _____ _____ _____
ESM Initials Date ES Initials Date

**Certification of Public Involvement** _____ _____
Office of Public Involvement Date

Note: Do not approve until after Section 106 public involvement and all other environmental requirements have been satisfied.

INDOT ES/District Env.
Reviewer Signature: _____ Date: _____

Name and Organization of CE/EA Preparer: Daniel J. Miller, Parsons Transportation Group, Inc.

The Environmental Assessment (EA) for the U.S. 50 North Vernon Bypass-East project, Indiana Department of Transportation (INDOT) Designation Number 1173374, was approved by the Federal Highway Administration (FHWA) on December 2, 2013 and posted on the project website at http://www.in.gov/indot/projects/2493.htm. In accordance with INDOT Public Involvement Procedures, Indiana Code 8-23-2-17, and the Code of Federal Regulations (CFR), Title 23, Sections 771 and 450 (23 CFR 771.111 (h)(1) and 23 CFR 450.212 (a)(7)), a public hearing was held at the Jennings County High School on December 18, 2013 to allow the public an opportunity to comment on current design plans, the Section 106 finding of "Adverse Effect", and the approved EA. A public hearing notice was advertised in the *North Vernon Sun* on December 3, 2013 and the *North Vernon Plain Dealer* on December 12, 2013 (see Appendix A), which also announced a 30-day comment period for the EA that ended on January 3, 2014. Good faith effort was made to provide copies of the public notice to property owners in the project area.

Approximately 50 individuals attended the hearing. Each was given a handout that summarized the project and contained a map of the preferred alternative. Large display boards were set up in the library where the public could get a close-up look at detailed project maps and ask questions. A formal presentation was given in an adjacent lecture hall at 6:00 p.m., which was immediately followed by a public comment session. In addition to verbal comments, forms were made available for written comments at the meeting. In total, six individuals spoke at the meeting, one individual filled out a comment form, and seven e-mails and four mailed letters were received from individuals from the public, local businesses, local government agencies, and resource agencies (including the Indiana Department of Natural Resources (IDNR), the U.S. Fish and Wildlife Service (USFWS), and the State Historic Preservation Officer (SHPO)) before the comment period ended on January 3, 2014. A response letter was received from the U.S. Environmental Protection Agency (USEPA) on January 8, 2014. A summary of the comments received and INDOT's response to each is located in Appendix C.

The comments received from the public, local businesses, local government agencies, and resource agencies covered a variety of topics including the installation of a vandal fence to protect North Vernon's water supply from contaminants thrown over the bridge; addressing the treatment of highway runoff; mitigating for impacts to threatened and endangered species (TES), including the Indiana bat, the northern long-eared bat, Kirtland's snake, and the eastern box turtle; mitigating for habitat impacts; clarifying the Section 106 finding of "Adverse Effect"; and addressing air quality issues. Portions of the project scope were revised to address some of the comments received.

After the public hearing was held, the Project Team developed and evaluated a number of "Practical Design" concepts to help reduce costs and impacts throughout the project area. After review, discussion, and careful consideration, several "Practical Design" alternatives were selected for implementation as part of the project. These alternatives include reducing the paved shoulder width from 10 feet to 2 feet, and adding an 8-foot "chip-and-seal" shoulder for a total of 10 feet of usable shoulder width; modifying the side slopes from 6:1 to 4:1; designing culverts for allowable headwater; reducing the width of turn lanes from 12 feet to 11 feet; reducing turn lane lengths; eliminating the CR 20 Overpass and replacing it with an at-grade intersection (2-way stop for CR 20 traffic); and eliminating the roundabout at CR 175 / CR 160 by replacing it with a two-way stop-controlled intersection. Meetings were held on April 29, 2014 with Harold Campbell, Mayor of North Vernon and on May 8, 2014 with the Community Advisory Committee (CAC) to discuss these changes. Minor revisions were made to address comments received at these meetings. The proposed changes are discussed in detail below in Section II.

Due to the changes of scope, new and revised environmental commitments, and the need to address the remaining comments that were received, an amendment to the approved EA is warranted.

## I) Public Hearing Comments & Scope Revisions

A) North Vernon Water Intake Protection:

Sections 3.8 and 4.10.4 of the approved EA (pages 21-22 and 69-71) discuss INDOT's proposed plans to protect North Vernon's drinking water supply intake, which is located approximately 2,500 feet downstream from the proposed bridge carrying the bypass over the Vernon Fork of the Muscatatuck River. The mitigation measures discussed in the EA included constructing a closed drainage system along the new roadway for a length of approximately 0.7 mile, from 950 feet west of CR 20 W to the bridge over the CSX Railroad. Within this area, all stormwater landing on the roadway or shoulders would be collected via roadside ditch and carried by either a roadside ditch or buried pipe to outfalls in the river located below the dam and the City's drinking water intake. In doing so, any spill that occurred on the bridge over the Vernon Fork of the Muscatatuck River or the adjacent roadway segments would be captured and conveyed downstream of the intake. The system would be "passive" in that no acknowledgment of an incident or action on the part of emergency

responders or North Vernon Water is required to provide the requisite protection. Potential impacts to the water supply during construction would be minimized by implementing Best Management Practices (BMPs), described in Chapter 5 of the EA, which would contain sediment and pollutants within the project site. After the EA was published, the following comments concerning protecting North Vernon's water intake were received:

i. Vandal Fence:
Seven comments (four spoken, one via the comment form provided at the hearing, and two via e-mail) were received requesting the installation of a vandal fence to protect the drinking water supply from contaminants thrown over the bridge (see Appendix C, comments E4-2, E5-1, F1-1, S2-1, S3-1, S4-1, and S6-1). INDOT reviewed the requests and met with the North Vernon Municipal Utility Board to discuss their concerns. At these discussions, INDOT agreed to install vandal fencing on the proposed bridge over the Vernon Fork of the Muscatatuck River to help further protect the City of North Vernon's water supply intake. The Utility Board agreed to be responsible for future major maintenance or replacement costs. Therefore, the construction of a vandal fence has been added to the proposed project, and its inclusion has been added as a "firm" commitment in the updated commitments listed below in Section III.

ii. Impoundment Basin:
The North Vernon Utility Board requested that INDOT obtain the limestone quarry owned and operated by Berry Materials Corp. in order to allow the utility to move their impoundment basin (see Appendix C, comment E4-1). The Board stated that this option would help to protect drinking water from potential contamination by increasing the dilution of the contaminant as well as removing the bridge from a position directly over the water supply. INDOT reviewed this option and determined that purchasing the entire quarry would not be a cost-effective solution to protecting the drinking water supply. INDOT has included measures to protect the City's drinking water supply from potential contamination, including the closed drainage system and vandal fence described above. Therefore, this request was dismissed.

iii. Treatment of Highway Runoff:
USEPA responded to the EA on January 8, 2014 (see Appendix B, pages 53-58). USEPA commented on the fact that the preferred alternative for protecting the drinking water supply would discharge into the river without pretreatment and stated, "In order to protect existing water quality, [US]EPA recommends that any spill/stormwater/roadway runoff associated with the bypass be pretreated prior to discharging into the river. We recommend INDOT identify appropriate mitigation measures that will be undertaken to protect the existing water quality of the river both upstream and downstream of the proposed preferred option discharge location" (see Appendix C, comment M5-6).

In order to address this recommendation, INDOT reviewed possible mitigation measures to protect the existing water quality of the river upstream and downstream of the proposed preferred discharge location. A large detention basin option was previously evaluated, but this option was dismissed due to its inability to mitigate the risk to the drinking water system. Mechanical separators (e.g., Vortechs) were reviewed, but the cost, physical space needed (including new permanent right-of-way), and long term operations and maintenance make mechanical separators impractical and not a prudent option. No other viable options were found to further protect the existing water quality from any spill/stormwater/roadway runoff associated with the bypass. Therefore, no additional measures will be constructed.

All runoff associated with the bypass will pass through vegetated ditches, a valid BMP measure, prior to entering the closed system. INDOT will continue to address all regulatory requirements, such as obtaining a Rule 5 permit and constructing appropriate BMP measures to protect the water supply from construction activities.

B) Threatened and Endangered Species:
Section 4.13 of the approved EA (pages 82-87) discusses impacts to Threatened and Endangered Species (TES) and measures that would be included to mitigate for these impacts. As stated in the EA, USFWS and IDNR were coordinated with throughout the project's development to ensure that the proposed project did not jeopardize listed species or destroy or adversely modify critical habitat, as required by the Endangered Species Act (ESA) of 1973. USFWS's and IDNR's comments on TES were included as either "firm" commitments or commitments "for further consideration" in the EA.

After the EA was approved, both agencies were forwarded the document for review. USFWS responded on January 2, 2014 and IDNR responded on January 3, 2014 with the following additional recommendations to protect these species (see Appendix B, pages 53-61):

i. Indiana Bat

In their response, USFWS stated, in part, that, "The project is in the range of the Indiana bat (*Myotis sodalis*)…There is suitable summer habitat and several summer records for this species along the project corridor. The project will not eliminate enough habitat to affect this species, but, as discussed in the EA, the applicant has agreed to avoid incidental take from removal of an occupied roost tree by avoiding tree-clearing activities in the Indiana portion [*the project is entirely within Jennings County, Indiana] of the project during the period April 1 - September 30…On September 10, 2013, we issued a letter concurring that the North Vernon East Bypass Project was not likely to adversely affect the Indiana bat provided seasonal tree-clearing restrictions were adhered to, as well as other minor avoidance and minimization measures. Please refer to our September 10, 2013 letter for additional endangered species and Section 7 consultation information for this project" (see Appendix C, comment M2-1).

INDOT included the tree clearing restriction as a "firm" commitment in the Environmental Assessment, and it will be included as a "firm" commitment in the Environmental Commitments Database and in the Contract Documents for this project. Additional commitments have been added to further protect this species (discussed below). All of these "firm" commitments are included in the updated commitments listed below in Section III.

USFWS also stated, "In Section 4.13 (page 84, second paragraph), the EA states that the late summer capture date of the female juvenile Indiana bat may indicate that the individual was transient, as opposed to belonging to a local maternity colony. The Indiana bat survey protocols were developed, in part, to eliminate concerns related to the time of year Indiana bats are captured and whether or not they are resident or transient individuals. Based on scientific literature and species expertise, we have concluded that any Indiana bats captured during the May 15 to August 15 time period are resident individuals. Moreover, the fact that the individual captured was a juvenile is further evidence that an Indiana bat maternity colony is present in the area, since juveniles typically stay in the summer maternity colony area for a longer period of time than adults prior to fall migration (USFWS 2007)" (see Appendix C, comment M2-6).

As discussed by USFWS, the EA concluded that the late summer capture date of the female juvenile Indiana bat may indicate that the individual was transient, as opposed to belonging to a local maternity colony. Per USFWS's comment, this individual was likely part of a resident Indiana bat maternity colony. As previously stated, several "firm" commitments have been included to protect this species. Therefore, by adhering to these commitments, the project is "Not Likely to Adversely Affect" this species.

IDNR's response stated, "Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30" (see Appendix C, comment M3-12), which was included as a firm commitment in the EA. However, USFWS noted, "The description for suitable roost trees that is in parentheses should not include the phrase 'with loose hanging bark'. Any tree over 3 inches dbh, living or dead, should not be removed during the summer maternity season unless further coordination occurs with our agency" (see Appendix C, comment M2-8). Therefore, the tree clearing restriction is still included as a "firm" commitment, but, per USFWS's request, the "with loose hanging bark" portion has been removed (see Commitment #14 below in Section III).

ii. Northern Long-Eared Bat

USFWS stated, "The proposed project also lies within the range of the northern long-eared bat (*Myotis septentrionalis*), a species that was proposed for listing as federally endangered on October 2, 2013. In both the 2009 and 2012 Indiana bat surveys for the project area, northern long-eared bats were encountered. During the winter, northern long-eared bats hibernate in caves and abandoned mines. Summer habitat requirements for the species are not well defined but include properties similar to that of Indiana bats including:

1) Roosting in dead or live trees and snags with cavities, peeling or exfoliating bark, split tree trunk and/or branches, which may be used as maternity roost areas;
2) Foraging in upland and lowland woodlots and tree lined corridors; and
3) Occasionally roosting in structures like barns and sheds."

"Proposed avoidance measures for Indiana bats, primarily seasonal tree-clearing restrictions, will be adequate to avoid and minimize any adverse impacts to the northern long-eared bat. This precludes the need for additional consultation on this species in the event it becomes formally listed prior to, or during, the construction phase of the U.S. 50 East Bypass project. Since there is some indication that northern long-eared bats may on occasion use structures for roosting, we recommend adding a commitment that prior to the demolition of older structures, such as barns and sheds, a visual search be performed to see if bats are using the structure for roosting. Bats utilizing structures as roosts during the summer months may be utilizing them to shelter their bat pups which may not be able to fly when they are young. Should bats be found using the structure, we request that you contact our office to discuss options for excluding the bats prior to demolition" (see Appendix C, comment M2-2).

As previously stated, INDOT has included the tree clearing restriction as a "firm" commitment. Additionally, the following "firm" commitments have been added to the project:

1. Prior to the demolition of older structures, such as barns and sheds, a visual search must be performed to see if bats are using the structure for roosting.
2. If any bats are found using the structure, the USFWS Bloomington Office must be contacted to discuss options for excluding the bats prior to demolition. Demolition will not occur until this is resolved.

iii. Indiana Bat/Northern Long-Eared Bat Habitat

The following comments were received concerning Indiana bat and the northern long-eared bat habitat:

1. USFWS requested for INDOT to seek opportunities to preserve and/or create Indiana Bat/northern long-eared bat habitat (see Appendix C, comment M2-9). This was previously agreed to in the Biological Assessment prepared for the project. To address this comment, the following firm commitment was added:
   - INDOT will seek opportunities to preserve and/or create Indiana bat habitat during the evaluation of excess ROW parcels.

   IDNR recommended that "a mitigation plan be developed (and submitted with the permit application) if habitat impacts will occur" and that impacts to non-wetland forest should also be mitigated for (see Appendix C, comments M3-3 and M3-4).

   The project area was reviewed to identify areas where habitat preservation/creation could occur. Two parcels totaling 5.75 acres that lie adjacent to the Calhoun emergent wetland mitigation site were identified as possible locations for preservation (see Appendix D, page 1). An 18.99-acre parcel that is partially wooded, land-locked, and adjacent to the Vernon Fork was identified as a possible location for preservation/creation. Another 3.77-acre forested parcel in this area was also identified as a possible location for preservation (see Appendix D, page 2). INDOT will create habitat where required and place restrictive covenants on these four parcels to preserve them in perpetuity. INDOT will continue to review the project area for opportunities to preserve and/or create Indiana bat habitat.

   Furthermore, additional habitat creation will occur as mitigation required for Construction in a Floodway (CIF) and Section 404/401 permits. Approximately 4.55 acres of habitat will be created from mitigation required as part of the CIF permit for impacts occurring within the floodplain (see Appendix D, page 2). An additional 14.1 acres of new forested wetland will be created as part of the mitigation plan for wetland impacts resulting from bypass construction (see Appendix D, pages 7-8). Additional forest preservation will occur at the Luedeman wetland preservation site, where 31.8 acres of high quality mesic flatwoods will be preserved as part of the overall wetland mitigation package for the IDEM 401 and USACE 404 permits (see Appendix D, page 5). Additional forest plantings will occur at the Goecker stream mitigation site (1.72 acres), the Harrell stream mitigation site (1.60 acres) and the Mitchell stream mitigation site (2.89 acres), for a total of 6.21 acres of new forest creation (see Appendix D, pages 3, 4, and 6).

2. USFWS stated, "Page 33 discusses impacts the proposed alignments may have on utilities and indicates

that additional parcels will need to be cleared for utility relocations outside of the planned construction limits. We would like to receive additional information regarding the amount and type of land cover that will be cleared. If additional forested habitat is planned to be removed, this should be considered within the Section 7 consultation process" (see Appendix C, comment M2-4).

Per the EA, 42.1 acres of forest exists within the existing ROW. This is listed as the "Potential Impacts for Indiana Bat Habitat" on Table ES-1, page 84, page 86, and Table 32. However, on page 76 and Table 24, the EA lists the "Forest Habitat Cleared (Total)" as 38 acres. On page 86, the EA states "Because INDOT plans to clear only what is required to construct a 2-lane facility, approximately 22 acres of habitat would be impacted during construction." This was relayed to USFWS via e-mail coordination on August 30, 2013.

After reviewing the plans for the proposed tree clearing contract, approximately 26.43 acres of forest (which includes the forested wetland) will be cleared for this project. Therefore, the updated clearing numbers and plans were forwarded to USFWS on January 17, 2014. Due to a change in the letting schedule, tree clearing will no longer be done under a separate contract. It will now be included with the construction contract.

Based on utility coordination completed to date, it is anticipated that utility relocations will occur within the project construction limits and will not result in additional forested habitat removal.

3. IDNR requested, "Where possible, in order to minimize direct impacts and fragmentation impacts to the forested riparian corridor, highway runoff detention basin outfalls should be located in previously disturbed areas of the Vernon Fork (VFK) Muscatatuck River's forested riparian corridor, or where the forested riparian corridor is sparse or narrow and where the outfall will result in minimal tree clearing" (see Appendix C, comment M3-5).

   Stormwater mitigation, including detention basins, will run along two roadways and should require very little clearing. Furthermore, as previously stated, tree clearing has been reduced throughout the project limits.

iv. Kirtland's Snake & Eastern Box Turtle

IDNR stated that, "Construction that is on-going during the active season for Kirtland's snake and the eastern box turtle may result in impacts to these species unless the environmental commitments for further consideration that involve removal and exclusion of Kirtland's snakes and Eastern box turtles are made priority/firm commitments. These commitments, along with the firm commitment that involves limiting the construction season to avoid the hibernation period for Kirtland's snakes and Eastern box turtles, are an important part of the overall protection of these species throughout the construction project" (see Appendix C, comment M3-2). USFWS was concerned that the firm commitment #7 from the EA concerning Kirtland's snake and eastern box turtle "indicates that where any excavation or digging will occur, that construction only take place from April through October", and noted that "Further clarification or discussion of this commitment, in light of the required seasonal tree-clearing restrictions for Indiana bats, is warranted" (see Appendix C, comment M2-7).

Therefore, to address these concerns, the following firm commitments have been added/revised:

1. To minimize impacts to the eastern box turtle and Kirtland's snake, all logs, trash, or any other type of debris must be removed from the construction zone at least one week prior to the start of work to keep these species from hiding underneath the debris. If any vegetation will be removed during work, this must also be done one week prior to construction. After the trash and vegetation are removed, a trenched-in silt fence must be placed around the construction area. Once the silt fence is installed, a walk-through must be completed to look for any eastern box turtles or Kirtland's snakes. Any equipment, materials, or debris left overnight in the area must be checked for the presence of eastern box turtles or Kirtland's snakes prior to the start of work the next day.
2. Any reptiles or amphibians encountered in the project area must be removed, unharmed, and placed outside

the construction area. Any turtles encountered must be moved to the nearest forested area. If any reptiles or amphibians are encountered, Sarabeth Klueh, IDNR Division of Fish and Wildlife herpetologist, must be coordinated with at (812) 334-1137 or sklueh@dnr.in.gov for guidance regarding development of herpetile removal plans.

3. Removal of any state endangered species will require a permit issued by the Division of Fish and Wildlife. Linnea Petercheff must be contacted at (317) 233-6527 or lpetercheff@dnr.in.gov before removal of any of these species, if needed.
4. Construction staff must be educated on endangered, threatened, and rare species or species of concern that may be encountered. Appropriate signs detailing these species, such as the eastern box turtle and Kirtland's snake, must be on display throughout the project site for the duration of the construction project.

v. Additional Revisions/Clarification

USFWS noted, "in Section 4.13, under the Survey Results section, the EA mentions that one bat species, the evening bat, is listed as endangered by the State of Indiana. We would like to point out that out of the eight species found in the project area during the 2009 and 2012 bat surveys, all but the big brown bat (*Eptesicus fuscus*) are currently listed on the Indiana Department of Natural Resources "List of Endangered, Threatened, & Rare Species", most as Species of Special Concern" (see Appendix C, comment M2-5).

As noted, Section 4.13 should have identified the evening bat as "State Endangered" and the eastern pipistrelle (a.k.a. Tri-colored bat), little brown bat, eastern red bat, and northern long-eared bat as "Species of Special Concern". As discussed above, the northern long-eared bat (*Myotis septentrionalis*) has since been proposed for listing as federally endangered (October 2, 2013).

C) Cultural Resources (Section 106):

Section 4.6 of the approved EA (pages 41-52) discusses impacts to Cultural Resources and measures that would be included to mitigate for these impacts. As stated in the EA, SHPO and consulting parties were coordinated with throughout the project's development. An 800.11(e) document was signed by FHWA on May 17, 2013, which issued an "Adverse Effect" finding for the proposed project. A Memorandum of Agreement (MOA) was approved on September 17, 2013 to mitigate for these adverse effects, which completed the Section 106 process. After the EA was published, SHPO responded on December 19, 2013 with the following comments/clarifications on Cultural Resources described in the EA (see Appendix C, comments M4-(1-7)):

i. NRHP Eligible Properties

SHPO agreed with the EA's identification of above-ground properties that are eligible for inclusion in the National Register of Historic Places, which included the Frank Selmier House and three historic bridges (Baltimore & Ohio Railroad Bridge over CR 75 East (AL003; IHSSI No. 079-097-20021); Baltimore & Ohio Railroad Bridge over CR 175 North and Muscatatuck River (AL004), and U.S. 50 Bridge over the Vernon Fork of the Muscatatuck River (Bridge No. 050-40-00917C; NBI No. 18680)) (see Appendix C, comment M4-1). SHPO also agreed with the assessment in Table 16 of the EA that Alternative 6D (Preferred Alternative) would not adversely affect the historic bridges. However, SHPO noted:

1. "The discussion of Alternative 6D on page 50 seems to be saying that 6D would have no impacts at all on those bridges. In our June 28, 2013, letter concurring in FHWA's May 17, 2013, Section 106 Adverse Effect finding for Alternative 6D as a whole, we also concurred with FHWA's subsidiary findings that the project would not adversely affect the bridges. Unless there is a difference in the way "impact" and "effect" have been used in the EA, we would be inclined to say that we do not believe that the project will have any adverse impacts on the three historic bridges, but we are not sure that there would be no demonstrable impacts at all" (see Appendix C, comment M4-2).

   INDOT concurs with SHPO's response. The EA should have clarified that, "No **adverse impacts** to the three NRHP-eligible bridges are anticipated from the construction of the proposed alignment in Alternative 6D" instead of stating that "No impacts" would occur.

2. "Furthermore, according to Table 16, Alternative 4NB2 would have no adverse effect on the Frank Selmier House, but the discussion of 4NB2's impacts on pages 50-51 of the EA indicates that there potentially

would be adverse effects on the house or its related features. A finding of effect for Alternative 4NB2 was not made in the Section 106 Adverse Effect finding for Alternative 6D to which we referred above. However, based on the EA's description of effects and on what my staff recalls from previous documents about this project, we think it likely that 4NB2 would have one or more adverse effects or impacts on the Frank Selmier House" see Appendix C, comment M4-3).

INDOT concurs with SHPO's response. Table 16 should have shown that Alternative 4NB2 would "likely" have one or more adverse impacts on the Frank Selmier House.

ii. Right-of-way (ROW)

SHPO noted that Figure 7 and Map 10 in Appendix A of the EA, which show the intersection where Alternative 6D would meet existing U.S. 50, appear to be of somewhat smaller dimensions than what was previously shown in the Historic Properties Report and in the documentation that supported the May 17 Section 106 Adverse Effect finding. SHPO stated that although the difference "probably would not change the impacts on above-ground historic properties…we wonder whether a roundabout with a turning radius great enough to handle trucks of all sizes could fit into the area depicted for the Alternative 6D/existing U.S. 50 intersection in Figure 7 and on Map 10 of the EA. If not, then we would recommend that a revised map be provided that shows more realistically the amount of right-of-way needed for the roundabout" (see Appendix C, comment M4-4).

The project's design staff reviewed the document and confirmed that the ROW shown in the EA is correct, and that the Roundabout fits within this ROW. Therefore, no revisions are necessary.

iii. Archaeology

In their response, SHPO stated, "Please note that for their protection, the specific locations or information that might lead to the locations of archaeological sites should not be publicly disclosed. This may include names of resources and properties" (see Appendix C, comment M4-5). The EA was reviewed, and all sensitive information has been blacked out for future use.

In regard to the roundabout, SHPO questioned whether the entire roundabout remained in areas previously investigated archaeologically. The ROW and roundabout were reviewed and compared to the archaeological survey limits. The roundabout occurs well within the previous archaeology survey limits. Therefore, no additional archaeological investigations are required (see Appendix C, comment M4-6).

D) Air Quality:

Section 4.8 of the approved EA (pages 54-56) discusses air quality impacts that would occur as a result of the project. The EA concluded that "Jennings County is currently in attainment status for all criteria pollutants, and therefore, no mitigation is required for air quality impacts. The forecasted future traffic volumes result in low potential MSAT effects that will be lower in future years than the present even with the project." After the EA was published, USEPA responded on January 8, 2013 with the following comments on air quality impacts (see Appendix C, comments M5-(1-2)):

i. Mobile Source Air Toxics

USEPA noted that a "brief discussion regarding the proposal and mobile source air toxics (MSAT) is provided in the EA (pages 55-56). However, exposure to diesel exhaust by construction workers and/or individuals that work, live or recreate near construction sites can have serious health implications." Therefore, USEPA recommended that "INDOT identify potential mitigation measures to decrease the exposure of these populations to increases in MSATs emissions during construction of the proposed project. Such measures may include, but should not be limited to, strategies to reduce diesel emissions, such as project construction contracts that require the use of equipment with clean diesel engines and the use of clean diesel fuels, and limits on the length of time equipment is allowed to idle when not in active use ([US]EPA recommends idling not exceed 5 minutes)."

To address these concerns, the following commitment has been added "for further consideration":

- Construction equipment will be maintained in proper mechanical condition. MSAT and diesel emission reduction strategies may also be employed to limit the amount of diesel emissions from construction equipment, such as limiting idle times, or reducing the number of trips.

ii. Climate Change and Greenhouse Gases (GHG)

USEPA recommended that the NEPA documentation should include estimates of the project's anticipated GHG emissions and steps to minimize those emissions as well as any anticipated effects of climate change from the project itself. USEPA state that, "This information would be beneficial in identifying design measures to incorporate into the project's final design. For example, the EA would benefit from a discussion in regarding the effects that predicted increases in the number and/or intensity of precipitation events due to climate change may have on the final design sizing of bridge spans, culvert openings, and stormwater management measures in order to accommodate such events and ensure project longevity, public health, and safety."

Under NEPA, detailed environmental analysis should focus on issues that are significant and meaningful to decision-making. FHWA has concluded, based on the nature of GHG emissions and small potential GHG impacts of the proposed action, that the GHG emissions from the proposed action will not result in "reasonable foreseeable significant adverse impacts on the human environment" (40 CFR 1502.22(b)). The GHG emissions from the project build alternatives will be insignificant, and will not play a role in a determination of the environmentally preferable alternative or the selection of the preferred alternative. More detailed information on GHG emissions "is not essential to a reasoned choice among reasonable alternatives" (40 CFR 771.105(b)) or to making a decision in the best overall public interest based on a balanced consideration of transportation, social, and environmental needs and impacts.

Climate change is an important national and global concern. While the earth has gone through many natural changes in climate in its history, there is general agreement that the earth's climate is currently changing at an accelerated rate and will continue to do so for the foreseeable future. Anthropogenic (human-caused) GHG emissions contribute to this rapid change. Carbon dioxide ($CO_2$) makes up the largest component of these GHG emissions. Other prominent transportation GHGs include methane ($CH_4$) and nitrous oxide ($N_2O$).

Many GHGs occur naturally. Water vapor is the most abundant GHG and makes up approximately two thirds of the natural greenhouse effect. However, the burning of fossil fuels and other human activities are adding to the concentration of GHGs in the atmosphere. Many GHGs remain in the atmosphere for time periods ranging from decades to centuries. GHGs trap heat in the earth's atmosphere. Because atmospheric concentration of GHGs continues to climb, our planet will continue to experience climate-related phenomena. For example, warmer global temperatures can cause changes in precipitation and sea levels.

E) Water Resources:

Section 4.10 of the approved EA (pages 60-73) discusses impacts to Water Resources and measures that would be included to mitigate for these impacts. The appropriate resource agencies were coordinated with throughout the project's development to help identify, minimize, and mitigate for these impacts. After the EA was published, USEPA responded on January 8, 2013 and IDNR responded on January 3, 2014 with the following comments on water resources:

i. Avoidance and Minimization

USEPA noted that the "Preferred Alternative (Alternative 6D) contains 2,546 linear feet of ephemeral streams and 410 linear feet of a perennial stream within the right of way (ROW)." Because of the level of impacts, USEPA recommended that "INDOT continue its efforts to avoid and minimize impacts to streams and wetlands to the extent practicable in accordance with the CWA Section 404(b)(1) Guidelines", and noted that "[US]EPA reserves the right to review and comment on the Section 404 application for the project" (see Appendix C, comment M5-3).

Based on proposed right-of-way limits, emergent wetland impacts were initially calculated to be 10.28 acres. Efforts to reduce wetland impacts resulted in a reduced emergent wetland impact of 9.5 acres. Further refinement of the construction limits has decreased this number further, which currently stands at 5.87 acres of emergent wetland impact (based on construction limits).

Forested wetland impacts were initially calculated to be 8.7 acres based on proposed right-of-way limits. Efforts to reduce wetland impacts first resulted in a reduced forested wetland impact of 7.8 acres, then 6.9 acres. Further refinement of the construction limits has decreased this number further, which currently stands at 3.4 acres of

forested wetland impact (based on construction limits).

Design and environmental staff will continue to look for ways to avoid or further minimize impacts to wetland resources. USEPA will be afforded the opportunity to review and comment on the Section 404 permit application once USACE publishes the public notice that INDOT has applied for an individual Section 404 permit.

ii. Stream Crossings

IDNR stated, "Aside from the crossing of the VFK Muscatatuck River for which a three-span bridge is already planned, creek crossings should be constructed using a bridge or a three-sided culvert structure instead of 4-sided (box) culverts, when possible. If box or pipe culverts must be used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the bankful width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width /length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel" (see Appendix C, comment M3-7).

These comments are addressed by INDOT's Design Manual and have been considered throughout the project development process. These comments will continue to be taken under consideration during final design and construction.

iii. Bank Stabilization

IDNR recommended that INDOT "Minimize the use of riprap in the channel and use alternative erosion protection materials whenever possible. Riprap can be used as stream bank toe protection and placed from the toe of the bank up to the ordinary high water mark [OHWM]. From the ohwm to the top of the bank, erosion control blankets or turf reinforcement mats should be used. Erosion control blankets, turf reinforcement mats and other similar materials should be seeded with native plants to allow a natural, vegetated stream bank to develop. We recommend bioengineered bank stabilization materials and methods" (see Appendix C, comment M3-8).

Riprap has been minimized throughout the project development process, and this commitment will continue to be taken under consideration during final design and construction. Any "firm" commitments received from the CIF permit concerning riprap will be appropriately addressed.

iv. High Quality Forested Wetland

USEPA noted that "the Preferred Alternative includes 6.85 acres of high quality forest wetland (Wetland 101) within the ROW, along with 9.51 acres of emergent wetlands. Portions of the Wetland 101 complex extend beyond the ROW. Design changes were made to reduce the acreage of Wetland 101 within the ROW from 10.3 to 6.88 acres [*should be 6.85 acres] for a reduction of 3.45 acres; however, the bypass would be constructed through this wetland. In spite of their high value, between 2004-2009, forested wetland systems across the nation have experienced significant decline by an estimated 633,100 acres. This trend in forested wetland loss only heightens the significance of any additional loss of these resources. According to the EA, wetlands beyond the construction limits would be protected during construction by silt fence and erosion control BMPs." Therefore, USEPA recommended that "INDOT provide more details about how the integrity of this high quality wetland and its hydrology would be maintained."

In addition to protecting the wetlands beyond the construction limits with silt fence and erosion control BMP's, two design elements were implemented that will help maintain wetland hydrology in Wetland 101. First, roadside ditches have been removed from most of the roadway section through Wetlands 101 and 102. This will prevent the inadvertent draining of the wetlands that remain outside of the construction limits. Second, multiple 'equalization culverts' have been included in the plans. These equalization culverts are small-diameter (approximately 12" diameter) pipes that are laid *on the existing ground surface* before the road is constructed overtop. These culverts will allow for surface water to flow under the new roadway, and maintain equilibrium. This element will prevent wetlands on either side of the road from becoming water-starved due to the damming effect a new roadway would

otherwise create.

v. Section 404 Jurisdiction

USEPA noted that page 6 of the Waters of the U.S. Delineation Report states, "'the USACE has the primary regulatory authority for enforcing Section 404 requirements for waters of the United States.' Similar language is used on page 66 of the EA. While the roles and responsibilities of the [US]EPA and USACE differ in scope, [US]EPA and the USACE jointly administer and enforce the CWA Section 404 provisions…INDOT states (page 6) that according to current [US]EPA guidance, 'only those wetlands that are adjacent to traditional navigable waters or wetlands that directly abut non-navigable tributaries having seasonal (3-month minimum) flow are considered jurisdictional under the CWA' and reference the June 2007 joint memo issued by [US]EPA and USACE regarding CWA jurisdiction, also known as, the 'Rapanos Guidance.' First, the scenarios described above are not the only scenarios whereby aquatic resources can be deemed jurisdictional. Second, the most current joint [US]EPA/USACE guidance on CWA jurisdiction was issued in December 2008 and incorporated revisions to the June 2007 'Rapanos Guidance,' after careful consideration of public comments received, and based on the agencies' experience in implementing the guidance. Ultimately, jurisdiction will be verified by USACE during the Section 404 permitting process for this project" (see Appendix C, comment M5-5).

INDOT acknowledges that the USEPA jointly administers and enforces Section 404 of the Clean Water Act. INDOT also acknowledges that, per the USEPA/USACE 2008 Joint Memo, "The agencies will assert jurisdiction over the following waters:

- Traditional navigable waters
- Wetlands adjacent to traditional navigable waters
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)
- Wetlands that directly abut such tributaries

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

The agencies generally will not assert jurisdiction over the following features :

- "Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters
- Significant nexus includes consideration of hydrologic and ecologic factors"

As stated, jurisdiction will be verified by USACE during the Section 404 permitting process for this project.

F) Karst:

Section 4.12 of the approved EA (pages 77-82) discusses impacts to karst and measures that would be included to mitigate for these impacts. The project followed all requirements set forth in the 1993 Karst Memorandum of Understanding (MOU) between INDOT, IDNR, the Indiana Department of Environmental Management (IDEM), and USFWS, using avoidance, alternative drainage, and mitigation/treatment to minimize the effects on karst resources. After the EA was published, one spoken comment was received at the hearing, USFWS responded on January 2, 2014, IDNR responded on January 3, 2014, and USEPA responded on January 8, 2013 with the following comments on karst impacts:

i. 1993 Karst MOU

USFWS noted that "more than 60 karst features have been identified within and adjacent to the proposed preferred alignment right-of-way. Thirty features lie within the right-of-way and will require some form of treatment.

Approximately 10 features have been identified that may be directly impacted by roadway runoff/ drainage. Per the 1993 Karst MOU (item 8) a monitoring and maintenance plan will be developed and provided to the signatory agencies for review. In addition, per item 10 of the 1993 Karst MOU, prior to acceptance of the final design plans, a project-specific karst agreement will be developed which will set out the appropriate and practicable measures to offset unavoidable impacts to each karst feature…The agreement will become a part of the contract documents for the project, will be discussed at the pre-construction conference, and will be on file at the office of the project administrator" (see Appendix C, comment M2-3). IDNR also requested INDOT to ensure all applicable sections of the MOU were implemented (see Appendix C, comment M3-6).

As required, all applicable sections of the 1993 Karst MOU will be implemented during all phases of the project, and all karst-protective features will be inspected as appropriate. IDNR, IDEM, and USFWS have been coordinated with throughout the project development process and forwarded the "Karst Evaluation Report" prepared for this project. Before the plans are finalized for this project, they will be forwarded to the agencies for review/approval. All of the karst commitments will be included in the Commitment Database, included in the contract documents, will be discussed at the pre-construction conference, and will be on file at the office of the project administrator.

ii. Spill Containment

One property owner, who noted their land contained numerous karst features, spoke at the Public Hearing and asked how INDOT planned to contain spills in karst areas (see Appendix C, comment S5-1). She was notified that all applicable sections of the 1993 Karst MOU will be implemented during all phases of the project, and that all karst-protective features will be inspected as appropriate. She was then directed to the Karst Evaluation Report and the MOU in Appendix H of the EA for further information.

iii. Karst Training

USEPA recommended "adequate ongoing training at all levels during the design, construction, and maintenance phases should be undertaken by INDOT for relevant state and local government and contractor personnel" (see Appendix C, comment M5-7). All applicable sections of the 1993 Karst MOU will be implemented during all phases of the project, and all karst-protective features will be inspected as appropriate. Furthermore, INDOT Standard Contract language includes a requirement that a pre-qualified karst expert is utilized when karst features are identified. The MOU also requires that any accidental discoveries are reported to IDNR, IDEM, and USFWS.

iv. Private Wells

USEPA stated, "If any residences not served by public water systems are in the potential ground water flow path of a sinkhole expecting highway runoff, dye tracing for the sinkhole should be considered. Karst features that are identified as having the potential to impact vulnerable residences could then receive additional consideration including multiple layers of protection and heightened inspection and maintenance. There may be a number of sinkholes that would be modified for stormwater drainage for the East Bypass project. Any sinkholes modified by human activity for the purpose of directing and emplacing fluids into the subsurface is considered a Class V well (40 CFR 144.3 and 144.80), which is regulated by [US]EPA's Underground Injection Control (UIC) program. Class V wells have requirements which must be met to protect groundwater (40 CPR 144.82). [US]EPA is the agency that must be notified and would need to approve any Class V well construction. For additional information regarding [US]EPA Class V permits and UIC program, contact Ross Micham of [US]EPA's UIC Branch at 312/886-4237 or at micham.ross@epa.gov" (see Appendix C, comment M5-8).

There are two residences that may not be supplied by public water systems. However, these residences will require full parcel takes, and any wells identified on the properties will be plugged. Therefore, there will be no potential impacts to private wells. Furthermore, INDOT will not be directly discharging runoff into sinkholes. All sinkholes within the ROW will be plugged.

v. Cumulative Impacts to Karst Features

USEPA noted that "Karst features are not considered in the indirect and cumulative impacts analysis. Projected stream cumulative impact is 103,099 linear feet. The specific flow regimes of the streams are not given in the cumulative impacts tables. Nor does the analysis specify whether future impacts would result in permanent losses.

INDOT's analysis concludes 'because no significant indirect or cumulative impacts were identified, no additional mitigation or modifications to the alternatives are recommended'" (see Appendix C, comment M5-10). Therefore, USEPA requested INDOT to provide additional "discussion/clarification".

To address these concerns, the following additional analysis has been prepared:

GIS data was used to estimate indirect and cumulative impacts to karst features (cave entrance density, sinking stream basins, and karst springs). Alternative 6D would result in 15.8 acres of indirect impacts to karst features (sinking stream basins) and 406.8 acres of cumulative impacts (365.3 acres of cave entrance density and 41.5 acres of sinking stream basins). There would be no indirect or cumulative impacts to karst springs. Alternative 4NB2 would result in 81.1 acres of indirect impacts to karst features (cave entrance density) and 495.1 acres of cumulative impacts (cave entrance density). There would be no impacts, either direct or cumulative, to karst springs or sinking stream basins.

Alternative 6D would result in the following indirect impacts to streams:

- Perennial: 0.0 linear feet
- Intermittent: 838.9 linear feet
- Ephemeral: 4,094.2 linear feet

Alternative 4NB2 would result in the following indirect impacts to streams:

- Perennial: 3,368.6 linear feet
- Intermittent: 9,344.2 linear feet
- Ephemeral: 17,317.5 linear feet

Because the cumulative impact area extends beyond the areas that were evaluated in the field, cumulative impacts to streams can only distinguish impacts to perennial and intermittent streams as adequate information on ephemeral streams is not available. Alternative 6D would result in 103,100 linear feet of cumulative impacts to streams (57,880 feet of intermittent and 45,220 feet of perennial). Alternative 4NB2 would result in 111,612 linear feet of cumulative impact to streams (78,332 feet of intermittent and 33,280 feet of perennial). It is assumed that indirect and cumulative impacts are permanent (as opposed to temporary).

As indicated in Table 31, the project has the potential to result in indirect impacts to the identified resources and that additional cumulative impacts to these resources could potentially occur as a result of other future projects. These impacts can be minimized and mitigated through local land use planning, zoning, and state and federal permitting. INDOT will coordinate with the local governments to provide guidance in the development of land use plans that could minimize the project's potential indirect and cumulative impacts.

G) Additional Comments:

Additional comments were received from the public and resource agencies. These included:

i. Industrial Park Access

A Montrow Industrial Park representative e-mailed a question asking whether there would be access to CR 75 from the bypass (see Appendix C, comment E1-1). She was notified that CR 75 W will have direct access to the bypass via a stop-controlled intersection. This intersection was provided specifically to support the existing and proposed commercial development in the area and facilitate access to the bypass.

ii. Roundabout

Two property owners sent e-mails requesting that INDOT eliminate the roundabout at the intersection of Buckeye Street (existing US 50) with CR 175 and CR 160 (see Appendix C, comments E2-1 & E3-1). As previously stated, "Practical Design" concepts were evaluated to help reduce costs and impacts throughout the project area. One of the "Practical Design" alternatives reviewed was the elimination of this roundabout, replacing it with a two-way stop-controlled intersection (see Section II-G). This alternative will reduce construction costs and eliminate long-term lighting maintenance, and will therefore be implemented.

iii. Bridge over 5th Street (CR 20)

One property owner sent an e-mail requesting that INDOT eliminate the proposed bridge over 5th Street (CR 20) (see Appendix C, comment E7-1). One of the "Practical Design" alternatives reviewed was the elimination of the CR 20 Overpass, replacing it with an at-grade intersection (see Section II-F). This alternative will reduce the costs of the project by an estimated $1,400,000 and would present a low safety risk as a direct connection to US 50. Therefore, it will be implemented.

iv. Easement

An attorney for Leading Way Farms sent an e-mail voicing the business's concerns (see Appendix C, comment E6-1). He stated, "Leading Way Farms is a horse boarding and training operation. One of the amenities that they offer is extended trail riding. They have an easement across the land owned by Mr. Apsley which lies immediately to the east of their farm. With the construction of the new highway and fencing they will lose their ability to offer and enjoy trail rides which they have enjoyed for many years. This will result in significant damages to the property and its owners."

This property does not have an officially recorded easement, thus it was not known to have an easement during right-of-way engineering and appraising. The parcel is currently being condemned per the real estate acquisition process, in compliance with the Uniform Act of 1970. INDOT reviewed the project area to determine if access could be provided to the trail. No reasonable safe or cost-effective solutions exist.

v. Visual Aesthetics

Two property owners mailed a letter voicing their complaints about the loss of their "scenic view" (see Appendix C, comment M1-1). They were notified that the Project Team studied aesthetic resources and designed the roadway to minimize changes to the visual landscape and to maintain the rural quality of North Vernon to the extent feasible. As discussed in Section 4.16 in the EA, the proposed roadway has been designed to fit with the rural quality of North Vernon. Current topography was considered so that changes to the landscape would be minimized. There will be no physical barriers that would obstruct views on either side given the primarily at-grade elevation of the roadway design. See Section 4.16 of the approved EA for the complete discussion on visual and aesthetic resources.

vi. Project Commitments

Several repeat comments were received from resource agencies that were received in earlier coordination and had already been incorporated as "firm" commitments or commitments "for further consideration" in the EA. As discussed above, additional commitments were received, and a couple of commitments were revised. The commitments list has been revised, as appropriate, and is included below in Section III.

USEPA requested that "INDOT identify the specific measures they will take to help ensure that their construction contractors follow their construction standard specifications and/or special provisions" (see Appendix C, comment M5-9). INDOT has established protocols and enforcement mechanisms to ensure compliance with standard specifications and special provisions.

**II) "Practical Design" Alternatives**

The following "Practical Design" alternatives will be implemented as part of the project:

**A)** Reducing the paved shoulder width from 10 feet to 2 feet, and adding an 8-foot "chip-and-seal" shoulder for a total of 10 feet of usable shoulder width. The original design called for 11-foot usable shoulders, comprised of a 10-foot paved (full-depth asphalt) shoulder, plus a 1-foot-aggregate shoulder outside of that. This alternative will provide 10-foot usable shoulders throughout the project area, except at the industrial area between SR 3 and CR 75, which will have asphalt shoulders. By reducing the amount of asphalt, while still meeting the American Association of State Highway and Transportation Official's (AASHTO) requirements for usable shoulder, this alternative would reduce the costs of the project by an estimated $500,000. This design change would have a negligible effect on the project footprint, and therefore would have no additional impacts to environmental resources documented in the Environmental Assessment.

**B)** Modifying the side slopes from 6:1 to 4:1. The original design called for 6:1 slopes to the 30-foot clear zone limit, with a non-traversable ditch located outside the clear zone. This alternative will utilize 4:1 slopes on either side of a

traversable, trapezoidal ditch with a 4-foot bottom. This alternative would save an estimated $82,000 on borrow quantities while still meeting AASHTO and INDOT design guidelines. This design change would stay within the original project footprint, and, therefore, would have no additional impacts to environmental resources.

**C)** Designing culverts for allowable headwater. The original design applied backwater standards from Chapter 203 of the Indiana Design Manual (IDM) to ***all*** culverts. Those standards, allowing a maximum backwater of 0.14 ft for culverts on a new alignment, are only a regulatory requirement within rural watersheds exceeding 50 square miles or urban watersheds exceeding 1 square mile. This alternative would keep the allowable headwater at or below the existing elevation at the right-of-way line on watersheds without these regulatory requirements. This would reduce culvert sizes and costs for eight culverts, saving an estimated $349,000. This alternative would result in minor increases in water velocity through the culverts, which will be calculated and mitigated for with proper permanent erosion control features. The water velocity increases would be negligible for typical flow conditions. The increases in the $Q_{50}$ velocities would vary (between the eight structures being changed) from negligible to an increase of approximately 3 ft/s, which could impact fish passage during 50-year (or greater) floods. Although riprap may now be added, the culvert lengths have been reduced due to the reduced shoulder lengths and sideslopes (discussed above). Therefore, the overall impacts to jurisdictional Waters of the U.S. are not expected to change. All impacts to Waters of the US will be appropriately permitted and mitigated.

**D)** Reducing the width of turn lanes from 12 feet to 11 feet. The original design included 12-foot wide turn lanes, matching the through-lane width. This alternative will reduce the turn lane widths to 11 feet, which meets the minimum width required by the IDM and exceeds the minimum AASHTO width (10 feet). By reducing the amount of pavement required, this alternative would reduce the costs of the project by an estimated $36,000. This design change would marginally reduce the project footprint, and therefore would not increase impacts to environmental resources.

**E)** Reducing turn lane lengths. The original design based the length of turn lanes on both deceleration and peak-hour storage. This alternative will provide for the deceleration length only in accordance with Figure 9-48 in the AASHTO Green Book. This alternative will reduce the amount of full depth pavement, reducing the costs of the project by an estimated $370,000. This design change would marginally reduce the project footprint, and therefore would not increase impacts to environmental resources.

**F)** Eliminating the CR 20 Overpass, replacing it with an at-grade intersection (2-way stop for CR 20 traffic). The original design included an overpass carrying CR 20 over the US 50 bypass. This alternative replaces the overpass with an at-grade intersection (two-way stop for CR 20 traffic; free-flow for the bypass). This alternative will eliminate the bridge costs and diminish the pavement costs, reducing the costs of the project by an estimated $1,400,000. Due to the low traffic volume on CR 20, this intersection would present a low safety risk as a direct connection to US 50. This design change would marginally reduce the project footprint, and therefore would not increase impacts to environmental resources.

**G)** Eliminating the roundabout at CR 175 / CR 160, replacing it with a two-way stop-controlled intersection. The original design called for a roundabout at the intersection of Buckeye Street (existing US 50) with CR 175 and CR 160. A roundabout was proposed because existing US 50 could not be curved into proposed US 50 at the current design speed without several residential relocations. The use of a roundabout allowed more flexibility in the geometry without violating the design speed. This alternative will lower the speed of existing US 50 (Buckeye Street) so that a two-way stop-controlled intersection can be utilized at this location. This alternative will reduce construction costs and eliminate long-term lighting maintenance, reducing the costs of the project by an estimated $239,000. This design change would stay within the original project footprint, and therefore would not increase impacts to environmental resources.

**III) Environmental Commitments**

The following commitments, both firm and for further consideration, have been made during the project development process. Legal requirements may be modified upon issuance of the requisite permits.

**Firm Commitments**

1. The project must be located and designed to minimize stream/riparian impacts, avoid areas of high quality aquatic habitats such as rock riffles and mussel beds, and avoid the need to realign or relocate stream channels. The USFWS would oppose realignments of perennial streams and good-quality intermittent streams. (USFWS)

2. A preliminary wetland survey must be conducted for all routes, using all available mapping and orthophotography resources. Comprehensive wetland delineation must be conducted for alternatives carried forward as soon as access becomes available. (USFWS)

3. Wetland impacts must be avoided to the extent possible and unavoidable impacts should be mitigated in accordance with the MOU between INDOT, the USFWS and the Indiana DNR. (USFWS)

4. The environmental document must include a discussion of best management practices to be used to avoid erosion and runoff of soil and other pollutants during construction, and to mitigate the effects of polluted road runoff from traffic on new routes. (USFWS)

5. Most of the study area is underlain by karst geologic formations. A karst survey must be conducted in accordance with the karst MOU. All route alternatives must be designed to avoid adverse physical and water quality/quantity impacts on significant karst resources (e.g., caves, springs, sinkholes). (USFWS)

6. Compensatory wetland mitigation must be provided to adequately offset the naturally-occurring wetland functions that are lost due to project implementation activities. Wetland compensation must take place in the same watershed where the impacts occur. (USEPA)

7. To minimize impacts to the eastern box turtle and Kirtland's snake, all logs, trash, or any other type of debris must be removed from the construction zone at least one week prior to the start of work to keep these species from hiding underneath the debris. If any vegetation will be removed during work, this must also be done one week prior to construction. After the trash and vegetation are removed, a trenched-in silt fence must be placed around the construction area. Once the silt fence is installed, a walk-through must be completed to look for any eastern box turtles or Kirtland's snakes. Any equipment, materials, or debris left overnight in the area must be checked for the presence of eastern box turtles or Kirtland's snakes prior to the start of work the next day. (IDNR)

8. Any reptiles or amphibians encountered in the project area must be removed, unharmed, and placed outside the construction area. Any turtles encountered must be moved to the nearest forested area. If any reptiles or amphibians are encountered, Sarabeth Klueh, IDNR Division of Fish and Wildlife herpetologist, must be coordinated with at (812) 334-1137 or sklueh@dnr.in.gov for guidance regarding development of herpetile removal plans. (IDNR)

9. Removal of any state endangered species will require a permit issued by the Division of Fish and Wildlife. Linnea Petercheff must be contacted at (317) 233-6527 or lpetercheff@dnr.in.gov before removal of any of these species, if needed. (IDNR)

10. Construction staff must be educated on endangered, threatened, and rare species or species of concern that may be encountered. Appropriate signs detailing these species, such as the eastern box turtle and Kirtland's snake, must be on display throughout the project site for the duration of the construction project. (IDNR)

11. Revegetate all bare and disturbed areas in the floodway with a mixture of native grasses, sedges, wildflowers, and also native hardwood trees and shrubs as soon as possible upon completion. Do not use any varieties of Tall Fescue or other non-native plants (e.g., crown-vetch). (IDNR)

12. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush. (IDNR)

13. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife. (IDNR)

14. Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead) from April 1 through September 30. (IDNR, USFWS)

15. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure. (IDNR)

16. Do not construct any temporary runarounds or causeways. (IDNR)

17. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR)

18. Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction. (IDNR)

19. Post "Do Not Mow or Spray" signs along the right-of-way. (IDNR)

20. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized. (IDNR)

21. Seed and protect all disturbed stream banks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendation for installation); seed and apply mulch on all other disturbed areas. (IDNR)

22. If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code·l4-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations. (IDNR)

23. Section 404 of the Clean Water Act requires that you obtain a permit from the USACE before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams and ditches. Therefore, you must check to determine whether your project will abut, or lie within, a wetland area. (IDEM)

24. In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality Wetlands Program. (IDEM)

25. If the USACE determines that a wetland or other water body is isolated and not subject to Clean Water Act regulation, it is still regulated by the state of Indiana. A State Isolated Wetland permit from IDEM's Office of Water Quality (OWQ) is required for any activity that results in the discharge of dredged or fill materials into isolated wetlands. (IDEM)

26. If your project will involve over a 0.5 acre of wetland impact, stream relocation, or other large-scale alterations to water bodies such as the creation of a dam or a water diversion, seek additional input from the OWQ Wetlands Program staff. (IDEM)

27. Work within the one-hundred year floodway of a given water body is regulated by the Department of Natural Resources, Division of Water. The Division issues permits for activities regulated under the following statute: IC 14-28-1 Flood Control Act. (IDEM)

28. The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected water bodies, must be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life. (IDEM)

29. For projects involving construction activity (which includes clearing, grading, excavation and other land disturbing activities) that result in the disturbance of one or more acres of total land area, contact the Office of Water Quality – Watershed Planning Branch regarding the need for of a Rule 5 Storm Water Runoff Permit. (IDEM)

30. If your project is located in an IDEM-approved MS4 area, contact the local MS4 program about meeting their storm water requirements. Once the MS4 approves the plan, the NOI can be submitted to IDEM. (IDEM)

31. Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with chemical stabilizers. Dirt tracked onto paved roads from unpaved areas should be minimized. (IDEM)

32. All facilities slated for renovation or demolition (except residential buildings that have four or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. (IDEM)

33. If regulated asbestos-containing material (RACM) that may become airborne is found, any subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements. (IDEM)

34. Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than 7 percent oil distillate, is prohibited during the months April through October. (IDEM)

35. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it must be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2. (IDEM)

36. If the site is found to contain any areas used to dispose of solid or hazardous waste, contact the Office of Land Quality (OLQ). (IDEM)

37. All solid wastes generated by the project, or removed from the project site, must be taken to a properly permitted solid waste processing or disposal facility. (IDEM)

38. If any contaminated soils are discovered during this project, they may be subject to disposal as hazardous waste. (IDEM)

39. If PCBs are found at this site, contact the Industrial Waste Section of OLQ for information regarding management of any PCB wastes from this site. (IDEM)

40. If there are any asbestos disposal issues related to this site, contact the Industrial Waste Section of OLQ for information regarding the management of asbestos wastes. (IDEM)

41. If the project involves the installation or removal of an underground storage tank, or involves contamination from an underground storage tank, you must contact the IDEM Underground Storage Tank program. (IDEM)

42. If any potential hazardous materials are discovered during construction, contact the North Vernon City Fire Department at (812) 346-6480 to organize the proper handling of the material in accordance with IDEM guidelines. The IDEM Spill Line should be notified with details of the discovery within 24 hours. IDEM Spill Line: (888) 233-7745. (IDEM/INDOT)

43. Mitigation sites for impacts to habitat in the floodway must be located in the floodway, downstream of the one (1) square mile drainage area of that stream (or a nearby stream) and adjacent to existing forested riparian habitat. Where possible, in

order to minimize direct impacts and fragmentation impacts to the forested riparian corridor, highway runoff detention basin outfalls should be located in previously disturbed areas of the Vernon Fork (VFK) Muscatatuck River's forested riparian corridor, or where the forested riparian corridor is sparse or narrow and where the outfall will result in minimal tree clearing. (IDNR)

44. Implement all applicable sections of the 1993 INDOT-IDNR-IDEM-USFWS KARST Memorandum of Understanding during all phases of the project. Inspection of karst-protective features such as, but not limited to, sand or peat filters should occur at the time intervals recommended by a karst geologist. (IDNR)

45. Aside from the crossing of the VFK Muscatatuck River for which a three-span bridge is already planned, creek crossings must be constructed using a bridge or a three-sided culvert structure instead of 4-sided (box) culverts, when possible. If box or pipe culverts must be used, the bottoms must be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings must: span the entire channel width (a minimum of 1.2 times the bankful width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width /length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel. (IDNR)

46. INDOT will install vandal fencing on the proposed bridge over the Vernon Fork of the Muscatatuck River to help further protect the City of North Vernon’s water supply intake. The North Vernon Municipal Utility Board will be responsible for future major maintenance or replacement costs. (INDOT)

47. Prior to the demolition of older structures, such as barns and sheds, a visual search must be performed to see if bats are using the structure for roosting. (USFWS)

48. If any bats are found using the structure, the USFWS Bloomington Office must be contacted to discuss options for excluding the bats prior to demolition. Demolition will not occur until this is resolved. (USFWS)

49. INDOT will seek opportunities to preserve and/or create Indiana bat habitat during the evaluation of excess ROW parcels. (USFWS)

50. Aside from the crossing of the VFK Muscatatuck River for which a three-span bridge is already planned, creek crossings should be constructed using a bridge or a three-sided culvert structure instead of 4-sided (box) culverts, when possible. If box or pipe culverts must be used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the bankful width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width /length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel. (IDNR)

**Commitments For Further Consideration**

1. Secondary impacts should be minimized by not locating new routes near good quality habitats and sensitive areas, and by implementing access control near such areas. (USEPA)

2. USEPA recommends voluntary mitigation for any tree loss and core forest loss associated with the proposal. Mitigation might include, assisting local, County or State agencies with any on-going or planned forest reclamation projects in the watershed or planting native tree saplings in areas outside the safety areas, if feasible. (USEPA)

3. Take vegetative wastes to a registered yard waste composting facility or chip or shred with composting on site (you must register with IDEM if more than 2,000 pounds is to be composted). (IDEM)

4. If construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or

building sections in which pigeons or bats have roosted for 3 to 5 years precautionary measures should be taken to avoid an outbreak of histoplasmosis. (IDEM)

5. Construction equipment should be maintained in proper mechanical condition. MSAT and diesel emission reduction strategies should also be employed to limit the amount of diesel emissions from construction equipment, such as limiting idle times, or reducing the number of trips.

6. Minimize the use of riprap in the channel and use alternative erosion protection materials whenever possible. Riprap can be used as stream bank toe protection and placed from the toe of the bank up to the ordinary high water mark (ohwm). From the ohwm to the top of the bank, erosion control blankets or turf reinforcement mats should be used. Erosion control blankets, turf reinforcement mats and other similar materials should be seeded with native plants to allow a natural, vegetated stream bank to develop. We recommend bioengineered bank stabilization materials and methods. (IDNR)

7. Impacts to non-wetland forest under one acre should be mitigated at a 1:1 ratio, while impacts to non-wetland forest over one acre should be mitigated at a minimum 2:1 ratio. Impacts to wetlands should be mitigated at the appropriate ratio as well, in accordance with the DNR's new Floodway Habitat Mitigation guidelines. (IDNR)

8. Any new, replacement, or rehabbed structure must not create conditions that are less favorable for wildlife passage under the structure compared to current conditions. (IDNR)

9. Design plans for new bridges must include a level area of natural ground under the structure with a minimum 8 foot tall by 24 foot wide opening (that does not include the size of the opening over the channel). This opening under the bridge with unsubmerged, dry land is essential for wildlife passage. (IDNR)

10. If riprap is planned under the bridge, only dry land unarmored with riprap should be considered in the opening dimensions. Considerations can be made if alternative armoring materials are used. (IDNR)

11. Because part of the area above the banks is typically used by wildlife, a smooth-surfaced material such as articulated concrete mats should be placed on the side-slopes instead of part or all of the proposed riprap (or riprap at the toe and turf reinforcement mats above the riprap toe protection). (IDNR)

12. From the OHWM to the top of the bank, use erosion control blankets or turf reinforcement mats instead of riprap as these are compatible with vegetation growth and provide equal or better erosion control protection than riprap. (IDNR)

13. The use of erosion control blankets, turf reinforcement mats, and other similar materials seeded with a native plant seed mix will allow a natural, vegetated stream bank to develop. Use bioengineered bank stabilization materials and methods. (IDNR)

14. Plant five native trees, at least 2 inches in diameter-at-breast height, for each tree which is removed that is ten inches or greater in diameter-at-breast height. (IDNR)

## IV) Conclusion

This addendum was prepared to address comments received during public involvement, changes in scope, and new and revised environmental commitments. This addendum validates the EA and reflects the current scope of the project. Information presented in the approved EA remains valid unless otherwise stated in this document.

# Appendix A:  Publisher’s Affidavits

**LEGAL NOTICE**
**of U.S. 50 North Vernon Bypass - East Project Environmental Assessment (EA) Document Availability and Public Hearing**

The Indiana Department of Transportation (INDOT) will hold a public hearing regarding the recently released Environmental Assessment (EA) for the U.S. 50 North Vernon Bypass - East Project. The public hearing will be held on December 18, 2013 in the GT Room of Jennings County High School located at 800 West Walnut Street in North Vernon. Doors will open to the public at 5:00 p.m. and the community is encouraged to visit with project officials in the Library (adjacent to the GT Room) view project displays and ask questions of the project team. The formal presentation will begin at 6:00 p.m. followed by a public comment session. The formal presentation and comment session will extend until 8:00 p.m. During the public comment session, interested persons will be afforded an opportunity to express comments, concerns and input regarding the project. The U.S. 50 North Vernon Bypass - East Project EA is now available for public review and inspection. Comments on the EA are being solicited by INDOT. The purpose of the public hearing is to offer all interested persons an opportunity to comment on current design plans and the Section 106 finding of "adverse impact." Since the last public information meeting held in September 2012, the EA for the U.S. 50 North Vernon Bypass - East Project has been completed. This document highlights changes to the alternatives since the September meeting and includes an analysis of the alternatives. The EA identified the Preferred Alternative.

This is also the final opportunity to comment on the "adverse effect" finding for this project. Per the National Historic Preservation Act, the views of the public are being sought regarding the effect of the proposed project on historic properties within the area of potential effect (per 36CFR800.2(d), 800.3(e) and 800.6(a)(4)) Pursuant to 36CFR800.6(a)(4), the documentation specified in 36CFR800.11(e) are available for inspection (see address below). The documentation serves as the basis for the "adverse effect" finding. The views of the public on effects of the undertaking are being sought. All comments shall be submitted in writing (see address below) by January 3, 2014.

In addition to offering a public comment session, an area will be provided with comment forms and recording devices to capture public comments for those wishing to express comments outside of the public comment session. All public comments will be entered into the official public record and a hearings transcript will be prepared following the public hearing. INDOT is solicitng comments on the U.S. 50 North Vernon Bypass - East Project EA and encourages the community to attend and participate. **The official comment period for the EA begins on December 3, 2013 and will end on January 3, 2014.** INDOT respectfully requests that comments be submitted or postmarked by that time. Comments on the EA may be sent to: U.S. 50 North Vernon Bypass - East Project, c/o Parsons, 101 West Ohio Street, Suite 2121 Indianapolis, Indiana 46204. You may elect to fax comments to (fax) 317-616-1033 Comments may be e-mailed to daniel.prevost@parsons.com.

The U.S. 50 North Vernon Bypass - East Project EA is available for viewing at the following locations: (1) Jennings County Public Library, 2375 North S.R. 3, North Vernon, Indiana 47265, (2) Jennings County Area Plan Commission, 200 East Brown Street, Vernon, Indiana 47282, (3) INDOT Seymour District Office, 185 Agrico Lane, Seymour, Indiana 47274, and (4) the U.S. 50 North Vernon - East Project website at: http://www.in.gov/indot/projects/2429.htm.

In accordance with the "Americans with Disabilities Act," if you have a disability for which the Indiana Department of Transportation would need to provide accommodations pertaining to the accessibility to project documents and participation at the public hearing venue, please contact Rickie Clark, INDOT Office of Public Involvement at (317) 232-6601 rclark@indot.in.gov. Also, persons or organizations representing persons of Limited English Proficiency (LEP) requiring assistance pertaining to accessing project documents and/or participating at the public hearing venue, are encouraged to contact the INDOT Office of Public Involvement.

This notice is published in compliance with Code of Federal Regulations, Title 23, Section 771 (CFR 771.111(h)(1) states: "Each state must have procedures approved by the FHWA to carry out a public involvement/public hearing program." 23 CFR 450.212(a)(7) states: "Public involvement procedures shall provide for periodic review of the effectiveness of the public involvement process to ensure that the process provides full and open access to all and revision of the process necessary" approved by the Federal Highway Administration, U.S. Department of Transportation and the Indiana Department of Transportation on August 16, 2012.

Rickie Clark,
Indiana Department of Transportation
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100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-6601
rclark@indot.in.gov

*State of Indiana, County of Jennings, SS:*

Personally appeared before me the undersigned

Publisher of THE NORTH VERNON SUN,

A Public Weekly Newspaper of general circulation, printed and published in North Vernon, in the county aforesaid, who, being duly sworn upon his oath saith that the notice of which the attached is a true copy was duly published in said paper for 1 weeks successively, the first of which publication was on the 3rd day of December 2013 and the last on the ____ day of _____, ____.

Subscribed and sworn to before me this 3rd day of February 2014

Janet E. Lane Notary Public

JANET E. LANE
Notary Public, State of Indiana
Jennings County
My Commission Expires
March 15, 2016

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Rickie Clark,
Indiana Department of Transportation
Office of Public Involvement
Indiana Government Center
North Building, Room N642
100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-6601

SUN, Dec. 3, PD, Dec. 12, 1tc

*State of Indiana, County of Jennings, SS:*

Personally appeared before me the undersigned Publisher of THE NORTH VERNON PLAIN DEALER, A Public Weekly Newspaper of general circulation, printed and published in North Vernon, in the county aforesaid, who being duly sworn upon his oath saith that the notice of which the attached is a true copy was duly published in said paper for 1 weeks successively, the first of which publication was on the 12th day of December 2013, and the last on the ____ day of ____.

Barbara Ly

Subscribed and sworn to before me this 3rd day of February, 2014

Janet E. Lash Notary Public

My commission expires

JANET E. LASH
Notary Public, State of Indiana
Jennings County
My Commission Expires
March 15, 2016

# Appendix B: Public Hearing Information & Responses

# Legal Notice and Contact List

INDIANA DEPARTMENT OF TRANSPORTATION
Driving Indiana's Economic Growth

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 232-6601
E-mail: rclark@indot.in.gov

Michael R. Pence, Governor
Karl B. Browning, Commissioner

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Rickie Clark, Indiana Department of Transportation

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Jason Zabecki; Scott Zabecki
1840 N County Road 120 E
North Vernon, IN 47265

Jeffrey Zitting
2005 N County Road 175 E
North Vernon, IN 47265

# Public Hearing Sign-in Sheets

**Please Print**

| NAME | ORGANIZATION (if relevant) | STREET ADDRESS (please include full mailing address) | E-MAIL & PHONE NUMBER |
|---|---|---|---|
| Jarrod Daeger | NV Utilities | 325 Woodside DR. N.V. | 812 592 5376 |
| Karen Snyder | Chairperson N.U. USB | 333 Harms St. N. V. | jsnyder@seidata.com |
| JOHN KUNTZ | | 2080 N. CORd 280 E N. VERNON | J. KUNTZ@COMCAST.NET |
| Robert & Carol Pennington | — | 1895 N Base Rd N. Vernon | Pennington2@Comcast.net |
| Bill & Sandy Russell | | 1965 N CO. RD 75 E North Vernon | 346-5193 |
| Richard MORIN | RLM ENGINEERING (NV UTILITIES) | 2700 N ST. HWY 7 | 346-6139 |
| Michael Hess | North Vernon Water | 2580W CR 100N, North Vernon | NVWaterworks@gmail.com 812-592-3040 |
| Richard Ripley | | 150 E 175 N N.V. | 812-525-5125 |
| Paul Randall | N.V | 450 E CoRd 450 N | 812-747-0665 |
| PAUL RANDALL | N, V | 125 E FLINTWOOD DR | 812 346 3156 |

**Please Print**

| NAME | ORGANIZATION (if relevant) | STREET ADDRESS (please include full mailing address) | E-MAIL & PHONE NUMBER |
|---|---|---|---|
| Donald Brown | | 1455 E PV TRd 380N | 812-216-9910 |
| Dan Kurtz | Parsons | | 317-616-1000 |
| Gary Pence | INDOT | | GPence@INDOT.IN.GOV |
| Eric Meeks | Meeks & Co. Professional Surveying | 7730 N St. Hwy 7 Scipio, IN 47273 | eric.meeks@meekscompany.com biz 592-4145 |
| Don Littrell | | 4610W 600S Commiskey, IN 47227 | donL@daveomara.com |
| Larry Greathouse | | | |
| Sue Campbell | City of N.V. | Down Town | |
| Matthew J. Hurley | N.V.C.C. | | Matthew.Hurley@duke-energy.com |
| Pastor John Willis | First Apostolic Church | 710 E. Co. Rd. 160N North Vernon | firstapostolic@comcast.net |
| Glenn Calhoun | | 120 Meadow Lane | |

**Please Print**

| NAME | ORGANIZATION (if relevant) | STREET ADDRESS (please include full mailing address) | E-MAIL & PHONE NUMBER |
|---|---|---|---|
| GARY S. SEBAM | | 2545 N CR 75 W | 812-346-8937 |
| Helen + Jack Stamper | | 1890 N CR 110 E | 812-592-1357 |
| Jim Goen | CAMCO | | 812 526 1553 |
| CHRIS BURNETT | | 720 E CR 250 N | 812-346-6781 |
| DIANA DARBY | | 1020 E. US 50 N V | 812-352-7935 |
| Phil Tapp | Milestone | 3410 S. CR 650 E. Col. Ind 47203 | 812.579.5316 |
| Doug Hudson | Milestone | 3410 S CR. 650 E Col. IN 47203 | (317) 753-2354 |
| Sheila Calhoun | | 485 W. CR. 250 N. N.V | 346-3520 |
| Ma Calhoun | | 485 CR 250 N, N, V | 346-3520 |
| Michelle Allen | FHWA | | 317 226 7344 |

**Please Print**

| NAME | ORGANIZATION (if relevant) | STREET ADDRESS (please include full mailing address) | E-MAIL & PHONE NUMBER |
|---|---|---|---|
| Mohammad Hajeer | FHWA | | 317-226-7339 |
| Connie Rayburn | NV City Council | | 812-592-7858 |
| Larry Fagersten | Muscatatuck | | |
| Darlene Hicks | | | |
| Paul F. Hicks | | 2000 5th St N. Vernon, IN 47265 | 812-346-4254 |
| Rob McGriff | IDNR - Forestry | | 812-346-2286 |
| Wm Marchino | Deer Creek Campgrounds | | 812-592-5689 |
| Betty Creech | | 75 E PR 235 N., (N.U) Woods Branch Farm | 812-346-5355 |
| Norma Pruett George & Simmons | | 600 S Walnut St Seymour | 812-522-8378 |
| Sheila Schuler | | 1835 N. Co Rd 75E N.V. | 812-346-6328 |
| Garland Rudd | | 1805 N Co Rd 75E NV | 812-346-3391 |

**Please Print**

| NAME | ORGANIZATION (if relevant) | STREET ADDRESS (please include full mailing address) | E-MAIL & PHONE NUMBER |
|---|---|---|---|
| Harold + Judy Stone | | 2920 N. Co Rd. 20 W | 812-346-8751 Stonemetal@sbcglobal.com |
| | | | |
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# Public Hearing Documentation

# U.S. 50 North Vernon Bypass - East

December 18, 2013

## Welcome!

INDOT has completed the Environmental Assessment (EA) and wants your comments.

The EA is available for review at:

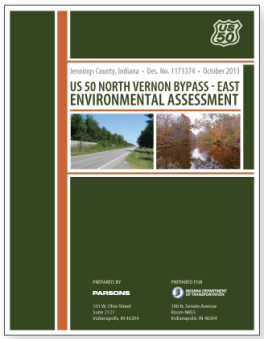
- The project website (http://www.in.gov/indot/projects/2429.htm)
- The Jennings County Public Library, 2375 N SR 3, North Vernon
- The Jennings County Plan Commission office, 200 E. Brown Street, Vernon
- The INDOT Seymour District office, 185 Agrico Lane, Seymour

Comments can be provided:

- During the public comment period this evening
- By recording your oral comments via the audio recording devices tonight at the hearing
- In writing via the comment forms provided tonight
- Via mail, email, fax, or phone using the contact information at the bottom of the page

***Comments must be received by January 3, 2014.***

## Project Updates

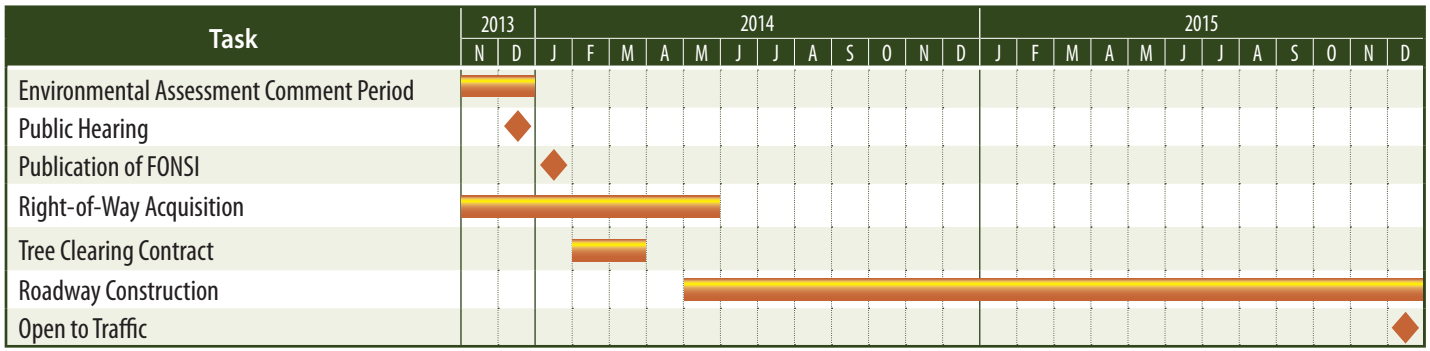



Based on comments received from the public, local community leaders and additional engineering analysis, INDOT made minor adjustments to the Alternative 6D alignment to reduce impacts and project costs:

- The bypass connection to existing U.S. 50 was moved to the west to reduce impacts to Deer Creek Road and nearby residences.
- The curve in the bypass east of CR 75 W was modified to reduce impacts to the industrial park and wetlands.
- Access points will be provided at SR 3, CR 75W, and at existing U.S. 50 near County Roads 160/175. CR 250 N and Base Road (north of the bypass) will be closed with cul-de-sacs at the new roadway and no access to the bypass will be provided. Traffic on CR 20 W will be maintained by a new overpass to carry local traffic over the bypass.
- A stormwater collection and diversion system was added to prevent runoff from entering the Muscatatuck River and potentially affecting North Vernon Water's drinking water intake.

## Project Schedule

Following the public comment period, INDOT will request a Finding of No Significant Impact (FONSI) from the Federal Highway Administration, which will provide Federal approval of the Preferred Alternative. INDOT has already begun the right-of-way acquisition process, which will continue through Spring 2014. Construction is anticipated to begin in March 2014, with the new roadway open to traffic by December 2015.



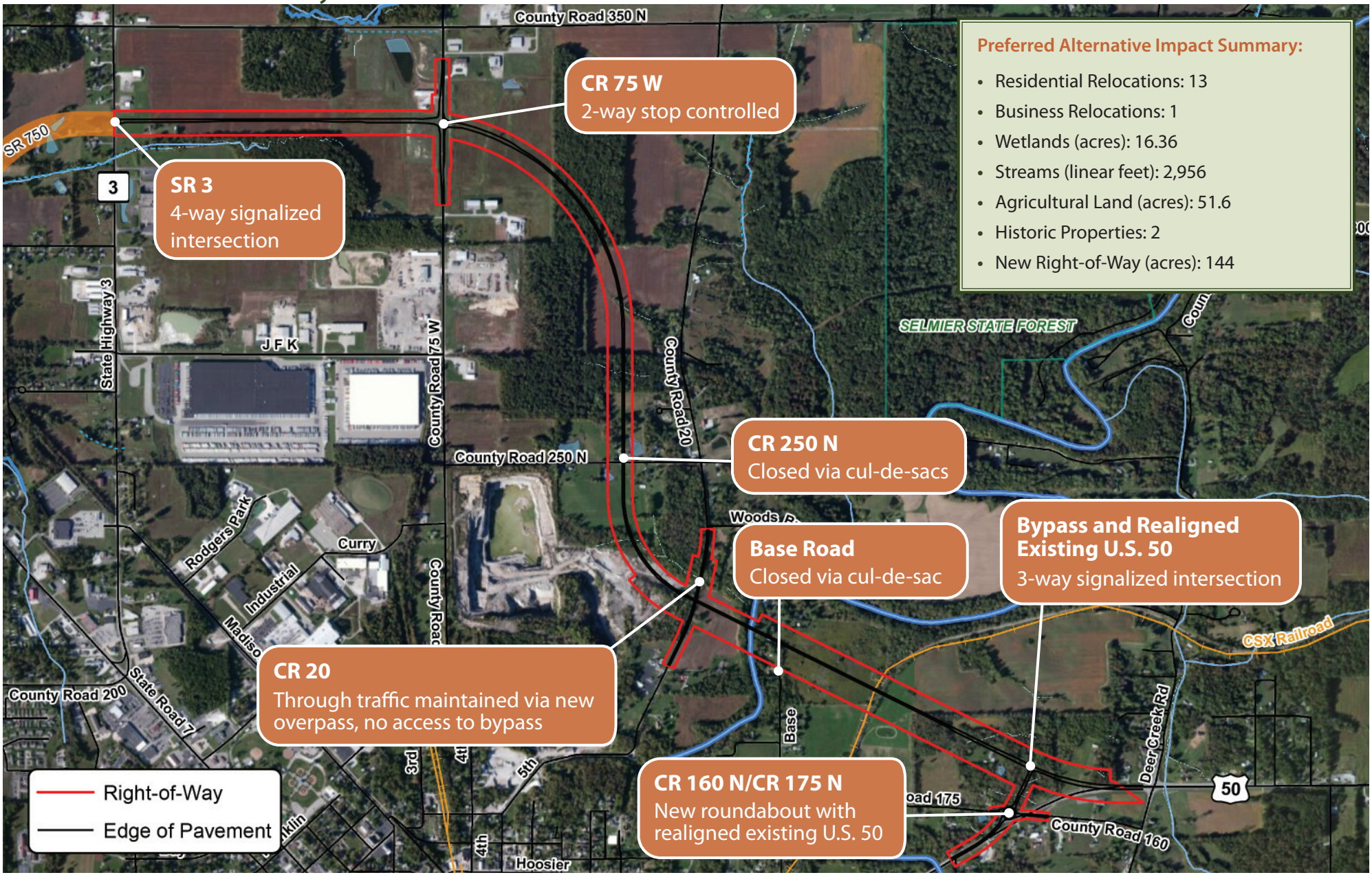

## Contact Us

Dan Prevost, Parsons
101 W Ohio Street, Suite 2121
Indianapolis, IN 46204
Fax: 317-616-1033 Voice: 317-616-1017
Daniel.Prevost@parsons.com

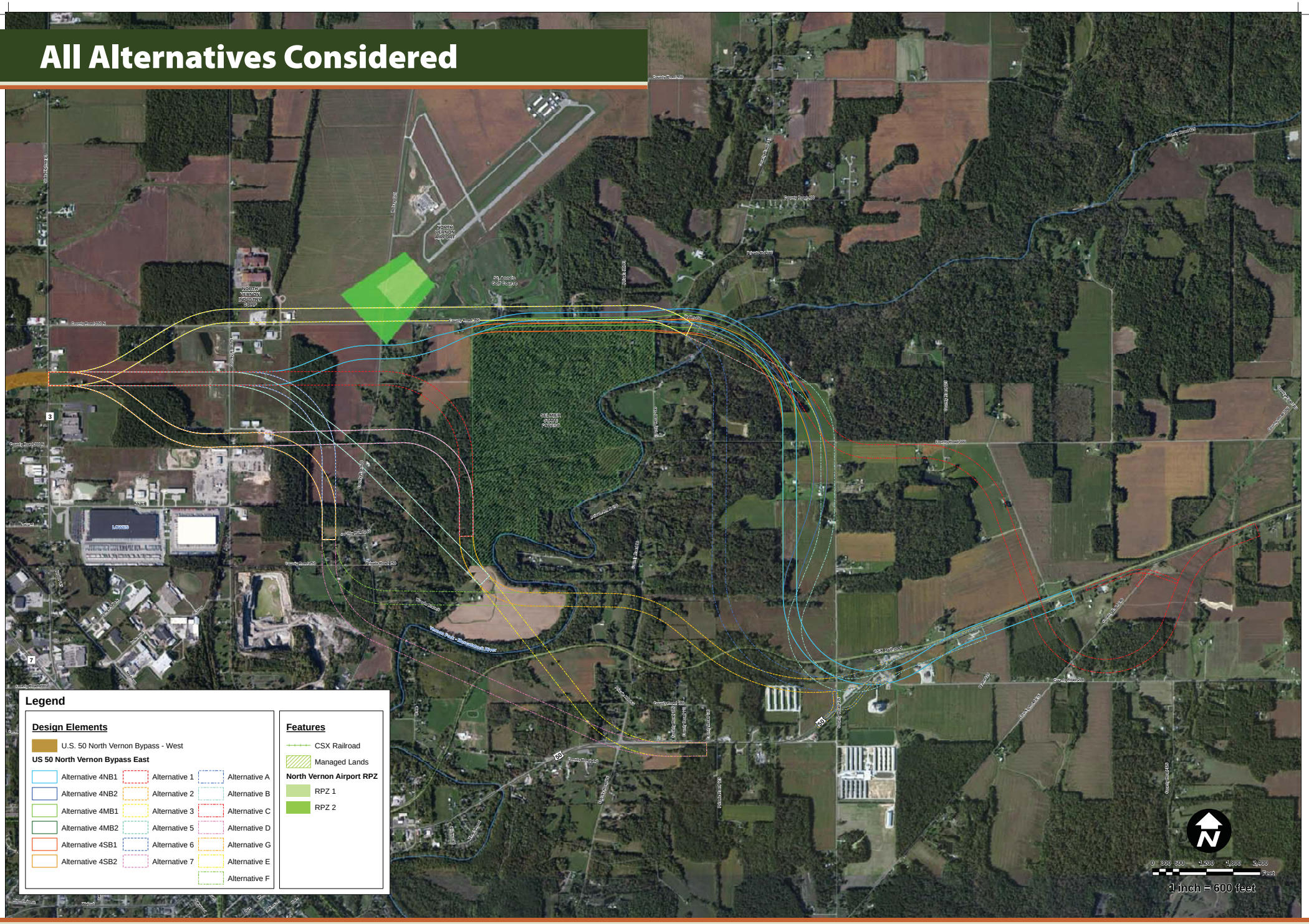
Gary Pence, INDOT Project Manager
100 N Senate Avenue, Room N642
Indianapolis, IN 46204
Voice: 317-232-5198
GPence@indot.in.gov

# U.S. 50 North Vernon Bypass - East

*Preferred Alternative Identified by the Environmental Assessment*



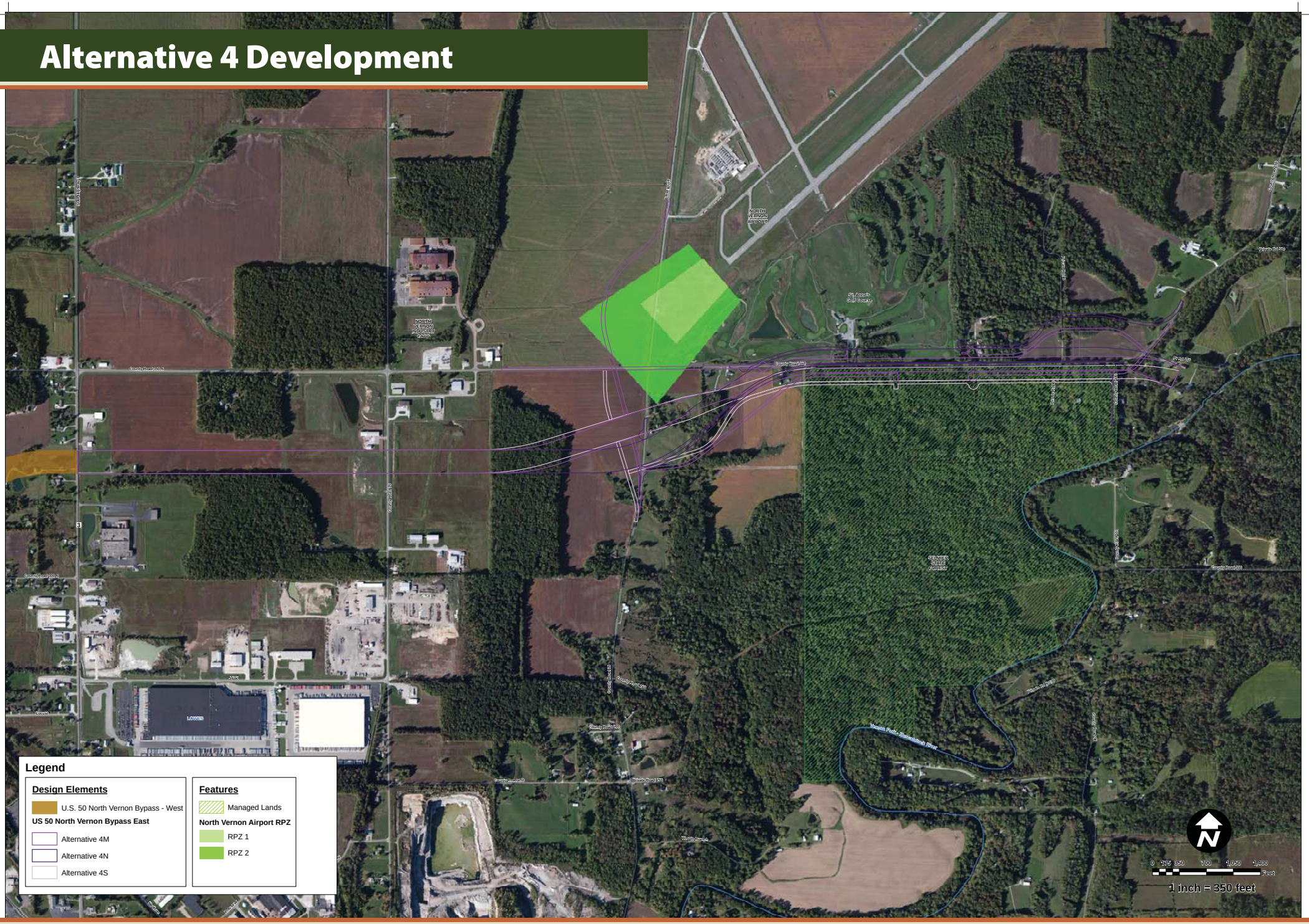
# All Alternatives Considered



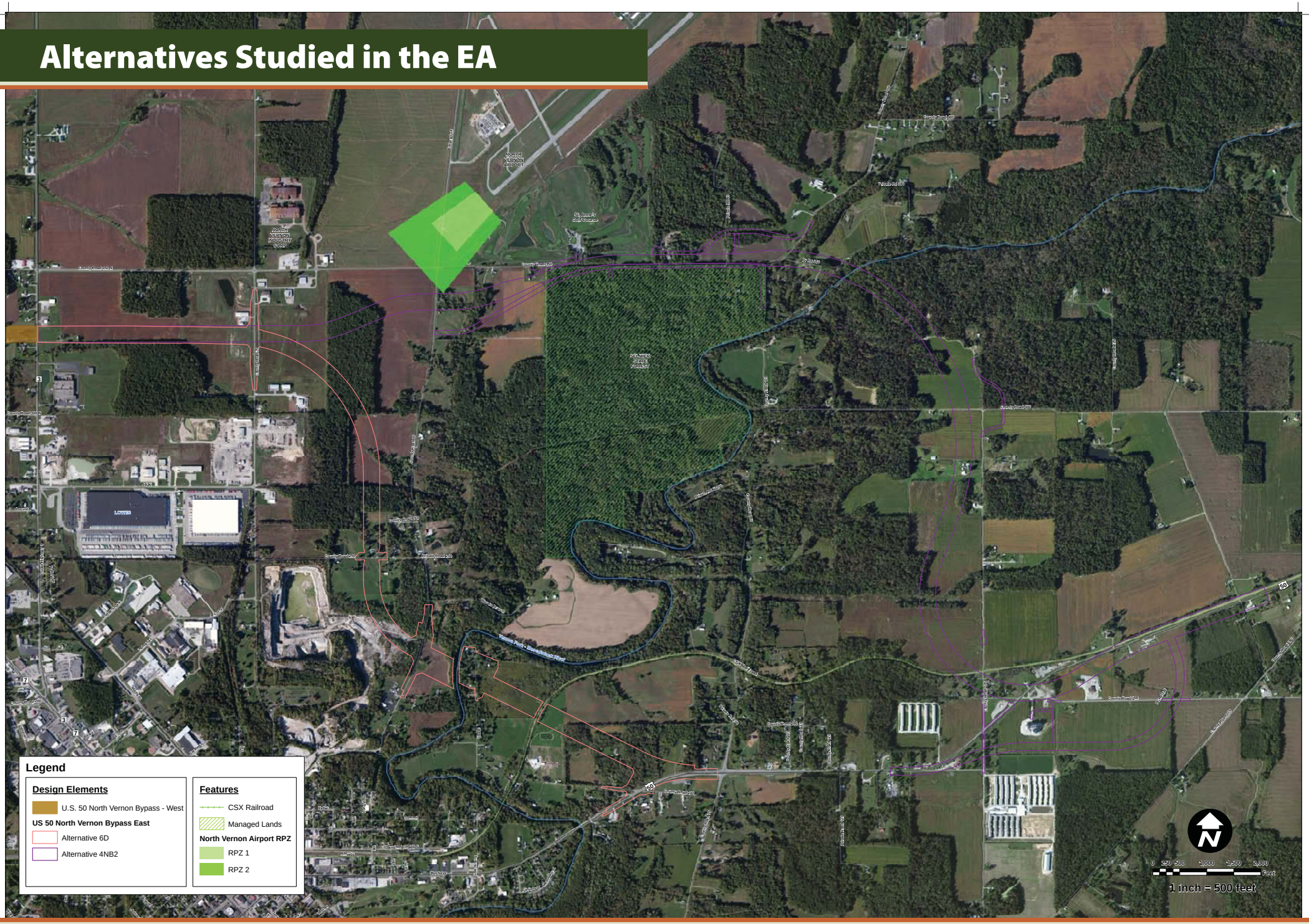

INDIANA DEPARTMENT OF TRANSPORTATION

PARSONS

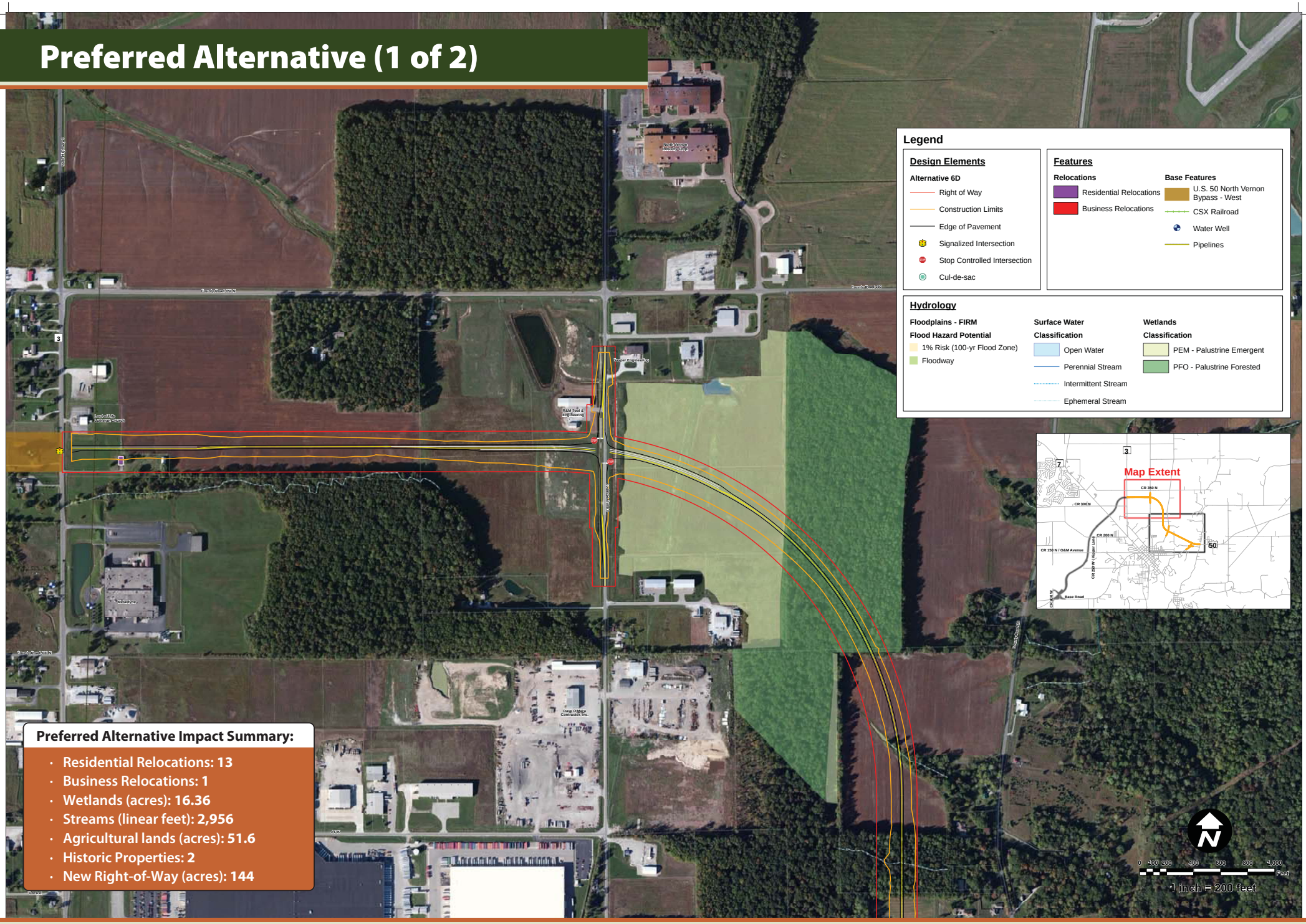
# Alternative 4 Development



# Alternatives Studied in the EA



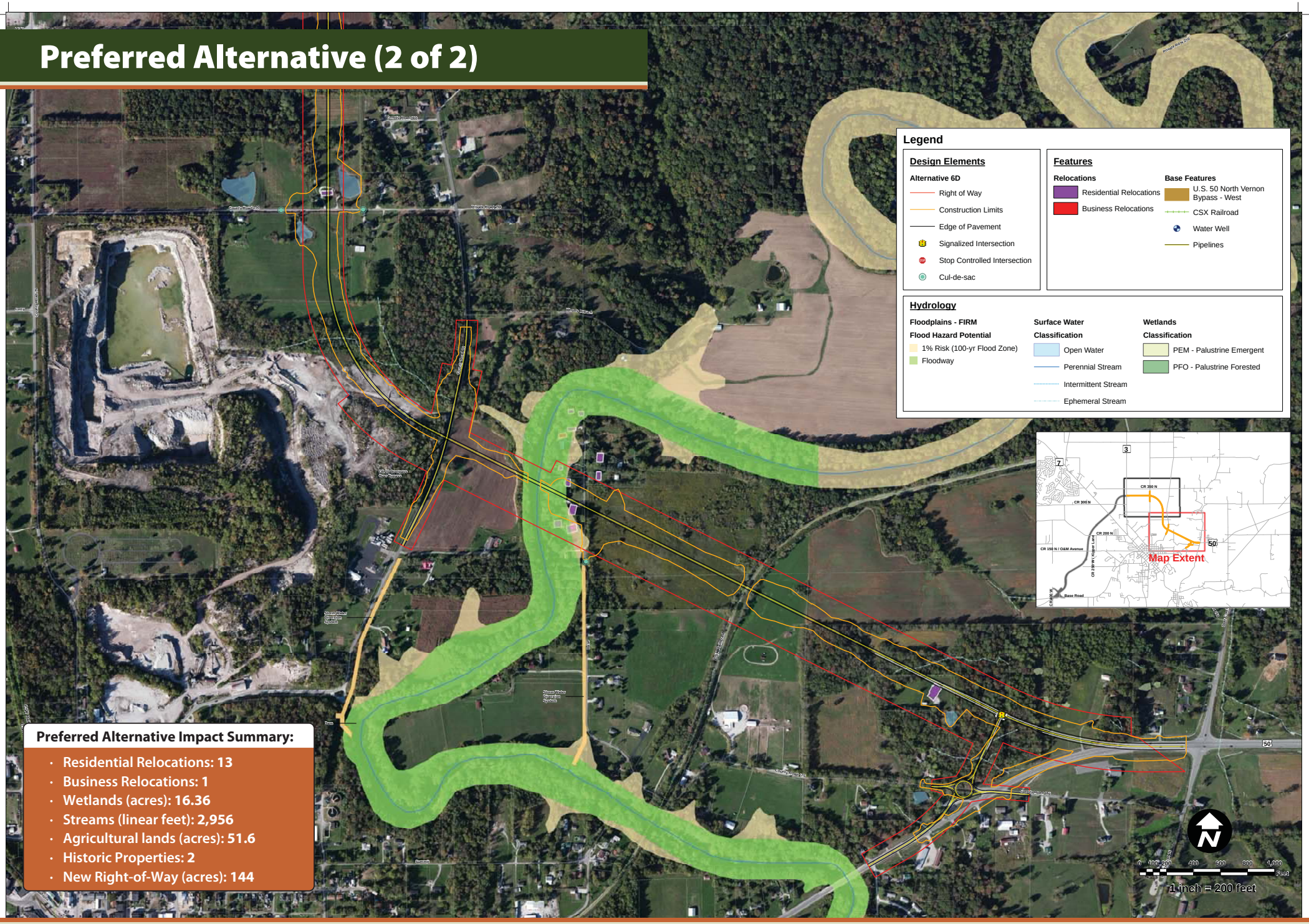
# Preferred Alternative (1 of 2)




**Preferred Alternative Impact Summary:**

- Residential Relocations: **13**
- Business Relocations: **1**
- Wetlands (acres): **16.36**
- Streams (linear feet): **2,956**
- Agricultural lands (acres): **51.6**
- Historic Properties: **2**
- New Right-of-Way (acres): **144**

# Preferred Alternative (2 of 2)

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- New Right-of-Way (acres): **144**

# Comments

U.S. 50 North Vernon Bypass East Project Public Hearings Transcript

Jennings County High School

Wednesday, December 18, 2013

6:00 p.m.

Connie Rayburn, North Vernon City Council - Hello, my name is Connie Rayburn, North Vernon City Council.....and my only comment is that I was glad to hear why you didn't go with the longer route.....because to me it seemed like the longer route was the best route.....but now having heard why you choose the route that you did.....I understand it better and I am very glad that you did consider our water operation and impact to our city.....it is our biggest concern. I know that we still have other concerns that we will work with project officials from INDOT to have addressed in the near future.....thank you.

Karen Snyder – Hi, my name is Karen Snyder and I am president of the North Vernon Utility Board and in the interest of time, I'm not going to list what I appreciate about what you've covered, but rather I'll just list my concerns.....although I really appreciate INDOT being here and the information that was presented. Our concern remains....making certain that we've done everything we can to safeguard the North Vernon water supply.....and we still have one issue left unprotected at this point.....the drainage runoff.....we've been working very closely with our city engineer and of course, he has worked very closely with you. Our initial choice out of all of the alternatives we were looking at .....the further east you go, the further away you are from our water plant.....and the more time we have in the event a contaminate were dumped or spilled.....to shut off the system so it doesn't get out into the distribution system. The choice that you picked.....I'm constantly amazed that it's called the most environmentally sound alternative when it's the worst one for our water supply.....somehow that doesn't make sense to me but I will assume that there are other factors that I just don't know.....that makes sense to somebody. To me protecting our water supply is absolutely imperative and I know cost plays a part in things.....I would respectfully ask you to look at the cost to our rate payers when they are assuming a huge liability as far as adding a potential contaminate in the water supply. That goes on one hundred years from now.....that same liability will exists.....that is something we need to think about. Right now we don't have a commitment from you to build a vandal fence and that was in early discussions with both Parsons and INDOT and myself and Mike Hess.....were involved in all of those early meetings.....it was communicated to us that you would do everything you could to protect the water supply and that bridge actually goes directly across our body of water and so anything that gets thrown off from that bridge goes right into our water supply.....and during times of heavy rainfall, we have less that fifteen minutes until that gets to the plant.....we have to get it shut down. If it's dry then we might have twenty minutes or so before it gets to the plant. It's a serious situation.....it's not just something we wish we could have done .....it's simply something that must be done. So we were pleased to talk to Mr. Pence (Gary) and we're going to talk more about this and I'm grateful that there is still someone listening.....because it's been more than a year that we've been talking about

it.....we're doing everything we can to protect our water supply. We will follow up with a meeting with Mr. Pence.....thank you.

Jarrod Daeger – Hello, my name is Jarrod Daeger and I'm representing the utility board, I'm here with Karen .....as mentioned, we did meet Mr. Pence this evening. In January I will become the utility board president and I look forward to a fresh start with Gary at that time. Karen hit on a majority of the topics we're concerned about.....however, in addition to her comments, our studies show that twelve minutes from where the bridge crosses is where a contaminate could affect our water supply and our big point is that we did not .....North Vernon or Jennings County select for this to happen.....we did not ask for this to happen.....that bridge was thrown upon us in a lot of ways.....but it's our water that is going to be the problem. There are very few more important issues to all of us than water. It doesn't matter if you live in an apartment complex, a large house, small house, uptown, downtown, employed, unemployed, young, old, democrat, republican.....everybody needs clean water and in this down, we're very much dependent upon our water supply.....everybody deserves clean water and a safe water supply. Our biggest point I'd like to make tonight, is that we've been committed to working with you guys .....and Mike, our superintendent of water has done a wonderful job in doing that.....and we hope that we do indeed a follow through with Mr. Pence in the upcoming weeks to try to get that vandal fence in place because with the bridge going there and being that close .....and talking to a lot of people.....there have been lots of bottles, trash, Christmas trees.....it could be anything from standard trash to drug paraphernalia thrown over that bridge reaches our tap water in just a matter of minutes.....so we do look forward to working with Mr. Pence in the upcoming weeks to set up a meeting and just sit down to discuss what is the best solution for everybody.....thank you.

Richard Morin – I'm Richard Morin and I'm with the engineering firm with the utility.....Dan mentioned my name earlier.....we've become very accustomed to talking to each other as part of the west bypass.....I think the utilities are very appreciative to what coordination has taken place in the past .....it was a big surprise to the utilities when the line with the route chosen was selected.....because all of the indications were that the northern alignment would be there .....all of the sudden it got to be the alignment that is now chosen. One of the things about the current alignment is that it is very close to the intake. The next real public access to the river is really about nine stream miles upstream.....we're talking about upstream from the water intake.....the location of the bridge.....either location would have made it much closer .....the other location is also county highway and not a state or U.S. Highway so the traffic would be whole lot higher and a whole lot closer. Having a public access there.....a vandal fence, for those who do not know what a vandal fence is .....all you have to do is look at the local newspaper....they have a very good article there about it. A vandal fence is similar to what is up on the crossings of the CSX Railroad.....and obviously the fence is there for some type of safety reason.....that's all the city is asking for is that a fence be place on the bridge across the impoundment .....the water source for safety reasons. It's been indicated that it's not a standard to put a vandal fence across waterways.....this is a unique situation.....not a standard situation.....and as Jerry mentioned....anything could possibly and very quickly be tossed over .....we know it's not going to eliminate something intentionally.....if someone wants to do

something intentionally or do intentional harm.....but it's makes it awfully convenient without the vandal fence. As Karen mentioned, it should not go back to the rate payers to pay for this because it is not something that the rate payers .....it's not brought about as part of some action by the water utility. That's kind of the basis of it.....I think we will formalize some more stuff in writing.....we're glad to know that Gary is willing to meet with the utility to discuss this further.....thank you.

Sheila Calhoun - My name is Sheila Calhoun and I'm one of the land owners located west of the river just slightly west .....close to the stone query. My land is located where this highway is going and it's riddled with sink holes. How would you contain a spill in that area? Are you going to ditch it all around there? Are you going to use underground pipes? (Rickie Clark states that project team will address question in display area following the formal comment session).

Mike Hess, Superintendent of Water Utility for North Vernon: I'm Mike Hess, city of North Vernon Water Utility Superintendent .....my colleagues have covered our concerns very well so I'm not going to go over those items again.....in regards to the cost of the fence, I feel that it is certainly money well spent .....I just wanted to state that for the record.....thank you.

E1

## Stamatis, Stephany

**From:** Prevost, Daniel
**Sent:** Friday, December 06, 2013 2:14 PM
**To:** shoene@montrowgroup.com
**Cc:** Clark, Rickie; tmills@indot.IN.gov; Carnahan, Ben; Ball, Alan; Stamatis, Stephany
**Subject:** FW: U.S. 50 North Vernon East Project
**Attachments:** US50NorthVernonEASTPROJECTLegalNoticeofHearingNov2013.pdf

**Importance:** High

Sandra –

Thank you for your interest in the project and for reaching out to the Project Team.

Regarding your question on access – yes, CR 75 W will have direct access to the bypass via a stop-controlled intersection. Traffic on CR 75 W will have stop signs; traffic on the bypass will be free-flowing. This intersection was provided specifically to support the existing and proposed commercial development in the area and facilitate access to the bypass.

If you have any additional questions about the project, please let us know. And, of course, you are welcome and encouraged to attend the public meeting on December 18th to gather additional information, ask questions of the Project Team, and provide comments for the public record. Information regarding the meeting is attached.

Thank you.

- Dan

Dan Prevost, AICP CTP, ENV-SP
Principal Planner/Project Manager
PARSONS
Office – 317.616.1017 ♦ Mobile – 513.368.0514
daniel.prevost@parsons.com ♦ www.parsons.com

---

**From:** Clark, Rickie [mailto:RCLARK@indot.IN.gov]
**Sent:** Friday, December 06, 2013 11:00 AM
**To:** Prevost, Daniel
**Subject:** FW: U.S. 50 North Vernon East Project
**Importance:** High

Hi Dan,

If possible, could you or someone on your team assist the stakeholder below?

Thanks,

Rickie

---

**From:** Sandra Hoene [mailto:shoene@montrowgroup.com]
**Sent:** Friday, December 06, 2013 10:00 AM
**To:** Clark, Rickie

E1 continued

**Subject:** U.S. 50 North Vernon East Project
**Importance:** High

*Mr. Clark,*

*Good morning, my name is Sandra Hoene and I represent the Montrow Industrial Park in North Vernon Indiana. According to the preferred route for Highway 50 Bypass, the bypass will be going through the middle of our industrial park. Our concern is as follows ~ Will there be access to CR 75 from the Bypass?*

*Sincerely,*
*Sandra Hoene*
*(812) 216-2239*

Montrow
group

E2

## Stamatis, Stephany

**From:** Prevost, Daniel
**Sent:** Sunday, December 22, 2013 3:43 PM
**To:** Ball, Alan; Carnahan, Ben; Stamatis, Stephany; LaBlonde, John
**Subject:** Fwd: US 50 North Vernon Bypass East

Dan Prevost, AICP CTP
PARSONS
(513) 552-7013

Begin forwarded message:

**From:** "Biehle, Donald J." <biehled@purdue.edu>
**Date:** December 20, 2013 at 11:54:58 AM EST
**To:** "Daniel.Prevost@parsons.com" <Daniel.Prevost@parsons.com>
**Cc:** "GPence@indot.in.gov" <GPence@indot.in.gov>
**Subject: US 50 North Vernon Bypass East**

Daniel,

I am writing about the proposed roundabout on CR 160N/CR175N and the realigned old US 50.
I understand and like some roundabouts I have used but question the need for one in this location.
I can see very little traffic using the roundabout from the county roads as opposed to lots of traffic using it on the old highway 50. Does it really justify making all the old highway 50 through traffic use the roundabout just so a few users from the county roads will not have to use stop signs? I expect to see very little traffic from the county roads at this intersection but expect to continue to see heavy traffic using the route to access downtown North Vernon from the East.
I would much rather see the through traffic maintained at this location without stopping and the use of stop signs for access from the county roads. Wouldn't this be a cheaper alternative also to construct?
Thanks.

Donald J. Biehle, Superintendent
Southeast Purdue Agricultural Center
4425 E Co Rd 350 N
PO Box 216
Butlerville IN 47223-0216
biehled@purdue.edu
812-458-6977
812-458-6979 fax
812-592-8426 cell

E3

## Stamatis, Stephany

**From:** Prevost, Daniel
**Sent:** Monday, December 30, 2013 7:39 PM
**To:** Carnahan, Ben; LaBlonde, John; Ball, Alan; Stamatis, Stephany
**Subject:** Fwd: US 50 East By-pass project

Dan Prevost, AICP CTP
PARSONS
(513) 552-7013

Begin forwarded message:

**From:** Jan Shonda <jan-shonda@cinergymetro.net>
**Date:** December 30, 2013 at 4:06:03 PM EST
**To:** <Daniel.prevost@parsons.com>
**Subject: US 50 East By-pass project**

I would like to submit a request to re-evaluate the need to build a roundabout off US50 East Bypass to downtown North Vernon.
As it was discussed, it seems that just controlling the speed limit from the city to the new stoplight would achieve the goal without spending the money ($500k or more) to build a roundabout so close to the light.
This road will have much more traffic with large vehicles including campers and horse trailers throughout the summer.

I would like your group to petition the state and local agencies to control the speed on this roadway, and possibly include rumble strips as traffic approaches the stoplight at the intersection with the bypass.

Please consider the saving of taxpayer money as well as a more efficient way to control traffic in the area.

Yours truly,
Jan Boram

E4

## Stamatis, Stephany

**From:** Prevost, Daniel
**Sent:** Thursday, January 02, 2014 9:36 PM
**To:** Pence, Gary; Carnahan, Ben; Ball, Alan; Stamatis, Stephany
**Subject:** FW: U.S. 50 North Vernon Bypass--East

---

**From:** Karen Snyder [mailto:karen.c.snyder@comcast.net]
**Sent:** Thursday, January 02, 2014 9:06 PM
**To:** Prevost, Daniel
**Subject:** U.S. 50 North Vernon Bypass--East

I write to oppose INDOT''s incomplete plan to protect the water source of the City of North Vernon in the design of the bridge spanning the Muscatatuck River east of the City.

From five original options, INDOT selected the one that creates the greatest hazard for the water ratepayers of North Vernon, the one which places the bridge directly over our impounded supply of water. This health hazard was not created in ignorance. The City utilities were well represented at all of the early planning meetings. We pointed out the two locations that were most safely placed away from our water intake as well as the two locations that would create the greatest potential for harm to our ratepayers.

Once the State chose the worst possible location for placement of the bridge, we offered the following options for crucial damage control:

1. Obtain the quarry property in order to allow us to .move our impoundment basin. This option would help to protect from potential contamination by increasing the dilution of the contaminant as well as removing the bridge from a position directly over our water supply. (Our current impoundment basin is small, only about four feet deep, and would provide only minor dilution.) Currently, the only bridge we have crossing the Muscatatuck upstream is nine miles to the north and east on a lightly-traveled county road, so INDOT has clearly created a hazard that doesn't now exist. The City of North Vernon is the big loser in this issue, as are all Jennings County residents who work in North Vernon, have children attending schools in the City or have family members hospitalized, living in senior housing or even eating at a restaurant in North Vernon.

2. If INDOT refuses to consider any option at a greater distance from our water plant, then they must include in their plans protection against the following potential sources of contamination:
   a. runoff in case of a spill or products put on the surface of the highway during icy conditions
   b. contaminants thrown over the side of the bridge into our impounded water supply.

The State has included in their design plans a drainage system that our City utilities engineer feels adequately addresses the runoff issue. To help protect us from contaminants thrown over the side of the bridge, however, we have insisted on a vandal fence as was done on the bridge spanning the railroad on the west segment of the bypass. Parsons initially agreed to the necessity of including a vandal fence. Their elimination of the vandal fence from their current design plans creates a major liability for the City of North Vernon. No city would willingly incur such a liability; in fact, no other city in Indiana has been asked by INDOT to accept this liability. In no other city in Indiana has the State constructed a bridge over an impounded water supply.

All of the reasons we have been given by the State for the choices imposed on us are glaringly minor when contrasted with the severity of the hazard they are creating:

l. We chose this location because the two locations to the north and east that the City preferred presented permitting nightmares. Why does violating the protection of our drinking water not classify as the mother of all permitting nightmares?

2. The cost of moving utilities was less at the location chosen. The cost to the City od North Vernon of taking on this liability is immense!

3. The vandal fence is not a part of our design because we have no standard requiring one, as we did for the bridge spanning the railroad. Why would you rely on the presence or absence of a standard when dealing with a situation you have never faced. A position of integrity and responsibility is always a good fallback position.

4. It is unlikely that anyone would throw any contaminant over the side of a bridge into the water. "Friends of the Muscatatuck," who conduct river clean-up twice a year have assured us that the exact opposite is true. Bridges provide the favored spot for dumping unwanted items. The superintendent of our water plant has also cited a previous situation in which contamination of upstream water was prevented by a fence.

I appreciate the opportunity to air my concerns. I also am grateful for your very thorough attention to designing a safe drainage system for runoff. Please do not ignore the significance of including a vandal fence in your design.

I, and other members of the North Vernon Utility Board, Mayor Campbell, Utility Engineer Richard Morin, and Water Plant Superintendent Mike Hess are looking forward to meeting with Mr. Gary Pence at a time and place of his choosing should he need further information.

Karen Snyder
President, North Vernon Utility Board
333 Harms Street, North Vernon, IN 47265
(812) 346-2272 (812) 528-6697)—cell
karen.c.snyder@comcast.net

E5

RLM Engineering Inc.
*Excelling in Service*

January 3, 2014

US 50 Bypass – East Project
c/o Parsons
101 West Ohio Street, Suite 2121
Indianapolis, IN 46204

RE: US 50 Bypass East
Water Supply Impacts

Dear Mr. Prevost:

These comments supplement the comments made at the public hearing on December 18, 2013.

The City Utilities expressed their concern with the alignment immediately following the public meeting identifying the alignment. Protecting the water supply for the City and its water users was the concern with the design of the proposed highway. A meeting was held in early 2013 to discuss the issues and follow up discussions were held with Parsons to discuss the concerns. See prior correspondence for the details of the concerns.

An alternative was selected to address the surface water drainage, runoff, or spills from the highway and bridge. The selected alternative was to direct all runoff beyond the City's low head dam which in turn would keep all spills and runoff from entering the narrow in-stream water supply reservoir. The City approves of this alternative.

The City utilities also indicated that additional protection of the in-channel reservoir is needed through the addition of the vandal fencing on the bridge to be constructed across the reservoir. The addition of the bridge across the reservoir provides a "public presence" to the water supply reservoir that did not previous exist. The next upstream bridge across the stream channel is nine (stream) miles from the intake as compared to the ½ mile for the proposed US 50 bridge.

The bridge will allow several thousand people per day to cross the water supply reservoir. While the bridge is not a "walking" bridge for pedestrians, it adds public accessibility directly over the reservoir.

The flow in the Muscatatuck River is low for most of the year. There are times during the dry portion of the year where the low head dam contains all of the flow with no water flowing over the dam. The reservoir is also a narrow channel impoundment with limited quantity of water. This results in very little dilution for any contaminant that could enter the reservoir and then enter the intake for the water supply.

**2700 N State Highway 7, North Vernon, IN 47265**
**Phone (812) 346-6139 Fax (812) 346-6440 Website: RLM-Engineering.com**

E5 continued



Vandal fencing installed on the proposed bridge would provide an additional layer of protection for the water supply. The fencing would make it more difficult for someone to toss any item into the reservoir. As indicated by one of the Utility Board members at the public hearing, the item could be drugs or other illegal substances. A discussion with the Friends of the Muscatatuck indicated that the refuse that is pulled from the Muscatatuck River is generally found around the bridges across the Muscatatuck River.

The installation of vandal fencing has been for the protection of the public. Whether these are installed in municipal overpasses or across railroads, the fencing is used to protect the public. While it may not be a standard practice for INDOT to install vandal fences over waterways, the situation is not a "standard" situation, but is an unique situation involving a limited quantity water supply reservoir. The installation of the vandal fencing will provide a layer of protection to the public.

The following link provides information as to the debris dumped into the White River which also indicates that there is a "tipping point" as to contamination of the drinking water supply. http://www.wishtv.com/news/local/under-water-junk-dumped-in-white-river With the limited water quantity of the Muscatatuck River as compared to the quantity of water in White River in the news article, the tipping point is much lower. The vandal fence provides another means of limiting the debris entering the water supply and protection of the public water supply.

A vandal fence is needed. The highway project creates the issue of additional public access to the reservoir. The cost of the vandal fence should be included as the highway project cost and not as a cost to the water utility.

Sincerely,

Richard Morin

President

**2700 N State Highway 7, North Vernon, IN 47265**
**Phone (812) 346-6139 Fax (812) 346-6440 Website: RLM-Engineering.com**

E6


# Larry J. Greathouse

Attorney at Law

16 Main Street
Post Office Box 136
North Vernon, Indiana 47265-0136
Telephone: 812-346-2139
Fax: 812-346-7168
Email: greathouselaw@hotmail.com


December 20, 2013

Daniel Prevost
101 West Ohio Street, Suite 2121
Indianapolis, IN 46204

Re: U.S. 50 North Vernon Bypass - East

Dear Dan:

It was nice meeting you at the high school. My name is Larry J. Greathouse and I am an attorney with offices located in North Vernon, and as such have been engaged by Leading Way Farms and Richard Apsley regarding the taking of the property being purchased by Leading Way Farms, Inc. from Mr. Apsley by way of a real estate installment contract.

Please know that Leading Way Farms is a horse boarding and training operation. One of the amenities that they offer is extended trail riding. They have an easement across the land owned by Mr. Apsley which lies immediately to the east of their farm. With the construction of the new highway and fencing they will lose their ability to offer and enjoy trail rides which they have enjoyed for many years.

This will result in significant damages to the property and its owners.

Thank you very much.

Sincerely,

Larry J. Greathouse
Attorney at Law

LJG/md

E7

*Customer Service Coordinator*
*INDOT--Seymour District*
*185 Agrico Lane*
*Seymour, Indiana 47274*
*Phone: 812-524-3955*
*Fax: 812-522-7658*
*bhamilton@indot.in.gov*

Mr. Brent A. Howard
130 N. 5th Street
North Vernon, IN 47265

812-346-5070

bhoward0963@hotmail.com

think that there should not be a bridge over 5th st (base rd). there isnt a bridge over any other cr on the bypass so why 5th st. down town nv has been messed up enough by our local gov and they bypass isn't going to exactly help our business wich is one 5th st. our business has been down town for nearly 40 yrs and with the large retail stores on the north end of town any traffic passing helps

F1

# Fax Cover Sheet

NORTH VERNON MUNICIPAL UTILITES
WATER DEPARTMENT
439 NINTH STREET
NORTH VERNON, IN 47265
PHONE: (812) 346-2037
FAX : (812) 346-5277

**Send to:** Parsons **From:** Mike Hess

**Attention:** Dan Prevost **Date:** 1-3-14

**Fax Number:** 317-616-1033

___Urgent ___Reply ASAP ___Please Comment X Please Review X For Your Information

**Total Pages, including cover:** 2

**Comments:** My 1st Comment form contained a couple of spelling errors please replace with this one.

Thanks

Mike Hess

# U.S. 50 North Vernon Bypass - East

December 18, 2013

## Public Hearing

F1 continued

### COMMENT FORM

| | |
|---|---|
| Name: MICHAEL HESS | |
| Organization: NORTH VERNON WATER DEPARTMENT | |
| Address: 2580W COUNTY ROAD 100N | |
| City: NORTH VERNON | State / Zip: IN 47265 |
| Phone: 812-346-2037 | E-mail: nvwaterworks@gmail.com |

**Please provide comments below**

Thank You for reconsidering our request for the vandal fence over the Muscatatuck River. As the city's Water Department Superintendent I know the limitations of any surface water treatment facility. I also understand the need to protect our drinking water supply. Although it's nearly impossible to protect against intentional contamination what concerns us is pure carelessness. I can testify to what people who just don't realize this is where the city gets its water will do in ignorance.

I would hope that someday our intakes will be located the North Vernon Quarry Reservoir or a suitable aquifer. A better source would always be welcome, but for now we have to protect what we have. INDOT has acknowledged the added risk and taken some steps to elevate some of the emanate contamination. Thank you, but the cost of this fence shouldn't be on the shoulders of the less than 3000 customers

**Please return completed form to project staff today or mail, fax or e-mail to our office at:**

US 50 North Vernon Project
Parsons, Attn: Dan Prevost
101 West Ohio Street, Suite 2121
Indianapolis, Indiana 46204

Phone: (317) 616-1017
Fax: (317) 616-1033
E-mail: Daniel.Prevost@parsons.com

# U.S. 50 North Vernon Bypass - East

December 18, 2013

## Public Hearing

F1 continued

### COMMENT FORM

| | |
|---|---|
| Name: MICHAEL HESS | |
| Organization: NORTH VERNON WATER DEPARTMENT | |
| Address: 2580W COUNTY ROAD 100N | |
| City: NORTH VERNON | State / Zip: IN 47265 |
| Phone: 812-346-2037 | E-mail: nvwaterworks@gmail.com |

**Please provide comments below**

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US 50 North Vernon Project
Parsons, Attn: Dan Prevost
101 West Ohio Street, Suite 2121
Indianapolis, Indiana 46204

Phone: (317) 616-1017
Fax: (317) 616-1033
E-mail: Daniel.Prevost@parsons.com

U.S. 50 North Vernon Bypass East Project Public Hearings Transcript

Jennings County High School

Wednesday, December 18, 2013

6:00 p.m.

S1 Connie Rayburn, North Vernon City Council - Hello, my name is Connie Rayburn, North Vernon City Council.....and my only comment is that I was glad to hear why you didn't go with the longer route.....because to me it seemed like the longer route was the best route.....but now having heard why you choose the route that you did.....I understand it better and I am very glad that you did consider our water operation and impact to our city.....it is our biggest concern. I know that we still have other concerns that we will work with project officials from INDOT to have addressed in the near future.....thank you.

S2 Karen Snyder – Hi, my name is Karen Snyder and I am president of the North Vernon Utility Board and in the interest of time, I'm not going to list what I appreciate about what you've covered, but rather I'll just list my concerns.....although I really appreciate INDOT being here and the information that was presented. Our concern remains....making certain that we've done everything we can to safeguard the North Vernon water supply.....and we still have one issue left unprotected at this point.....the drainage runoff.....we've been working very closely with our city engineer and of course, he has worked very closely with you. Our initial choice out of all of the alternatives we were looking at .....the further east you go, the further away you are from our water plant.....and the more time we have in the event a contaminate were dumped or spilled.....to shut off the system so it doesn't get out into the distribution system. The choice that you picked.....I'm constantly amazed that it's called the most environmentally sound alternative when it's the worst one for our water supply.....somehow that doesn't make sense to me but I will assume that there are other factors that I just don't know.....that makes sense to somebody. To me protecting our water supply is absolutely imperative and I know cost plays a part in things.....I would respectfully ask you to look at the cost to our rate payers when they are assuming a huge liability as far as adding a potential contaminate in the water supply. That goes on one hundred years from now.....that same liability will exists.....that is something we need to think about. Right now we don't have a commitment from you to build a vandal fence and that was in early discussions with both Parsons and INDOT and myself and Mike Hess.....were involved in all of those early meetings.....it was communicated to us that you would do everything you could to protect the water supply and that bridge actually goes directly across our body of water and so anything that gets thrown off from that bridge goes right into our water supply.....and during times of heavy rainfall, we have less that fifteen minutes until that gets to the plant.....we have to get it shut down. If it's dry then we might have twenty minutes or so before it gets to the plant. It's a serious situation.....it's not just something we wish we could have done .....it's simply something that must be done. So we were pleased to talk to Mr. Pence (Gary) and we're going to talk more about this and I'm grateful that there is still someone listening.....because it's been more than a year that we've been talking about

it.....we're doing everything we can to protect our water supply. We will follow up with a meeting with Mr. Pence.....thank you.

S3 Jarrod Daeger – Hello, my name is Jarrod Daeger and I'm representing the utility board, I'm here with Karen .....as mentioned, we did meet Mr. Pence this evening. In January I will become the utility board president and I look forward to a fresh start with Gary at that time. Karen hit on a majority of the topics we're concerned about.....however, in addition to her comments, our studies show that twelve minutes from where the bridge crosses is where a contaminate could affect our water supply and our big point is that we did not .....North Vernon or Jennings County select for this to happen.....we did not ask for this to happen.....that bridge was thrown upon us in a lot of ways.....but it's our water that is going to be the problem. There are very few more important issues to all of us than water. It doesn't matter if you live in an apartment complex, a large house, small house, uptown, downtown, employed, unemployed, young, old, democrat, republican.....everybody needs clean water and in this down, we're very much dependent upon our water supply.....everybody deserves clean water and a safe water supply. Our biggest point I'd like to make tonight, is that we've been committed to working with you guys .....and Mike, our superintendent of water has done a wonderful job in doing that.....and we hope that we do indeed a follow through with Mr. Pence in the upcoming weeks to try to get that vandal fence in place because with the bridge going there and being that close .....and talking to a lot of people.....there have been lots of bottles, trash, Christmas trees.....it could be anything from standard trash to drug paraphernalia thrown over that bridge reaches our tap water in just a matter of minutes.....so we do look forward to working with Mr. Pence in the upcoming weeks to set up a meeting and just sit down to discuss what is the best solution for everybody.....thank you.

S4 Richard Morin – I'm Richard Morin and I'm with the engineering firm with the utility.....Dan mentioned my name earlier.....we've become very accustomed to talking to each other as part of the west bypass.....I think the utilities are very appreciative to what coordination has taken place in the past .....it was a big surprise to the utilities when the line with the route chosen was selected.....because all of the indications were that the northern alignment would be there .....all of the sudden it got to be the alignment that is now chosen. One of the things about the current alignment is that it is very close to the intake. The next real public access to the river is really about nine stream miles upstream.....we're talking about upstream from the water intake.....the location of the bridge.....either location would have made it much closer .....the other location is also county highway and not a state or U.S. Highway so the traffic would be whole lot higher and a whole lot closer. Having a public access there.....a vandal fence, for those who do not know what a vandal fence is .....all you have to do is look at the local newspaper....they have a very good article there about it. A vandal fence is similar to what is up on the crossings of the CSX Railroad.....and obviously the fence is there for some type of safety reason.....that's all the city is asking for is that a fence be place on the bridge across the impoundment .....the water source for safety reasons. It's been indicated that it's not a standard to put a vandal fence across waterways.....this is a unique situation.....not a standard situation.....and as Jerry mentioned....anything could possibly and very quickly be tossed over .....we know it's not going to eliminate something intentionally.....if someone wants to do

something intentionally or do intentional harm.....but it's makes it awfully convenient without the vandal fence. As Karen mentioned, it should not go back to the rate payers to pay for this because it is not something that the rate payers .....it's not brought about as part of some action by the water utility. That's kind of the basis of it.....I think we will formalize some more stuff in writing.....we're glad to know that Gary is willing to meet with the utility to discuss this further.....thank you.

S5 Sheila Calhoun - My name is Sheila Calhoun and I'm one of the land owners located west of the river just slightly west .....close to the stone query. My land is located where this highway is going and it's riddled with sink holes. How would you contain a spill in that area? Are you going to ditch it all around there? Are you going to use underground pipes? (Rickie Clark states that project team will address question in display area following the formal comment session).

S6 Mike Hess, Superintendent of Water Utility for North Vernon: I'm Mike Hess, city of North Vernon Water Utility Superintendent .....my colleagues have covered our concerns very well so I'm not going to go over those items again.....in regards to the cost of the fence, I feel that it is certainly money well spent .....I just wanted to state that for the record.....thank you.

# Public Hearing

M1

## COMMENT FORM

| | |
|---|---|
| Name: Harold + Judy Stone | |
| Organization: | |
| Address: 2920 No County Rd. 20 W | |
| City: North Vernon | State / Zip: In. 47265 |
| Phone: 812. 346-8751 | E-mail: stonerenetab@gmail.com |

**Please provide comments below**

We are not looking forward to seeing traffic as our front view. We have always enjoyed the scenic view of the seasons. Progress is good and I'm sure everyone feels the same as we do.

Judy Stone

**Please return completed form to project staff today or mail, fax or e-mail to our office at:**

US 50 North Vernon Project
Parsons, Attn: Dan Prevost
101 West Ohio Street, Suite 2121
Indianapolis, Indiana 46204

Phone: (317) 616-1017
Fax: (317) 616-1033
E-mail: Daniel.Prevost@parsons.com

M2

# United States Department of the Interior
## Fish and Wildlife Service

Bloomington Field Office (ES)
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

January 9, 2014

Mr. Daniel Prevost
Parsons
101 West Ohio Street, Suite 2121
Indianapolis, Indiana 46204

RE: DES. 1173374, U.S. 50 North Vernon Bypass – East Project Environmental Assessment

Dear Mr. Prevost:

The U.S. Fish and Wildlife Service (FWS) has reviewed the Environmental Assessment (EA) for the aforementioned project and is providing the following comments. These comments are consistent with the intent of the National Environmental Policy Act of l969, the Endangered Species Act of l973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

According to the information provided in the EA, the Indiana Department of Transportation (INDOT) (funded, in part, by the Federal Highway Administration) has proposed to construct a highway bypass around the City of North Vernon, Indiana. Construction of the western half of the project began in March of 2012. The current proposal will extend the western bypass starting at S.R. 3 north of North Vernon to the east and south, and rejoin existing U.S. 50 on the east side of North Vernon. Initially, two lanes will be constructed for the project at this time, although enough right-of-way will be purchased for a potential four-lane facility in the future. Impacts analyzed in the EA include anticipated impacts based on a four-lane facility.

Coordination on this project has been ongoing for several years, including coordination on the western bypass project (separate EA), which is now nearly completed. Numerous alignments have been evaluated throughout the process, and two design alternatives have been carried forward (Alternative 6D, preferred, and Alternative 4NB2). The preferred alternative (6D) appears to have the least environmental impacts, including impacts to Indiana bat habitat, of the various alternatives considered.

Our office provided early coordination comments for this project on September 10, 2012. At that time, we included threatened and endangered species information, as well as general comments and recommendations to minimize and avoid impacts to natural resources.

Overall, the project appears to have minimized impacts to natural resources adjacent to the proposed project area. INDOT has proposed numerous measures to avoid and minimize impacts due to project construction, including seasonal tree-clearing restrictions for Indiana bat conservation and various best management practices to reduce erosion, sedimentation, turbidity, and pollution of streams and adjacent habitat.

Endangered Species

The project is within the range of the Indiana bat (*Myotis sodalis*). Indiana bats hibernate in caves, then disperse to reproduce and forage in relatively undisturbed forested areas associated with water resources during spring and summer. Young are raised in nursery colony roosts in trees, typically near drainageways in undeveloped areas. Like all other bat species in Indiana, the Indiana bat diet consists exclusively of insects.

There is suitable summer habitat and several summer records for this species along the project corridor. The project will not eliminate enough habitat to affect this species, but, as discussed in the EA, the applicant has agreed to avoid incidental take from removal of an occupied roost tree by avoiding tree-clearing activities in the Indiana portion of the project during the period **April 1 - September 30**.

Two surveys for Indiana bats were completed (2009 and 2012) resulting in the capture of a juvenile Indiana bat near the northern terminus of the East Bypass Project in August of 2012. Based on the discovery of the juvenile Indiana bat in 2012, INDOT performed an Indiana bat habitat assessment for forested areas that would be potentially affected by the project. Subsequently, a Biological Assessment for the Indiana bat was prepared and reviewed by our office. On September 10, 2013, we issued a letter concurring that the North Vernon East Bypass Project was not likely to adversely affect the Indiana bat provided seasonal tree-clearing restrictions were adhered to, as well as other minor avoidance and minimization measures. Please refer to our September 10, 2013 letter for additional endangered species and Section 7 consultation information for this project.

The proposed project also lies within the range of the northern long-eared bat (*Myotis septentrionalis*), a species that was proposed for listing as federally endangered on October 2, 2013. In both the 2009 and 2012 Indiana bat surveys for the project area, northern long-eared bats were encountered. During the winter, northern long-eared bats hibernate in caves and abandoned mines. Summer habitat requirements for the species are not well defined but include properties similar to that of Indiana bats including: 1) Roosting in dead or live trees and snags with cavities, peeling or exfoliating bark, split tree trunk and/or branches, which may be used as maternity roost areas; 2) Foraging in upland and lowland woodlots and tree lined corridors; and 3) Occasionally roosting in structures like barns and sheds.

Proposed avoidance measures for Indiana bats, primarily seasonal tree-clearing restrictions, will be adequate to avoid and minimize any adverse impacts to the northern long-eared bat. This precludes the need for additional consultation on this species in the event it becomes formally listed prior to, or

during, the construction phase of the U.S. 50 East Bypass project.

Should additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be reinitiated to assess whether the determinations are still valid.

Karst

More than 60 karst features have been identified within and adjacent to the proposed preferred alignment right-of-way. Thirty features lie within the right-of-way and will require some form of treatment. Approximately 10 features have been identified that may be directly impacted by roadway runoff/drainage. Per the 1993 Karst MOU (item 8) a monitoring and maintenance plan will be developed and provided to the signatory agencies for review. In addition, per item 10 of the 1993 Karst MOU, prior to acceptance of the final design plans, a project-specific karst agreement will be developed which will set out the appropriate and practicable measures to offset unavoidable impacts to each karst feature. This agreement will be signed by the Department Director of IDNR, the Commissioner of the IDEM, the Commissioner of INDOT and the Supervisor of the USFWS Bloomington, Indiana Field Office. The agreement will become a part of the contract documents for the project, will be discussed at the pre-construction conference and will be on file at the office of the project administrator.

Specific Comments

Page 33 discusses impacts the proposed alignments may have on utilities and indicates that additional parcels will need to be cleared for utility relocations outside of the planned construction limits. We would like to receive additional information regarding the amount and type of land cover that will be cleared. If additional forested habitat is planned to be removed, this should be considered within the Section 7 consultation process.

In Section 4.13, under the *Survey Results* section, the EA mentions that one bat species, the evening bat, is listed as endangered by the State of Indiana. We would like to point out that out of the eight species found in the project area during the 2009 and 2012 bat surveys, all but the big brown bat (*Eptesicus fuscus*) are currently listed on the Indiana Department of Natural Resources "List of Endangered, Threatened, & Rare Species", most as Species of Special Concern.

In Section 4.13 (page 84, second paragraph), the EA states that the late summer capture date of the female juvenile Indiana bat may indicate that the individual was transient, as opposed to belonging to a local maternity colony. The Indiana bat survey protocols were developed, in part, to eliminate concerns related to the time of year Indiana bats are captured and whether or not they are resident or transient individuals. Based on scientific literature and species expertise, we have concluded that any Indiana bats captured during the May 15 to August 15 time period are resident individuals. Moreover, the fact that the individual captured was a juvenile is further evidence that an Indiana bat maternity colony is present in the area, since juveniles typically stay in the summer maternity colony area for a longer period of time than adults prior to fall migration (USFWS 2007).

On page 104, commitment number 7 indicates that where any excavation or digging will occur, that construction only take place from April through October. Further clarification or discussion of this commitment, in light of the required seasonal tree-clearing restrictions for Indiana bats, is warranted.

On page 104, commitment number 18 mentions that no suitable Indiana bat roost trees will be cut between April 1 and September 30. The description for suitable roost trees that is in parentheses should **not** include the phrase "with loose hanging bark". Any tree over 3 inches dbh, living or dead, should not be removed during the summer maternity season unless further coordination occurs with our agency.

Since there is some indication that northern long-eared bats may on occasion use structures for roosting, we recommend adding a commitment that prior to the demolition of older structures, such as barns and sheds, a visual search be performed to see if bats are using the structure for roosting. Bats utilizing structures as roosts during the summer months may be utilizing them to shelter their bat pups which may not be able to fly when they are young. Should bats be found using the structure, we request that you contact our office at to discuss options for excluding the bats prior to demolition.

The Service appreciates the on-going coordination that has occurred on this project and the ability to work with INDOT and its consultants to select a preferred alternative with the least amount of impacts to the Indiana bat and other natural resources. In addition to the seasonal tree-clearing restrictions and the minimization of tree clearing within the ROW, the Biological Assessment reviewed by our agency in August, 2013, indicated that INDOT would seek opportunities to preserve and/or create Indiana bat habitat during the evaluation of excess ROW parcels (although no commitment to purchasing or restoring habitat has been made at this time). The Service strongly encourages INDOT to consider preservation and reforestation of adjacent and nearby habitat in order to help conserve and recover the endangered Indiana bat and the northern long-eared bat.

Permits under Section 404 of the Clean Water Act may be needed for the proposed project. Our recommendations to the U.S. Army Corps of Engineers for permit conditions would be consistent with our comments here.

The FWS has a continued interest in working with the INDOT and FHWA to ensure that project impacts to resources of concern are adequately addressed and we appreciate the opportunity to further review and comment on the North Vernon U.S. 50 East Bypass project. If project plans change such that additional fish and wildlife habitat may be affected, please recoordinate with our office as soon as possible. If you have any questions about our recommendations, please call Robin McWilliams Munson at (8l2) 334-4261 (Ext. 1207).

Sincerely yours,

Scott E. Pruitt

M2 continued

Field Supervisor

cc: Christie Stanifer, Indiana Division of Fish and Wildlife, Indianapolis, IN
Jason Randolph, IDEM, Water Quality Standards Section, Indianapolis, IN
Matt Buffington, Indiana Division of Fish and Wildlife, Indianapolis, IN
Thomas Warner, INDOT- Environmental Services,100 North Senate Avenue, Room 642
Indianapolis, Indiana 46204-2216

ES: RMunson/332-4261/Dec. 30, 2013

M2 continued

## Literature Cited

U.S. Fish and Wildlife Service (USFWS). 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

THIS IS NOT A PERMIT

M3

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

**DNR #:** ER-16517-2 **Request Received:** December 5, 2013

**Requestor:** Parsons
Dan Prevost
101 West Ohio Street, Suite 2121
Indianapolis, IN 46204

**Project:** US 50 North Vernon bypass - East, Environmental Assessment; Des #1173374

**County/Site info:** Jennings

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

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

**Regulatory Assessment:** This proposal will require the formal approval for construction in a floodway under the Flood Control Act, IC 14-28-1. Please submit a copy of this letter with the permit application.

**Fish & Wildlife Comments:** The preferred alternative (6D) is the alternative recommended to minimize impacts to fish, wildlife and botanical resources as a result of this project. The following are further recommendations that address potential impacts identified in the proposed project area:

1) Animal Species:
Construction that is on-going during the active season for Kirtland's snake and the Eastern box turtle may result in impacts to these species unless the environmental commitments for further consideration that involve removal and exclusion of Kirtland's snakes and Eastern box turtles are made priority/firm commitments. These commitments, along with the firm commitment that involves limiting the construction season to avoid the hibernation period for Kirtland's snakes and Eastern box turtles, are an important part of the overall protection of these species throughout the construction project.

2) Habitat Mitigation:
We recommend a mitigation plan be developed (and submitted with the permit application) if habitat impacts will occur. The DNR's Floodway Habitat Mitigation guidelines (and plant lists) can be found online at:
http://www.in.gov/legislative/iac/20120801-IR-312120434NRA.xml.pdf.

Impacts to non-wetland forest over one (1) acre should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to wetland habitat should also be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding.

Mitigation sites for impacts to habitat in the floodway should be located in the floodway, downstream of the one (1) square mile drainage area of that stream (or a nearby stream) and adjacent to existing forested riparian habitat.

Where possible, in order to minimize direct impacts and fragmentation impacts to the forested riparian corridor, highway runoff detention basin outfalls should be located in previously disturbed areas of the Vernon Fork (VFK) Muscatatuck River's forested riparian corridor, or where the forested riparian corridor is sparse or narrow and where the outfall will result in minimal tree clearing.

3) Karst Impacts:
Implement all applicable sections of the 1993 INDOT-IDNR-IDEM-USFWS KARST Memorandum of Understanding during all phases of the project (see http://www.in.gov/indot/files/38_karst.pdf). Inspection of karst-protective features such as, but not limited to, sand or peat filters should occur at the time intervals recommended by a karst geologist.

4) Stream Crossings:
Aside from the crossing of the VFK Muscatatuck River for which a three-span bridge is already planned, creek crossings should be constructed using a bridge or a three-sided culvert structure instead of 4-sided (box) culverts, when possible. If box or pipe culverts must be used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the bankful width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width / length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel.

5) Bank Stabilization:
Minimize the use of riprap in the channel and use alternative erosion protection materials whenever possible. Riprap can be used as stream bank toe protection and placed from the toe of the bank up to the ordinary high water mark (ohwm). From the ohwm to the top of the bank, erosion control blankets or turf reinforcement mats should be used. Erosion control blankets, turf reinforcement mats and other similar materials should be seeded with native plants to allow a natural, vegetated stream bank to develop.

We recommend bioengineered bank stabilization materials and methods. Information about bioengineering techniques can be found at http://www.in.gov/legislative/iac/20120404-IR-312120154NRA.xml.pdf. Also, the following is a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization: http://directives.sc.egov.usda.gov/17553.wba.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:
1. Revegetate all bare and disturbed areas in the floodway with a mixture of native grasses, sedges, wildflowers, and also native hardwood trees and shrubs as soon as possible upon completion. Do not use any varieties of Tall Fescue or other non-native plants (e.g. crown-vetch).
2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30.
5. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure.
6. Do not construct any temporary runarounds or causeways.

THIS IS NOT A PERMIT

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

7. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
8. Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.
9. Post "Do Not Mow or Spray" signs along the right-of-way.
10. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
11. Seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.

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

for J. Matthew Buffington
Environmental Supervisor
Division of Fish and Wildlife

**Date:** January 3, 2014

Michael R. Pence, Governor
Cameron F. Clark, Director

DNR Indiana Department of Natural Resources

Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739
Phone 317-232-1646 • Fax 317-232-0693 · dhpa@dnr.IN.gov

December 19, 2013

M4

Daniel Prevost, AICP CTP
Parsons Transportation Group
101 West Ohio Street, Suite 2121
Indianapolis, Indiana 46204

Federal Agency: Federal Highway Administration ("FHWA")

Re: *U.S. 50 North Vernon Bypass-East Project Environmental Assessment* (Parsons, December 2013) (Des. No. 1173374; DHPA No. 13889)

Dear Mr. Prevost:

Pursuant to the National Environmental Policy Act of 1969, as amended (42 U.S.C. § 4321, et seq.) the staff of the Indiana State Historic Preservation Officer has reviewed the aforementioned environmental assessment ("EA"), notice of which was received by e-mail on December 5, 2013, and the requested paper copy was received on December 11, for the County, Indiana.

We agree with the EA's identification of above-ground properties that are eligible for inclusion in the National Register of Historic Places: Frank Selmier House (AL001; IHSSI No. 079-087-20005); Baltimore & Ohio Railroad Bridge over CR 75 East (AL003; IHSSI No. 079-097-20021); Baltimore & Ohio Railroad Bridge over CR 175 North and Muscatatuck River (AL004), and U.S. 50 Bridge over the Vernon Fork of the Muscatatuck River (Bridge No. 050-40-00917C; NBI No. 18680).

We also agree with the assessment in Table 16 of the EA that Alternative 6D (Preferred Alternative) would not adversely affect the three historic bridges. However, the discussion of Alternative 6D on page 50 seems to be saying that 6D would have no impacts at all on those bridges. In our June 28, 2013, letter concurring in FHWA's May 17, 2013, Section 106 Adverse Effect finding for Alternative 6D as a whole, we also concurred with FHWA's subsidiary findings that the project would not adversely affect the bridges. Unless there is a difference in the way "impact" and "effect" have been used in the EA, we would be inclined to say that we do not believe that the project will have any *adverse* impacts on the three historic bridges, but we are not sure that there would be no demonstrable impacts at all.

Furthermore, according to Table 16, Alternative 4NB2 would have no adverse effect on the Frank Selmier House, but the discussion of 4NB2's impacts on pages 50-51 of the EA indicates that there potentially would be adverse effects on the house or its related features. A finding of effect for Alternative 4NB2 was not made in the Section 106 Adverse Effect finding for Alternative 6D to which we referred above. However, based on the EA's description of effects and on what my staff recalls from previous documents about this project, we think it likely that 4NB2 would have one or more adverse effects or impacts on the Frank Selmier House.

On page 20 of the EA, we read that what had earlier been proposed as a skewed intersection where Alternative 6D would meet existing U.S. 50 has been redesigned as a roundabout "with a turning radius . . . sufficient to accommodate all types of trucks." The footprint of Alternative 6D at that location appears in Figure 7 and on Map 10 in Appendix A of the EA appears to be of somewhat smaller dimensions than we previously had been shown in the *Historic Properties Report for the Proposed US 50 Eastern Bypass Project (Des. No. 1173374), North Vernon, Center and Campbell Townships, Jennings County, Indiana* (Nelson, 1/10/2013) and in the documentation that supported the May 17 Section 106 Adverse Effect finding. That difference probably would not change the impacts on above-ground historic properties. However, aside from that apparent discrepancy, we wonder whether a roundabout with a turning radius great enough to handle trucks of all sizes could fit into the area depicted for the Alternative 6D/existing U.S. 50 intersection in Figure 7 and on

M4 continued

Map 10 of the EA. If not, then we would recommend that a revised map be provided that shows more realistically the amount of right-of-way needed for the roundabout.

In regard to archaeology, in our letter of February 15, 2013 we concurred with the archaeological report "that archaeological sites 12Jn255, 12Jn577, 12Jn578, 12Jn602, 12Jn649, and 12Jn651 appear potentially eligible for inclusion in the National Register of Historic Places." In the Cultural Resources section of the Environmental Assessment (EA), under Archaeology, it states that the sites are eligible for the National Register of Historic Places. In Appendix E of the EA, in the MOA, it notes potentially eligible for the sites, and the archaeology at two sites (12Jn577 and 12Jn578) remained to be completed. Please note that for their protection, the specific locations or information that might lead to the locations of archaeological sites should not be publicly disclosed. This may include names of resources and properties.

In regard to the Alternative 6D/existing U.S. 50 proposed roundabout, does the entire roundabout remain in areas previously investigated archaeologically? If not, archaeological investigations of the area(s) may be necessary.

If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations.

If you have questions about archaeological issues, please contact Dr. Rick Jones at (317) 233-0953 or rjones@dnr.IN.gov. Questions about buildings or structures should be directed to John Carr at (317) 233-1949 or jcarr@dnr.IN.gov.

Very truly yours,

Mitchell K. Zoll
Deputy State Historic Preservation Officer

MKZ:JLC:JRJ:jlc

emc: Michelle Allen, Federal Highway Administration, Indiana Division
James Earl, P.E., Indiana Department of Transportation
Patrick Carpenter, Indiana Department of Transportation
Shaun Miller, Indiana Department of Transportation
C. David Moffat, Indiana Department of Transportation
Anuradha Kumar, Indiana Department of Transportation
Mary Kennedy, Indiana Department of Transportation
Melany Prather, Indiana Department of Transportation
Daniel Prevost, AICP CTP, Parsons Transportation Group
Mark McClain, ASC Group, Inc.
Beth McCord, Gray & Pape, Inc.

M5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JAN 0 8 2014

REPLY TO THE ATTENTION OF:

E-19J

Michelle Allen, Project Manager
Federal Highway Administration - Indiana Division
575 North Pennsylvania St., Room 254
Indianapolis, Indiana 46204

Jim Earl, Project Manager
Indiana Department of Transportation
100 North Senate Ave., Room N642
Indianapolis, Indiana 46204

**RE: Environmental Assessment – US 50 North Vernon Bypass – East, Jennings County, Indiana (December 2013) (INDOT DES Number 1173374)**

Dear Ms. Allen and Mr. Earl:

The U.S. Environmental Protection Agency Region 5 (EPA) reviewed the above referenced Federal Highway Administration (FHWA)/Indiana Department of Transportation (INDOT) Environmental Assessment (EA). Our review and comments are provided pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act.

INDOT proposes to construct and operate the east half (East bypass) of a full bypass (US 50 North Vernon bypass) around the north side of North Vernon from State Route (SR) 3 east to US 50. Construction of west half (West bypass) of the North Vernon bypass (from SR 3 west to US 50) is near completion. The North Vernon bypass is being proposed in order to reduce congestion, improve safety and accessibility, and meet local and state planning objectives.

The EA identifies Alternative 6D as the Preferred Alternative for the East bypass. Alternative 6D begins at SR 3, directly east from where the West bypass ends. After winding its way across new terrain bridging across the Vernon Fork of the Muscatatuck River (Vernon Fork) and the CSX railroad, the East bypass would tie into existing US 50 west of the CR 75 E (Deer Creek Road) intersection. A full access intersection is proposed at CR 75 W. INDOT proposes to construct and operate Alternative 6D as a 2-lane, 3.2 mile-long new terrain roadway. The proposed right-of-way width could accommodate a total of 4-lanes, if additional lanes are needed in the future.

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We appreciate that the EA incorporates many of the recommendations we identified in our September 21, 2012 early coordination letter to FHWA/INDOT regarding the East bypass proposal and its NEPA documentation. Of the two build alternatives assessed in the EA, Alternative 6D has the lesser amounts of direct impacts to residences and businesses, wetlands, streams, core forest, Indiana bat habitat, and farmland. However, Alternative 6D would also impact karst features. North Vernon's drinking water intake is located downstream of Alternative 6D. We have identified additional information we recommend INDOT consider in order to protect water resources (wetlands, streams/rivers, surface water and groundwater quality) in the project area. Identifying adequate sediment and erosion controls and implementing them in a timely manner during project construction and operation will help INDOT ensure the protection of these water resources. Please see the enclosure to this letter for our detailed comments.

If you have any questions about EPA's comments, please contact Virginia Laszewski at 312-886-7501 or email her at laszewski.virginia@epa.gov. We request you send us a hardcopy of FHWA's final NEPA determination when available.

Sincerely,

Kenneth A. Westlake
Chief, NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Enclosure: 1

cc: U.S. Army Corps of Engineers – Louisville District, Attention: CELRL-OP-F, P.O. Box 59, Louisville, Kentucky 40401-0059 (Greg McKay)
U.S. Army Corps of Engineers – Indianapolis Regulatory Office, 9799 Billings Road, Indianapolis, Indiana 46216-1055 (Debra Snyder)
U.S. Fish and Wildlife Service, Region 3, Bloomington Ecological Services Office, 620 S. Walker Street, Bloomington, Indiana 47403-2121 (Scott Pruitt/Robin McWilliams-Munson)
Indiana Department of Environmental Management, Office of Water Quality, Section 401Water Quality Certification Program, 100 N. Senate Avenue, MC 65-40, Indianapolis, Indiana 46204-2251 (Randy Braun/Jason Randolph)
Indiana Department of Natural Resources, 402 W. Washington St., Rm W264, Indianapolis, Indiana 46204 (Matt Buffington)
Dan Provost, Parsons, 101 West Ohio Street, Suite 2121, Indianapolis, Indiana 46204

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**EPA Comments Concerning the Environmental Assessment**
**US 50 North Vernon Bypass – East**
**Jennings County, Indiana (December 2013)**
**(INDOT DES Number 1173374)**

## Chapter 4.0 – ENVIRONMENTAL RESOURCES, IMPACTS AND MITIGATION

### 4.8 Air Quality

**Air Quality Conformity:** The EA has adequately addressed air quality conformity requirements. Tony Maietta is EPA Region 5 Air and Radiation Division (ARD) contact for the project area and may be reached by calling 312/353-8777 or by email at maietta.anthony@epa.gov.

**Mobile Source Air Toxics (MSAT) (pages 55 and 56).** A brief discussion regarding the proposal and mobile source air toxics (MSAT) is provided in the EA. However, exposure to diesel exhaust by construction workers and/or individuals that work, live or recreate near construction sites can have serious health implications.

Recommendation: Because MSATs can cause adverse health impacts, especially to vulnerable populations, such as children, the elderly, and those with existing respiratory health issues, EPA recommends INDOT identify potential mitigation measures to decrease the exposure of these populations to increases in MSATs emissions during construction of the proposed project. Such measures may include, but should not be limited to, strategies to reduce diesel emissions, such as project construction contracts that require the use of equipment with clean diesel engines and the use of clean diesel fuels, and limits on the length of time equipment is allowed to idle when not in active use (EPA recommends idling not exceed 5 minutes).

**Greenhouse Gases (GHG)/Climate Change (page 55):** Three paragraphs in the EA are devoted to addressing GHG emissions associated with the project and climate change. The EA indicates that FHWA does not believe it is informative at this point to consider greenhouse gas emissions in an EA. The EA goes on to identify that FHWA is actively engaged in activities with the USDOT Center for Climate Change to develop strategies to reduce transportation's contributions to greenhouse gases in particular CO2 emissions, and to assess the risks to transportation systems and services from climate change.

Recommendation: The NEPA documentation would be more informative if it included estimates of the project's anticipated GHG emissions and steps to minimize those emissions. Moreover, the NEPA documentation does not identify and discuss any anticipated effects of climate change on the project itself. This information would be beneficial in identifying design measures to incorporate into the project's final design. For example, the EA would benefit from a discussion in regarding the effects that predicted increases in the number and/or intensity of precipitation events due to climate change may have on the final design sizing of bridge spans, culvert openings, and stormwater management measures in order to accommodate such events and ensure project longevity, public health, and safety.

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**4.10 Water Resources and Appendix D – Waters of the U.S. Delineation Report.**
**4.10.1 Streams, Rivers, Watercourses, and Jurisdictional Ditches**. The EA Preferred Alternative (Alternative 6D) contains 2,546 linear feet of ephemeral streams and 410 linear feet of a perennial stream within the right of way (ROW). Potential impacts include encapsulation by bridges and culverts, and riprap fill below the Ordinary High Watermark. Impacts will be restricted to construction limits and will be detailed in a Clean Water Act (CWA) Section 404 permit application to the U.S. Army Corps of Engineers (USACE) for the project. According to the EA, the alignment of the preferred alternative was modified to reduce stream impacts.

Recommendation: EPA recommends that INDOT continue its efforts to avoid and minimize impacts to streams and wetlands to the extent practicable in accordance with the CWA Section 404(b)(1) Guidelines. EPA reserves the right to review and comment on the Section 404 application for the project. The EPA Watersheds and Wetlands Branch contact for streams and wetlands is Melissa Blankenship. Melissa may be reached by calling 312/886-6833 or by email at blankenship.melissa@epa.gov.

**4.10.3 Wetlands**. The Preferred Alternative includes 6.85 acres of high quality forest wetland (Wetland 101) within the ROW, along with 9.51 acres of emergent wetlands. Portions of the Wetland 101 complex extend beyond the ROW. Design changes were made to reduce the acreage of Wetland 101 within the ROW from 10.3 to 6.88 acres for a reduction of 3.45 acres; however, the bypass would be constructed through this wetland. In spite of their high value, between 2004-2009, forested wetland systems across the nation have experienced significant decline by an estimated 633,100 acres. This trend in forested wetland loss only heightens the significance of any additional loss of these resources.[1] According to the EA, wetlands beyond the construction limits would be protected during construction by silt fence and erosion control BMPs.

Recommendation: EPA recommends the INDOT provide more details about how the integrity of this high quality wetland and its hydrology would be maintained.

Appendix D – Waters of the U.S. Delineation Report. Page 6 of this appendix contains a statement, "the USACE has the primary regulatory authority for enforcing Section 404 requirements for waters of the United States." Similar language is used on page 66 of the EA. While the roles and responsibilities of the EPA and USACE differ in scope, EPA and the USACE jointly administer and enforce the CWA Section 404 provisions.

INDOT states (page 6) that according to current EPA guidance, "only those wetlands that are adjacent to traditional navigable waters or wetlands that directly abut non-navigable tributaries having seasonal (3-month minimum) flow are considered jurisdictional under the CWA" and reference the June 2007 joint memo issued by EPA and USACE regarding CWA jurisdiction, also known as, the "Rapanos Guidance." First, the scenarios described above are not the only scenarios whereby aquatic resources can be deemed jurisdictional. Second, the most current joint EPA/USACE guidance on CWA jurisdiction was issued in December 2008 and incorporated revisions to the June 2007 "Rapanos Guidance," after careful consideration of

[1] The United States Fish and Wildlife Service. 2011. *Status and Trends of Wetlands in the Conterminous United States 2004 to 2009.*

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public comments received, and based on the agencies' experience in implementing the guidance. Ultimately, jurisdiction will be verified by USACE during the Section 404 permitting process for this project.

**4.10.4 Drinking Water**. The EA identifies and discusses several options for protecting North Vernon's drinking water supply intake in the event of an inadvertent hazardous materials spill occurring on the bypass near Vernon Fork of the Muscatatuck River. The EA identified preferred option would divert a spill and/or stormwater/roadway runoff from the bypass and release it into the river downstream of the intake. It appears that the EA preferred option would discharge into the river without pretreatment. The EA does not identify and discuss the potential for adverse impacts to the river from receipt of stormwater/roadway runoff and/or hazardous materials without detention and/or pretreatment.

Recommendation: In order to protect existing water quality, EPA recommends that any spill/stormwater/roadway runoff associated with the bypass be pretreated prior to discharging into the river. We recommend INDOT identify appropriate mitigation measures that will be undertaken to protect the existing water quality of the river both upstream and downstream of the proposed preferred option discharge location.

(See our comment regarding private wells below under **4.12 Karst and Appendix H**)

**4.12 Karst and Appendix H – Karst Evaluation Report.** The report notes that the Preferred Alternative is not able to avoid some of the karst features identified in the area. It is expected that mitigation and treatment (Section 6.3) will become necessary to minimize any impact on groundwater in the area. As you are aware, earlier and ongoing highway construction projects in Indiana have resulted in the failure of some sediment and erosion control measures.

Recommendation: Adequate ongoing training at all levels during the design, construction, and maintenance phases should be undertaken by INDOT for relevant state and local government, and contractor personnel and should complement the Indiana Department of Environmental Management (IDEM) permit for construction.

Private Wells. The report mentions that most of the residences in the area are supplied by public water systems (page 7-2). The report also notes that dye tracing was not performed to determine where flow entering sinkholes may move.

Recommendation: If any residences not served by public water systems are in the potential ground water flow path of a sinkhole expecting highway runoff, dye tracing for the sinkhole should be considered. Karst features that are identified as having the potential to impact vulnerable residences could then receive additional consideration including multiple layers of protection and heightened inspection and maintenance.

There may be a number of sinkholes that would be modified for stormwater drainage for the East Bypass project. Any sinkholes modified by human activity for the purpose of directing and emplacing fluids into the subsurface is considered a Class V well (40 CFR 144.3 and 144.80),

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which is regulated by EPA's Underground Injection Control (UIC) program. Class V wells have requirements which must be met to protect groundwater (40 CFR 144.82).

EPA is the agency that must be notified and would need to approve any Class V well construction. For additional information regarding EPA Class V permits and UIC program, contact Ross Micham of EPA's UIC Branch at 312/886-4237 or at micham.ross@epa.gov

Protection of Surface Water and Groundwater during Design and Construction. The EA does not identify the specific measures that INDOT will use to ensure the applicable standard specifications and/or special provisions developed for this project will be successfully implemented in a timely manner by the contractor during project design and/or construction. Such measures might include, but need not be limited to, requiring an independent environmental monitor with authority to stop construction if adequate sediment and erosion control measures are not being implemented and properly maintained. INDOT construction contracts could include a provision to levy substantial monetary fines when a contractor fails to properly implement appropriate construction BMPs to protect surface and ground water quality.

Recommendation: We recommend INDOT identify the specific measures they will take to help ensure that their construction contractors follow their construction standard specifications and/or special provisions.

**4.17 Indirect and Cumulative Impacts.** Karst features are not considered in the indirect and cumulative impacts analysis. Projected stream cumulative impact is 103,099 linear feet. The specific flow regimes of the streams are not given in the cumulative impacts tables. Nor does the analysis specify whether future impacts would result in permanent losses. INDOT's analysis concludes "because no significant indirect or cumulative impacts were identified, no additional mitigation or modifications to the alternatives are recommended."

Recommendation: We recommend INDOT provide additional discussion/clarification to substantiate its conclusion.

# Appendix C:  Comment Summary Matrix

# U.S. 50 North Vernon Bypass – East Project
# Environmental Assessment
# Comment-Response Matrix
# June 24, 2014

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
|---|---|---|---|---|---|
| **E1** | Sandra Hoene, Montrow Industrial Park | E1-1 | Access | I represent the Montrow Industrial Park in North Vernon Indiana. According to the preferred route for Highway 50 Bypass, the bypass will be going through the middle of our industrial park. Will there be access to CR 75 from the Bypass? | CR 75 W will have direct access to the bypass via a stop-controlled intersection. Traffic on CR 75 W will have stop signs; traffic on the bypass will be free-flowing. This intersection was provided specifically to support the existing and proposed commercial development in the area and facilitate access to the bypass. |
| **E2** | Donald Biehle | E2-1 | Roundabout | I can see very little traffic using the roundabout from the county roads as opposed to lots of traffic using it on the old highway 50. Does it really justify making all the old highway 50 through traffic use the roundabout just so a few users from the county roads will not have to use stop signs? I would much rather see the through traffic maintained at this location without stopping and the use of stop signs for access from the county roads. Wouldn't this be a cheaper alternative also to construct? | After the public hearing was held, the Project Team developed and evaluated a number of "Practical Design" concepts to help reduce costs and impacts throughout the project area. After review, discussion, and careful consideration, several "Practical Design" alternatives were selected for implementation as part of the project. One of the "Practical Design" alternatives reviewed was the elimination of this roundabout, replacing it with a two-way stop-controlled intersection. This alternative will reduce construction costs and eliminate long-term lighting maintenance, and will therefore be implemented. |

S = spoken comment during hearing F = form filled out at hearing E = e-mail
M = letter mailed to project staff X = faxed comment form/letter

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
|---|---|---|---|---|---|
| **E3** | Jan Boram | E3-1 | Roundabout | I would like to submit a request to re-evaluate the need to build a roundabout off US50 East Bypass to downtown North Vernon.<br>It seems that just controlling the speed limit from the city to the new stoplight would achieve the goal without spending the money ($500k or more) to build a roundabout so close to the light. This road will have much more traffic with large vehicles including campers and horse trailers throughout the summer.<br>I would like your group to petition the state and local agencies to control the speed on this roadway, and possibly include rumble strips as traffic approaches the stoplight at the intersection with the bypass. | After the public hearing was held, the Project Team developed and evaluated a number of "Practical Design" concepts to help reduce costs and impacts throughout the project area. After review, discussion, and careful consideration, several "Practical Design" alternatives were selected for implementation as part of the project. One of the "Practical Design" alternatives reviewed was the elimination of this roundabout, replacing it with a two-way stop-controlled intersection. This alternative will reduce construction costs and eliminate long-term lighting maintenance, and will therefore be implemented. |
| **E4** | Karen Snyder, North Vernon Utility Board | E4-1 | Muscatatuck River Bridge | Obtain the quarry property in order to allow us to move our impoundment basin. This option would help to protect drinking water from potential contamination by increasing the dilution of the contaminant as well as removing the bridge from a position directly over our water supply. (Our current impoundment basin is small, only about four feet deep, and would provide only minor dilution.) Currently, the only bridge we have crossing the Muscatatuck upstream is nine miles to the north and east on a lightly-traveled county road, so INDOT has clearly created a hazard that doesn't now exist. | INDOT has included measures to protect the City's drinking water supply from potential contamination, including the closed drainage system described in Section 4.10.4 of the EA. At the Utility Board's request, INDOT has agreed to install a "Vandal Fence" on the new bridge over the Muscatatuck River to further protect the impoundment from trash or other contaminants that could be thrown over the side of the bridge.<br>Purchasing the entire quarry would be very costly. The previously described measures sufficiently mitigate for potential hazards to the drinking water supply. Therefore, this request was dismissed. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
|---|---|---|---|---|---|
| | | E4-2 | Vandal Fence | To help protect us from contaminants thrown over the side of the bridge, we insisted on a vandal fence as was done on the bridge spanning the railroad on the west segment of the bypass. Parsons initially agreed to the necessity of including a vandal fence. Their elimination of the vandal fence from their current design plans creates a major liability for the City of North Vernon. No city would willingly incur such a liability; in fact, no other city in Indiana has been asked by INDOT to accept this liability. In no other city in Indiana has the State constructed a bridge over an impounded water supply. To help protect us from contaminants thrown over the side of the bridge, we insisted on a vandal fence as was done on the bridge spanning the railroad on the west segment of the bypass. Parsons initially agreed to the necessity of including a vandal fence. Their elimination of the vandal fence from their current design plans creates a major liability for the City of North Vernon. No city would willingly incur such a liability; in fact, no other city in Indiana has been asked by INDOT to accept this liability. In no other city in Indiana has the State constructed a bridge over an impounded water supply.<br>. | INDOT has agreed to install vandal fencing on the proposed bridge over the Muscatatuck River to help further protect the City of North Vernon's water supply intake. As per discussions with the Utility Board, it has agreed to be responsible for future major maintenance or replacement costs. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
|---|---|---|---|---|---|
| **E5** | Richard Morin, RLM Engineering | E5-1 | Vandal Fence | Additional protection of the in-channel reservoir is needed through the addition of the vandal fencing on the bridge to be constructed across the reservoir. The flow in the Muscatatuck River is low for most of the year. There are times during the dry portion of the year where the low head dam contains all of the flow with no water flowing over the dam. The reservoir is also a narrow channel impoundment with limited quantity of water. This results in very little dilution for any contaminant that could enter the reservoir and then enter the intake for the water supply. The highway project creates the issue of additional public access to the reservoir. The cost of the vandal fence should be included as the highway project cost and not as a cost to the water utility. | INDOT has agreed to install vandal fencing on the proposed bridge over the Muscatatuck River to help further protect the City of North Vernon's water supply intake. As per discussions with the Utility Board, it has agreed to be responsible for future major maintenance or replacement costs. |
| **E6** | Larry Greathouse, Attorney for Leading Way Farms | E6-1 | Easement | Leading Way Farms is a horse boarding and training operation. One of the amenities that they offer is extended trail riding. They have an easement across the land owned by Mr. Apsley which lies immediately to the east of their farm. With the construction of the new highway and fencing they will lose their ability to offer and enjoy trail rides which they have enjoyed for many years. This will result in significant damages to the property and its owners. | This property does not have an officially recorded easement, thus it was not known to have an easement during right-of-way engineering and appraising. The parcel is currently being condemned per the real estate acquisition process, in compliance with the Uniform Act of 1970.<br>INDOT reviewed the project area to determine if access could be provided to the trail. No reasonable safe or cost-effective solutions exist. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **E7** | Brent Howard | E7-1 | Bridge over 5th St (Base Rd). | I think that there should not be a bridge over 5th St. (Base Rd). There is not a bridge over any other county road on the bypass, so why is there one on 5th St? Downtown North Vernon has been messed up enough by our local government, and the bypass will affect our business which is on 5th St. Our business has been downtown for nearly 40 years, and with the large retail stores on the north end of town, any traffic passing helps. | After the public hearing was held, the Project Team developed and evaluated a number of "Practical Design" concepts to help reduce costs and impacts throughout the project area. After review, discussion, and careful consideration, several "Practical Design" alternatives were selected for implementation as part of the project. One of the "Practical Design" alternatives reviewed was the elimination of the CR 20 Overpass, replacing it with an at-grade intersection. This alternative will reduce the costs of the project by an estimated $1,400,000 and would present a low safety risk as a direct connection to US 50. Therefore, it will be implemented. |
| **F1** | Mike Hess, North Vernon Water Department | F1-1 | Vandal Fence | Thank you for reconsidering our request for the vandal fence over the Muscatatuck River. As the city's Water Department Superintendent I know the limitations of any surface water treatment facility. I also understand the need to protect our drinking water supply. Although it's nearly impossible to protect against intentional contamination what concerns us is pure carelessness. | INDOT has agreed to install vandal fencing on the proposed bridge over the Muscatatuck River to help further protect the City of North Vernon's water supply intake. As per discussions with the Utility Board, it has agreed to be responsible for future major maintenance or replacement costs. |
| **S1** | Connie Rayburn, North Vernon City Council | S1-1 | Meeting with INDOT & Project Team | My only comment is that I was glad to hear why you didn't go with the longer route because to me it seemed like the longer route was the best route, but now having heard why you choose the route that you did. I understand it better and I am very glad that you did consider our water operation and impact to our city. It is our biggest concern. I know that we still have other concerns that we will work with project officials from INDOT to have addressed in the near future. | INDOT and the Project Team are available to meet with stakeholders to further discuss their concerns as the project proceeds. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **S2** | Karen Snyder, North Vernon Water Utility Board | S2-1 | Vandal Fence | Right now we don't have a commitment from you to build a vandal fence and that was in early discussions with both Parsons and INDOT and myself and Mike Hess. It was communicated to us that you would do everything you could to protect the water supply and that bridge actually goes directly across our body of water and so anything that gets thrown off from that bridge goes right into our water supply. During times of heavy rainfall, we have less than fifteen minutes until that gets to the plant. We will follow up with a meeting with Mr. Pence. | INDOT has agreed to install vandal fencing on the proposed bridge over the Muscatatuck River to help further protect the City of North Vernon's water supply intake. As per discussions with the Utility Board, it has agreed to be responsible for future major maintenance or replacement costs. |
| **S3** | Jarrod Daeger, North Vernon Utility Board | S3-1 | Vandal Fence | Our studies show that twelve minutes from where the bridge crosses is where a contaminant could affect our water supply. That bridge was thrown upon us in a lot of ways, but it's our water that is going to be the problem. It could be anything from standard trash to drug paraphernalia thrown over that bridge reaches our tap water in just a matter of minutes. We do look forward to working with Mr. Pence in the upcoming weeks to set up a meeting and just sit down to discuss what is the best solution for everybody. | INDOT has agreed to install vandal fencing on the proposed bridge over the Muscatatuck River to help further protect the City of North Vernon's water supply intake. As per discussions with the Utility Board, it has agreed to be responsible for future major maintenance or replacement costs. |
| **S4** | Richard Morin, RLM Engineering | S4-1 | Vandal Fence | One of the things about the current alignment is that it is very close to the intake. The next real public access to the river is really about nine stream miles upstream from the intake. All the city is asking for is that a fence be placed on the bridge across the impoundment. It should not go back to the rate payers to pay for this. | INDOT has agreed to install vandal fencing on the proposed bridge over the Muscatatuck River to help further protect the City of North Vernon's water supply intake. As per discussions with the Utility Board, it has agreed to be responsible for future major maintenance or replacement costs. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **S5** | Sheila Calhoun | S5-1 | Karst | I'm one of the land owners located west of the river just slightly west close to the stone quarry. My land is located where this highway is going and it's riddled with sink holes. How would you contain a spill in that area? Are you going to ditch it all around there? Are you going to use underground pipes? | All applicable sections of the 1993 INDOT-IDNR-IDEM-USFWS KARST Memorandum of Understanding will be implemented during all phases of the project, and all karst-protective features will be inspected as appropriate. The Karst Evaluation Report and Memorandum of Understanding are in Appendix H of the Environmental Assessment document. |
| **S6** | Mike Hess, North Vernon Water | S6-1 | Vandal Fence | In regards to the cost of the fence, I feel that it is certainly money well spent. | INDOT has agreed to install vandal fencing on the proposed bridge over the Muscatatuck River to help further protect the City of North Vernon's water supply intake. As per discussions with the Utility Board, it has agreed to be responsible for future major maintenance or replacement costs. |
| **M1** | Harold & Judy Stoner | M1-1 | Visual and Aesthetic Resources | We are not looking forward to seeing traffic as our front view. We have always enjoyed the scenic view of the seasons. Progress is good and I'm sure everyone feels the same as we do. | The Project Team studied aesthetic resources and designed the roadway to minimize changes to the visual landscape and to maintain the rural quality of North Vernon to the extent feasible. Section 4.16 Visual and Aesthetic Resources in the Environmental Assessment document analyzes this in greater depth, including a discussion of views to and from the roadway. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M2** | USFWS | M2-1 | Indiana Bat | There is suitable summer habitat and several summer records for this species along the project corridor. The project will not eliminate enough habitat to affect this species, but, as discussed in the EA, the applicant has agreed to avoid incidental take from removal of an occupied roost tree by avoiding tree-clearing activities in the Indiana portion of the project during the period April 1 - September 30.<br>On September 10, 2013, we issued a letter concurring that the North Vernon East Bypass Project was not likely to adversely affect the Indiana bat provided seasonal tree-clearing restrictions were adhered to, as well as other minor avoidance and minimization measures. Please refer to our September 10, 2013 letter for additional endangered species and Section 7 consultation information for this project. | INDOT has included the tree clearing restriction as a "firm" commitment in the Environmental Assessment, and it will be included as a "firm" commitment in the Environmental Commitments database and in the Contract Documents for this project. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M2 continued** | USFWS | M2-2 | Northern Long-Eared Bat | The proposed project also lies within the range of the northern long-eared bat (*Myotis septentrionalis*), a species that was proposed for listing as federally endangered on October 2, 2013. In both the 2009 and 2012 Indiana bat surveys for the project area, northern long-eared bats were encountered. During the winter, northern long-eared bats hibernate in caves and abandoned mines. Summer habitat requirements for the species are not well defined but include properties similar to that of Indiana bats including: 1) Roosting in dead or live trees and snags with cavities, peeling or exfoliating bark, split tree trunk and/or branches, which may be used as maternity roost areas; 2) Foraging in upland and lowland woodlots and tree lined corridors; and 3) Occasionally roosting in structures like barns and sheds.<br><br>Proposed avoidance measures for Indiana bats, primarily seasonal tree-clearing restrictions, will be adequate to avoid and minimize any adverse impacts to the northern long-eared bat. This precludes the need for additional consultation on this species in the event it becomes formally listed prior to, or during, the construction phase of the U.S. 50 East Bypass project.<br><br>Since there is some indication that northern long-eared bats may on occasion use structures for roosting, we recommend adding a commitment that prior to the demolition of older structures, such as barns and sheds, a visual search be performed to see if bats are using the structure for roosting. Bats utilizing structures as roosts during the summer months may be utilizing them to shelter their bat pups which may not be able to fly when they are young. Should bats be found using the structure, we request that you contact our office to discuss options for excluding the bats prior to demolition. | INDOT has included the tree clearing restriction as a "firm" commitment in the Environmental Assessment, and it will be included as a "firm" commitment in the Environmental Commitments database and in the Contract Documents for this project.<br><br>Additionally (as discussed below in comments M2-9 & M2-10), the following “firm” commitments have been added to the project.<br><br>Prior to the demolition of older structures, such as barns and sheds, a visual search must be performed to see if bats are using the structure for roosting. If any bats are found using the structure, the USFWS Bloomington Office must be contacted to discuss options for excluding the bats prior to demolition. Demolition will not occur until this is resolved. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M2 continued** | USFWS | M2-3 | Karst | More than 60 karst features have been identified within and adjacent to the proposed preferred alignment right-of-way. Thirty features lie within the right-of-way and will require some form of treatment. Approximately 10 features have been identified that may be directly impacted by roadway runoff/ drainage. Per the 1993 Karst MOU (item 8) a monitoring and maintenance plan will be developed and provided to the signatory agencies for review. In addition, per item 10 of the 1993 Karst MOU, prior to acceptance of the final design plans, a project-specific karst agreement will be developed which will set out the appropriate and practicable measures to offset unavoidable impacts to each karst feature. This agreement will be signed by the Department Director of IDNR, the Commissioner of the IDEM, the Commissioner of INDOT and the Supervisor of the USFWS Bloomington, Indiana Field Office. The agreement will become a part of the contract documents for the project, will be discussed at the pre-construction conference and will be on file at the office of the project administrator. | All applicable sections of the 1993 INDOT-IDNR-IDEM-USFWS KARST Memorandum of Understanding will be implemented during all phases of the project, and all karst-protective features will be inspected as appropriate.<br>IDNR, IDEM, & USFWS have been coordinated with throughout the project development process and forwarded the “”Karst Evaluation Report” prepared for this project. Before the plans are finalized for this project, they will be forwarded to the agencies for review/approval.<br>All of the karst commitments will be included in the Commitment Database, included in the contract documents, will be discussed at the pre-construction conference, and will be on file at the office of the project administrator. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M2 continued** | USFWS | M2-4 | Utilities | Page 33 discusses impacts the proposed alignments may have on utilities and indicates that additional parcels will need to be cleared for utility relocations outside of the planned construction limits. We would like to receive additional information regarding the amount and type of land cover that will be cleared. If additional forested habitat is planned to be removed, this should be considered within the Section 7 consultation process. | Per the EA, 42.1 acres of forest exists within the existing ROW. This is listed as the "Potential Impacts for Indiana Bat Habitat" on Table ES-1, pg 84, pg 86, & Table 32. However, on pg 76 & Table 24, the EA lists the "Forest Habitat Cleared (Total) as 38 acres.<br>On pg 86, the EA states "Because INDOT plans to clear only what is required to construct a 2-lane facility, approximately 22 acres of habitat would be impacted during construction." This was relayed to USFWS via e-mail coordination on August 30, 2013.<br>After reviewing the plans for the proposed tree clearing contract, approximately 26.43 acres of forest (which includes the forested wetland) will be cleared for this project. Therefore, the updated clearing numbers and plans were forwarded to USFWS on January 17, 2014. Due to a change in the letting schedule, tree clearing will no longer be done under a separate contract. It will now be included with the construction contract.<br>Based on utility coordination completed to date, it is anticipated that utility relocations will occur within the project construction limits and will not result in additional forested habitat removal. |
| | | M2-5 | Endangered, Threatened, & Rare Species | In Section 4.13, under the Survey Results section, the EA mentions that one bat species, the evening bat, is listed as endangered by the State of Indiana. We would like to point out that out of the eight species found in the project area during the 2009 and 2012 bat surveys, all but the big brown bat (*Eptesicus fuscus*) are currently listed on the Indiana Department of Natural Resources "List of Endangered, Threatened, & Rare Species", most as Species of Special Concern. | As noted, Section 4.13 should have identified the evening bat as "State Endangered" and the eastern pipistrelle (a.k.a. Tri-colored bat), little brown bat, eastern red bat, and northern long-eared bat as "Species of Special Concern".<br>Furthermore, the northern long-eared bat (*Myotis septentrionalis*) was proposed for listing as federally endangered on October 2, 2013. Several "firm" commitments have been included to protect this species (see comments M2-2, M2-9, & M2-10). Therefore, by adhering to these commitments, the project is "Not Likely to Adversely Affect" this species. |

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| **M2 continued** | USFWS | M2-6 | Indiana Bat | In Section 4.13 (page 84, second paragraph), the EA states that the late summer capture date of the female juvenile Indiana bat may indicate that the individual was transient, as opposed to belonging to a local maternity colony. The Indiana bat survey protocols were developed, in part, to eliminate concerns related to the time of year Indiana bats are captured and whether or not they are resident or transient individuals. Based on scientific literature and species expertise, we have concluded that any Indiana bats captured during the May 15 to August 15 time period are resident individuals. Moreover, the fact that the individual captured was a juvenile is further evidence that an Indiana bat maternity colony is present in the area, since juveniles typically stay in the summer maternity colony area for a longer period of time than adults prior to fall migration (USFWS 2007). | As discussed by USFWS, the EA concluded that the late summer capture date of the female juvenile Indiana bat may indicate that the individual was transient, as opposed to belonging to a local maternity colony. Per USFWS's comment, this individual was likely part of a resident Indiana bat maternity colony.<br>Several "firm" commitments have been included to protect this species (see comments M2-1, M2-8, & M2-9). Therefore, by adhering to these commitments, the project is "Not Likely to Adversely Affect" this species. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| | | M2-7 | Commitments | On page 104, commitment number 7 indicates that where any excavation or digging will occur, that construction only take place from April through October. Further clarification or discussion of this commitment, in light of the required seasonal tree-clearing restrictions for Indiana bats, is warranted. | The following commitments have been added/revised to address this comment and IDNR's comment M3-2 (below). These are "firm" commitments.<br>1) To minimize impacts to the eastern box turtle and Kirtland's snake, all logs, trash, or any other type of debris must be removed from the construction zone at least one week prior to the start of work to keep these species from hiding underneath the debris. If any vegetation will be removed during work, this must also be done one week prior to construction. After the trash and vegetation are removed, a trenched-in silt fence must be placed around the construction area. Once the silt fence is installed, a walk-through must be completed to look for any eastern box turtles or Kirtland snakes. Any equipment, materials, or debris left overnight in the area must be checked for the presence of eastern box turtles or Kirtland's snakes prior to the start of work the next day.<br>2) Any reptiles or amphibians encountered in the project area must be removed, unharmed, and placed outside the construction area. Any turtles encountered must be moved to the nearest forested area. If any reptiles or amphibians are encountered, Sarabeth Klueh, IDNR Division of Fish and Wildlife herpetologist, must be coordinated with at (812) 334-1137 or sklueh@dnr.in.gov for guidance regarding development of herpetile removal plans.<br>3) Removal of any state endangered species will require a permit issued by the Division of Fish and Wildlife. Linnea Petercheff must be contacted at (317) 233-6527 or lpetercheff@dnr.in.gov before removal of any of these species, if needed.<br>4) Construction staff must be educated on endangered, threatened, and rare species or species of concern that may be encountered. Appropriate signs detailing these species, such as the eastern box turtle and Kirtland's snake, must be on display throughout the project site for the duration of the construction project. |

S = spoken comment during hearing F = form filled out at hearing E = e-mail
M = letter mailed to project staff X = faxed comment form/letter

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M2 continued** | USFWS | M2-8 | Commitments | On page 104, commitment number 18 mentions that no suitable Indiana bat roost trees will be cut between April 1 and September 30. The description for suitable roost trees that is in parentheses should not include the phrase "with loose hanging bark". Any tree over 3 inches dbh, living or dead, should not be removed during the summer maternity season unless further coordination occurs with our agency. | The Commitments Database has been updated to reflect this comment by deleting "with loose hanging bark" from the commitment. The Contract Documents for this project will also reflect this change. |
| **M2 continued** | USFWS | M2-9 | Commitments | In addition to the seasonal tree-clearing restrictions and the minimization of tree clearing within the ROW, the Biological Assessment reviewed by our agency in August, 2013, indicated that INDOT would seek opportunities to preserve and/or create Indiana bat habitat during the evaluation of excess ROW parcels (although no commitment to purchasing or restoring habitat has been made at this time). The Service strongly encourages INDOT to consider preservation and reforestation of adjacent and nearby habitat in order to help conserve and recover the endangered Indiana bat and the northern long-eared bat. | As previously stated in the Response to Comment M2-2, the following “firm” commitment has been added to the project:<br>INDOT will seek opportunities to preserve and/or create Indiana bat habitat during the evaluation of excess ROW parcels. |
| | | M2-10 | Permits | Permits under Section 404 of the Clean Water Act may be needed for the proposed project. Our recommendations to the U.S. Army Corps of Engineers for permit conditions would be consistent with our comments here. | A Section 404 permit will be required for this project. All necessary permits will be applied for and received before construction in areas covered by those permits can commence. |
| **M3** | IDNR | M3-1 | Permits | This proposal will require the formal approval for construction in a floodway under the Flood Control Act, IC 14-28-1. Please submit a copy of this letter with the permit application. | All necessary permits will be applied for and received before construction in areas covered by those permits can commence. The CIF permits are currently being applied for. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M3 continued** | IDNR | M3-2 | Kirtland Snake & Eastern Box Turtle | Construction that is on-going during the active season for Kirtland's snake and the Eastern box turtle may result in impacts to these species unless the environmental commitments for further consideration that involve removal and exclusion of Kirtland's snakes and Eastern box turtles are made priority/firm commitments. These commitments, along with the firm commitment that involves limiting the construction season to avoid the hibernation period for Kirtland's snakes and Eastern box turtles, are an important part of the overall protection of these species throughout the construction project. | The following commitments have been added/revised to address this comment and IDNR's comment M3-2 (below). These are "firm" commitments.<br>1) To minimize impacts to the eastern box turtle and Kirtland's snake, all logs, trash, or any other type of debris must be removed from the construction zone at least one week prior to the start of work to keep these species from hiding underneath the debris. If any vegetation will be removed during work, this must also be done one week prior to construction. After the trash and vegetation are removed, a trenched-in silt fence must be placed around the construction area. Once the silt fence is installed, a walk-through must be completed to look for any eastern box turtles or Kirtland snakes. Any equipment, materials, or debris left overnight in the area must be checked for the presence of eastern box turtles or Kirtland's snakes prior to the start of work the next day.<br>2) Any reptiles or amphibians encountered in the project area must be removed, unharmed, and placed outside the construction area. Any turtles encountered must be moved to the nearest forested area. If any reptiles or amphibians are encountered, Sarabeth Klueh, IDNR Division of Fish and Wildlife herpetologist, must be coordinated with at (812) 334-1137 or sklueh@dnr.in.gov for guidance regarding development of herpetile removal plans.<br>3) Removal of any state endangered species will require a permit issued by the Division of Fish and Wildlife. Linnea Petercheff must be contacted at (317) 233-6527 or lpetercheff@dnr.in.gov before removal of any of these species, if needed.<br>4) Construction staff must be educated on endangered, threatened, and rare species or species of concern that may be encountered. Appropriate signs detailing these species, such as the eastern box turtle and Kirtland's snake, must be on display throughout the project site for the duration of the construction project. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| | | M3-3 | Habitat Impacts | We recommend a mitigation plan be developed (and submitted with the permit application) if habitat impacts will occur. The DNR's Floodway Habitat Mitigation guidelines (and plant lists) can be found online at: http://www.in.gov/legislative/iac/20120801-1 R-312120434 NRA.xml.pdf. | Floodplain mitigation will be required as part of the Construction in a Floodway permit. Approximately 3.2 acres of floodplain mitigation will occur. Furthermore, approximately 3 acres of wetlands will be preserved and 28 acres of forested wetlands will be created for this project. Although 12 acres of the required wetland mitigation could be emergent, INDOT is creating forested wetlands to help mitigate for the impacts described by USFWS and IDNR. Additionally, INDOT has committed to seeking opportunities to preserve and/or create Indiana bat habitat during the evaluation of excess ROW parcels (see Responses to Comments M2-2 & M2-10). |
| **M3 continued** | IDNR | M3-4 | Non-wetland Forest | Impacts to non-wetland forest over one (1) acre should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to wetland habitat should also be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding. | As previously described, INDOT has committed to mitigating impacts to non-wetland forests by seeking opportunities to preserve and/or create Indiana bat habitat during the evaluation of excess ROW parcels (see Responses to Comments M2-2, M2-10, & M3-3). Furthermore, although 12 acres of the required wetland mitigation could be emergent, INDOT is creating forested wetlands (28 acres total) to help mitigate for impacts to forests. |
| | | M3-5 | Habitat in Floodway | Where possible, in order to minimize direct impacts and fragmentation impacts to the forested riparian corridor, highway runoff detention basin outfalls should be located in previously disturbed areas of the Vernon Fork (VFK) Muscatatuck River's forested riparian corridor, or where the forested riparian corridor is sparse or narrow and where the outfall will result in minimal tree clearing. | Stormwater mitigation will run along two roadways and should require very little clearing. Tree clearing has been reduced throughout the project limits. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M3 continued** | IDNR | M3-6 | Karst | Implement all applicable sections of the 1993 INDOT-IDNR-IDEM-USFWS KARST Memorandum of Understanding during all phases of the project (see http://www.in.gov/indoUfiles/38_karst.pdf). Inspection of karst-protective features such as, but not limited to, sand or peat filters should occur at the time intervals recommended by a karst geologist. | All applicable sections of the 1993 INDOT-IDNR-IDEM-USFWS KARST Memorandum of Understanding will be implemented during all phases of the project, and all karst-protective features will be inspected as appropriate. |
| **M3 continued** | IDNR | M3-7 | Stream Crossings | Aside from the crossing of the VFK Muscatatuck River for which a three-span bridge is already planned, creek crossings should be constructed using a bridge or a three-sided culvert structure instead of 4-sided (box) culverts, when possible. If box or pipe culverts must be used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the bankful width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width /length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel. | These comments are addressed by INDOT's Design Manual and have been considered throughout the project development process. These comments will continue to be taken under consideration during final design and construction. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| | | M3-8 | Bank Stabilization | Minimize the use of riprap in the channel and use alternative erosion protection materials whenever possible. Riprap can be used as stream bank toe protection and placed from the toe of the bank up to the ordinary high water mark (ohwm). From the ohwm to the top of the bank, erosion control blankets or turf reinforcement mats should be used. Erosion control blankets, turf reinforcement mats and other similar materials should be seeded with native plants to allow a natural, vegetated stream bank to develop. We recommend bioengineered bank stabilization materials and methods. | Riprap has been minimized throughout the project development process, and this commitment will continue to be taken under consideration during final design and construction. Any "firm" commitments received from the CIF permit concerning riprap will be appropriately addressed. |
| **M3 continued** | IDNR | M3-9 | Revegetation | Revegetate all bare and disturbed areas in the floodway with a mixture of native grasses, sedges, wildflowers, and also native hardwood trees and shrubs as soon as possible upon completion. Do not use any varieties of Tall Fescue or other non-native plants (e.g. crown-vetch). | Addressed by INDOT Standard Specification 621. Therefore, this will be required during construction. |
| | | M3-10 | Inchannel Disturbance | Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush. | Addressed by INDOT Standard Specifications 201.01 & 201.02. Therefore, this will be required during construction. |
| | | M3-11 | Waterway | Do not work in the waterway from April1 through June 30 without the prior written approval of the Division of Fish and Wildlife. | INDOT has included this as a "firm" commitment in the Environmental Assessment, and it will be included as a "firm" commitment in the Environmental Commitments database and in the Contract Documents for this project. No work will occur within the waterway from April1 through June 30 without the prior written approval of the Division of Fish and Wildlife. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| | | M3-12 | Indiana Bat | Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April1 through September 30. | INDOT has included the tree clearing restriction as a "firm" commitment in the Environmental Assessment, and it will be included as a "firm" commitment in the Environmental Commitments database and in the Contract Documents for this project. Per USFWS's request, the "with loose hanging bark" portion was removed (see Comment M2-8). |
| | | M3-13 | Excavation | Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure. | INDOT has included this as a "firm" commitment in the Environmental Assessment, and it will be included as a "firm" commitment in the Environmental Commitments database and in the Contract Documents for this project. |
| | | M3-14 | Causeways | Do not construct any temporary runarounds or causeways. | INDOT has included this as a "firm" commitment in the Environmental Assessment, and it will be included as a "firm" commitment in the Environmental Commitments database and in the Contract Documents for this project. |
| | | M3-15 | Riprap | Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. | INDOT has included this as a "firm" commitment in the Environmental Assessment, and it will be included as a "firm" commitment in the Environmental Commitments database and in the Contract Documents for this project. |
| | | M3-16 | Do Not Mow | Post "Do Not Mow or Spray" signs along the right-of-way. | Addressed by INDOT Standard Specification 622.02. Therefore, this will be required during construction. |
| **M3 continued** | IDNR | M3-17 | Erosion & Sediment Control | Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized. | Addressed by INDOT Standard Specification 205. Therefore, this will be required during construction. |
| | | M3-18 | Disturbed Streambanks | Seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas. | Addressed by INDOT Standard Specification 205. Therefore, this will be required during construction. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M4** | SHPO | M4-1 | NRHP Eligible Properties | We agree with the EA's identification of above-ground properties that are eligible for inclusion in the National Register of Historic Places: Frank Selmier House (ALOOl; IHSSI No. 079-087-20005); Baltimore & Ohio Railroad Bridge over CR 75 East (AL003; IHSSI No. 079-097-20021); Baltimore & Ohio Railroad Bridge over CR 175 North and Muscatatuck River (AL004), and U.S. 50 Bridge over the Vernon Fork of the Muscatatuck River (Bridge No. 050-40-00917C; NBI No. 18680). | None required. |
| **M4 continued** | SHPO | M4-2 | No Adverse Effect | We also agree with the assessment in Table 16 of the EA that Alternative 6D (Preferred Alternative) would not adversely affect the three historic bridges. However, the discussion of Alternative 6D on page 50 seems to be saying that 6D would have no impacts at all on those bridges. In our June 28, 2013, letter concurring in FHWA's May 17, 2013, Section 106 Adverse Effect finding for Alternative 6D as a whole, we also concurred with FHWA's subsidiary findings that the project would not adversely affect the bridges. Unless there is a difference in the way "impact" and "effect" have been used in the EA, we would be inclined to say that we do not believe that the project will have any adverse impacts on the three historic bridges, but we are not sure that there would be no demonstrable impacts at all. | INDOT concurs with SHPO's response that the EA should have clarified that, "No **adverse impacts** to the three NRHP-eligible bridges are anticipated from the construction of the proposed alignment in Alternative 6D." instead of stating that "No impacts" would occur. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| | | M4-3 | Adverse Effects to Frank Selmier House | Furthermore, according to Table 16, Alternative 4NB2 would have no adverse effect on the Frank Selmier House, but the discussion of 4NB2's impacts on pages 50-51 of the EA indicates that there potentially would be adverse effects on the house or its related features. A finding of effect for Alternative 4NB2 was not made in the Section 106 Adverse Effect finding for Alternative 6D to which we referred above. However, based on the EA's description of effects and on what my staff recalls from previous documents about this project, we think it likely that 4NB2 would have one or more adverse effects or impacts on the Frank Selmier House. | INDOT concurs with SHPO's response that Table 16 should have shown that Alternative 4NB2 would "likely" have one or more adverse impacts on the Frank Selmier House. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M4 continued** | SHPO | M4-4 | Right-of-Way for Roundabout | On page 20 of the EA, we read that what had earlier been proposed as a skewed intersection where Alternative 6D would meet existing U.S. 50 has been redesigned as a roundabout "with a turning radius ... sufficient to accommodate all types of trucks." The footprint of Alternative 6D at that location appears in Figure 7 and on Map 10 in Appendix A of the EA appears to be of somewhat smaller dimensions than we previously had been shown in the Historic Properties Report for the Proposed US 50 Eastern Bypass Project (Des. No. 1173374), North Vernon, Center and Campbell Townships, Jennings County, Indiana (Nelson, 1/10/2013) and in the documentation that supported the May 17 Section 106 Adverse Effect finding. That difference probably would not change the impacts on above-ground historic properties. However, aside from that apparent discrepancy, we wonder whether a roundabout with a turning radius great enough to handle trucks of all sizes could fit into the area depicted for the Alternative 6D/existing U.S. 50 intersection in Figure 7 and on Map 10 of the EA. If not, then we would recommend that a revised map be provided that shows more realistically the amount of right-of-way needed for the roundabout. | The project's design staff reviewed the document and confirmed that the ROW shown in the EA is correct, and that the Roundabout fits within this ROW. Therefore, no revisions are necessary. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M4 continued** | SHPO | M4-5 | Resource Names | In regard to archaeology, in our letter of February 15, 2013 we concurred with the archaeological report "that archaeological sites 12Jn255, 12Jn577, 12Jn578, 12Jn602, 12Jn649, and 12Jn651 appear potentially eligible for inclusion in the National Register of Historic Places." In the Cultural Resources section of the Environmental Assessment (EA), under Archaeology, it states that the sites are eligible for the National Register of Historic Places. In Appendix E of the EA, in the MOA, it notes potentially eligible for the sites, and the archaeology at two sites (12Jn577 and 12Jn578) remained to be completed. Please note that for their protection, the specific locations or information that might lead to the locations of archaeological sites should not be publicly disclosed. This may include names of resources and properties. | Appendix E was reviewed and all sensitive information has been blacked out for future use. |
| | | M4-6 | Roundabout | In regard to the Alternative 6D/existing U.S. 50 proposed roundabout, does the entire roundabout remain in areas previously investigated archaeologically? If not, archaeological investigations of the area(s) may be necessary. | The ROW and roundabout were reviewed and compared to the archaeological survey limits. The Roundabout occurs well within the previous archaeology survey limits. No additional archaeological investigations are required. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| | | M4-7 | Commitments | If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code·l4-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations. | This was a firm commitment in the EA and will be included as a "firm" commitment in the Environmental Commitments database and in the Contract Documents for this project. This is also covered by INDOT Standard Specification 104.07 |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M5** | USEPA | M5-1 | MSAT | A brief discussion regarding the proposal and mobile source air toxics (MSAT) is provided in the EA (pages 55-56). However, exposure to diesel exhaust by construction workers and/or individuals that work, live or recreate near construction sites can have serious health implications.<br>Recommendation: Because MSATs can cause adverse health impacts, especially to vulnerable populations, such as children, the elderly, and those with existing respiratory health issues, EPA recommends INDOT identify potential mitigation measures to decrease the exposure of these populations to increases in MSATs emissions during construction of the proposed project. Such measures may include, but should not be limited to, strategies to reduce diesel emissions, such as project construction contracts that require the use of equipment with clean diesel engines and the use of clean diesel fuels, and limits on the length of time equipment is allowed to idle when not in active use (EPA recommends idling not exceed 5 minutes). | The following commitment will be added to the commitments report (for consideration) :<br>"Construction equipment will be maintained in proper mechanical condition. MSAT and diesel emission reduction strategies may also be employed to limit the amount of diesel emissions from construction equipment, such as limiting idle times, or reducing the number of trips." |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| | | M5-2 | Greenhouse Gases | Three paragraphs in the EA are devoted to addressing GHG emissions associated with the project and climate change. The EA indicates that FHWA does not believe it is informative at this point to consider greenhouse gas emissions in an EA. The EA goes on to identify that FHWA is actively engaged in activities with the USDOT Center for Climate Change to develop strategies to reduce transportation's contributions to greenhouse gases in particular C02 emissions, and to assess the risks to transportation systems and services from climate change.<br><br>Recommendation: The NEPA documentation would be more informative if it included estimates of the project's anticipated GHG emissions and steps to minimize those emissions. Moreover, the NEPA documentation does not identify and discuss any anticipated effects of climate change on the project itself. This information would be beneficial in identifying design measures to incorporate into the project's final design. For example, the EA would benefit from a discussion in regarding the effects that predicted increases in the number and/or intensity of precipitation events due to climate change may have on the final design sizing of bridge spans, culvert openings, and stormwater management measures in order to accommodate such events and ensure project longevity, public health, and safety. | Under NEPA, detailed environmental analysis should focus on issues that are significant and meaningful to decision-making. FHWA has concluded, based on the nature of GHG emissions and small potential GHG impacts of the proposed action that the GHG emissions from the proposed action will not result in “reasonable foreseeable significant adverse impacts on the human environment” (40 CFR 1502.22(b)). The GHG emissions from the project build alternatives will be insignificant, and will not play a role in a determination of the environmentally preferable alternative or the selection of the preferred alternative. More detailed information on GHG emissions “is not essential to a reasoned choice among reasonable alternatives” (40 CFR 771.105(b)) or to making a decision in the best overall public interest based on a balanced consideration of transportation, social, and environmental needs and impacts.<br><br>Climate change is an important national and global concern. While the earth has gone through many natural changes in climate in its history, there is general agreement that the earth’s climate is currently changing at an accelerated rate and will continue to do so for the foreseeable future. Anthropogenic (human-caused) GHG emissions contribute to this rapid change. Carbon dioxide<br><br>(CO2) makes up the largest component of these GHG emissions. Other prominent transportation GHGs include methane (CH4) and nitrous oxide (N2O).<br><br>Many GHGs occur naturally. Water vapor is the most abundant GHG and makes up approximately two thirds of the natural greenhouse effect. However, the burning of fossil fuels and other human activities are adding to the concentration of GHGs in the atmosphere. Many GHGs remain in the atmosphere for time periods ranging from decades to centuries. GHGs trap heat in the earth’s atmosphere. Because atmospheric concentration of GHGs continues to climb, our planet will continue to experience climate-related phenomena. For example, warmer global temperatures can cause changes in precipitation and sea levels. |

S = spoken comment during hearing F = form filled out at hearing E = e-mail
M = letter mailed to project staff X = faxed comment form/letter

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M5 continued** | USEPA | M5-3 | Streams, Rivers, Watercourses, and Jurisdictional Ditches | The EA Preferred Alternative (Alternative 6D) contains 2,546 linear feet of ephemeral streams and 410 linear feet of a perennial stream within the right of way (ROW). Potential impacts include encapsulation by bridges and culverts, and riprap fill below the Ordinary High Watermark. Impacts will be restricted to construction limits and will be detailed in a Clean Water Act (CW A) Section 404 permit application to the U.S. Army Corps of Engineers (USACE) for the project. According to the EA, the alignment of the preferred alternative was modified to reduce stream impacts.<br>Recommendation: EPA recommends that INDOT continue its efforts to avoid and minimize impacts to streams and wetlands to the extent practicable in accordance with the CWA Section 404(b)(1) Guidelines. EPA reserves the right to review and comment on the Section 404 application for the project. The EPA Watersheds and Wetlands Branch contact for streams and wetlands is Melissa Blankenship. Melissa may be reached by calling 312/886-6833 or by email at blankenship.melissa@epa.gov. | Based on proposed right-of-way limits, emergent wetland impacts were initially calculated to be 10.28 acres. Efforts to reduce wetland impacts resulted in a reduced emergent wetland impact of 9.5 acres. Further refinement of the construction limits has decreased this number further, which currently stands at 5.87 acres of emergent wetland impact (based on construction limits).<br>Forested wetland impacts were initially calculated to be 8.7 acres based on proposed right-of-way limits. Efforts to reduce wetland impacts first resulted in a reduced forested wetland impact of 7.8 acres, then 6.9 acres. Further refinement of the construction limits has decreased this number further, which currently stands at 3.4 acres of forested wetland impact (based on construction limits).<br>Design and environmental staff will continue to look for ways to avoid or further minimize impacts to wetland resources. The EPA will be afforded the opportunity to review and comment on the Section 404 permit application once the USACE publishes the public notice that INDOT has applied for an individual Section 404 permit. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M5 continued** | USEPA | M5-4 | Wetlands | The Preferred Alternative includes 6.85 acres of high quality forest wetland (Wetland 101) within the ROW, along with 9.51 acres of emergent wetlands. Portions of the Wetland 101 complex extend beyond the ROW. Design changes were made to reduce the acreage of Wetland 101 within the ROW from 10.3 to 6.88 [*should be 6.85 acres] acres for a reduction of 3.45 acres; however, the bypass would be constructed through this wetland. In spite of their high value, between 2004-2009, forested wetland systems across the nation have experienced significant decline by an estimated 633,100 acres. This trend in forested wetland loss only heightens the significance of any additional loss of these resources. According to the EA, wetlands beyond the construction limits would be protected during construction by silt fence and erosion control BMPs.<br>Recommendation: EPA recommends the INDOT provide more details about how the integrity of this high quality wetland and its hydrology would be maintained. | In addition to protecting the wetlands beyond the construction limits with silt fence and erosion control BMP's, two design elements were implemented that will help maintain wetland hydrology in Wetland 101. First, roadside ditches have been removed from most of the roadway section through wetlands 101 and 102. This will prevent the inadvertent draining of the wetlands that remain outside of the construction limits. Secondly, multiple 'equalization culverts' have been included in the plans. These equalization culverts are basically small-diameter (approximately 12" diameter) pipes that are laid *on the existing ground surface* before the road is constructed overtop. These culverts will allow for surface water to flow under the new roadway, and maintain equilibrium. This element will prevent wetlands on either side of the road from becoming water-starved due to the damming effect a new roadway would otherwise create. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M5 continued** | USEPA | M5-5 | Waters Report | Page 6 of this appendix contains a statement, "the USACE has the primary regulatory authority for enforcing Section 404 requirements for waters of the United States." Similar language is used on page 66 of the EA. While the roles and responsibilities of the EPA and USACE differ in scope, EPA and the USACE jointly administer and enforce the CWA Section 404 provisions.<br><br>INDOT states (page 6) that according to current EPA guidance, "only those wetlands that are adjacent to traditional navigable waters or wetlands that directly abut non-navigable tributaries having seasonal (3-month minimum) flow are considered jurisdictional under the CWA" and reference the June 2007 joint memo issued by EPA and USACE regarding CWA jurisdiction, also known as, the "Rapanos Guidance." First, the scenarios described above are not the only scenarios whereby aquatic resources can be deemed jurisdictional. Second, the most current joint EPA/USACE guidance on CWA jurisdiction was issued in December 2008 and incorporated revisions to the June 2007 "Rapanos Guidance," after careful consideration of public comments received, and based on the agencies' experience in implementing the guidance. Ultimately, jurisdiction will be verified by USACE during the Section 404 permitting process for this project. | INDOT acknowledges that the EPA jointly administers and enforces Section 404 of the Clean Water Act. INDOT acknowledges that, per the EPA/USACE 2008 Joint Memo, "The agencies will assert jurisdiction over the following waters:<br>• Traditional navigable waters<br>• Wetlands adjacent to traditional navigable waters<br>• Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)<br>• Wetlands that directly abut such tributaries<br>The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:<br>• Non-navigable tributaries that are not relatively permanent<br>• Wetlands adjacent to non-navigable tributaries that are not relatively permanent<br>• Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary<br>The agencies generally will not assert jurisdiction over the following features :<br>• "Swales or erosional features (e .g., gullies, small washes characterized by low volume, infrequent, or short duration flow)<br>• Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water<br>The agencies will apply the significant nexus standard as follows:<br>• A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters<br>• Significant nexus includes consideration of hydrologic and ecologic factors"<br>As stated, jurisdiction will be verified by USACE during the Section 404 permitting process for this project. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| | | M5-6 | Drinking Water | The EA identifies and discusses several options for protecting North Vernon's drinking water supply intake in the event of an inadvertent hazardous materials spill occurring on the bypass near Vernon Fork of the Muscatatuck River. The EA identified preferred option would divert a spill and/or stormwater/roadway runoff from the bypass and release it into the river downstream of the intake. It appears that the EA preferred option would discharge into the river without pretreatment. The EA does not identity and discuss the potential for adverse impacts to the river from receipt of storm water/roadway runoff and/or hazardous materials without detention and/or pretreatment.<br><br>Recommendation: In order to protect existing water quality, EPA recommends that any spill/stormwater/roadway runoff associated with the bypass be pretreated prior to discharging into the river. We recommend INDOT identity appropriate mitigation measures that will be undertaken to protect the existing water quality of the river both upstream and downstream of the proposed preferred option discharge location.<br><br>(See our comment regarding private wells below under 4.12 Karst and Appendix H) | INDOT has reviewed possible mitigation measures to protect the existing water quality of the river upstream and downstream of the proposed preferred discharge location. A large detention basin option was previously evaluated, but this option was dismissed due to its inability to mitigate the risk to the drinking water system. Mechanical separators (e.g. Vortechs) were reviewed, but the cost, physical space needed (including new permanent right-of-way), and long term operations and maintenance make mechanical separators impractical and not a prudent option. No other viable options were found to further protect the existing water quality from any spill/stormwater/roadway runoff associated with the bypass. Therefore, no additional measures will be constructed.<br><br>All runoff associated with the bypass will pass through vegetated ditches, a valid BMP measure, prior to entering the closed system. INDOT will continue to address all regulatory requirements, such as obtaining a Rule 5 permit and constructing appropriate BMP measures to protect the water supply from construction activities. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| **M5 continued** | USEPA | M5-7 | Karst and Appendix H | The report notes that the Preferred Alternative is not able to avoid some of the karst features identified in the area. It is expected that mitigation and treatment (Section 6.3) will become necessary to minimize any impact on groundwater in the area. As you are aware, earlier and ongoing highway construction projects in Indiana have resulted in the failure of some sediment and erosion control measures.<br>Recommendation: Adequate ongoing training at all levels during the design, construction, and maintenance phases should be undertaken by INDOT for relevant state and local government and contractor personnel and should complement the Indiana Department of Environmental Management (IDEM) permit for construction. | All applicable sections of the 1993 INDOT-IDNR-IDEM-USFWS KARST Memorandum of Understanding will be implemented during all phases of the project, and all karst-protective features will be inspected as appropriate. Furthermore, INDOT Standard Contract language includes a requirement that a pre-qualified karst expert is utilized when karst features are identified. The1993 karst MOU also requires that any accidental discoveries are reported to IDNR, IDEM, and USFWS. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| | | M5-8 | Private Wells | The report mentions that most of the residences in the area are supplied by public water systems (page 7-2). The report also notes that dye tracing was not performed to determine where flow entering sinkholes may move.<br>Recommendation: If any residences not served by public water systems are in the potential ground water flow path of a sinkhole expecting highway runoff, dye tracing for the sinkhole should be considered. Karst features that are identified as having the potential to impact vulnerable residences could then receive additional consideration including multiple layers of protection and heightened inspection and maintenance.<br>There may be a number of sinkholes that would be modified for storm water drainage for the East Bypass project. Any sinkholes modified by human activity for the purpose of directing and emplacing fluids into the subsurface is considered a Class V well (40 CFR 144.3 and 144.80), which is regulated by EPA's Underground Injection Control (UIC) program. Class V wells have requirements which must be met to protect groundwater (40 CPR 144.82).<br>EPA is the agency that must be notified and would need to approve any Class V well construction. For additional information regarding EPA Class V permits and UIC program, contact Ross Micham of EPA's UIC Branch at 312/886-4237 or at micham.ross@epa.gov | There are two residences that may not be supplied by public water systems. However, these residences will require full parcel takes, and any wells identified on the properties will be plugged. Therefore, there will be no potential impacts to private wells.<br>INDOT will not be directly discharging runoff into sinkholes. All sinkholes within the ROW will be plugged. |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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| | | M5-9 | Protection of Surface Water and Groundwater during Design and Construction | The EA does not identify the specific measures that INDOT will use to ensure the applicable standard specifications and/or special provisions developed for this project will be successfully implemented in a timely manner by the contractor during project design and/or construction. Such measures might include, but need not be limited to, requiring an independent environmental monitor with authority to stop construction if adequate sediment and erosion control measures are not being implemented and properly maintained. INDOT construction contracts could include a provision to levy substantial monetary fines when a contractor fails to properly implement appropriate construction BMPs to protect surface and ground water quality.<br>Recommendation: We recommend INDOT identify the specific measures they will take to help ensure that their construction contractors follow their construction standard specifications and/or special provisions. | INDOT has established protocols and enforcement mechanisms to ensure compliance with standard specifications and special provisions. |
| **M5 continued** | USEPA | M5-10 | Indirect and Cumulative Impacts | Karst features are not considered in the indirect and cumulative impacts analysis. Projected stream cumulative impact is 103,099 linear feet. The specific flow regimes of the streams are not given in the cumulative impacts tables. Nor does the analysis specify whether future impacts would result in permanent losses. INDOT's analysis concludes "because no significant indirect or cumulative impacts were identified, no additional mitigation or modifications to the alternatives are recommended."<br>Recommendation: We recommend | GIS data was used to estimate indirect and cumulative impacts to karst features (cave entrance density, sinking stream basins, and karst springs). Alternative 6D would result in 15.8 acres of indirect impacts to karst features (sinking stream basins) and 406.8 acres of cumulative impacts (365.3 acres of cave entrance density and 41.5 acres of sinking stream basins). There would be no indirect or cumulative impacts to karst springs.<br>Alternative 4NB2 would result in 81.1 acres of indirect impacts to karst features (cave entrance density) and 495.1 acres of cumulative impacts (cave entrance density). There would be no impacts, either direct or cumulative, to karst springs or sinking stream basins.<br>Alternative 6D would result in the following indirect |

| Comment Source | Name & Organization | Comment ID# | Category | Summary of Comment | Response |
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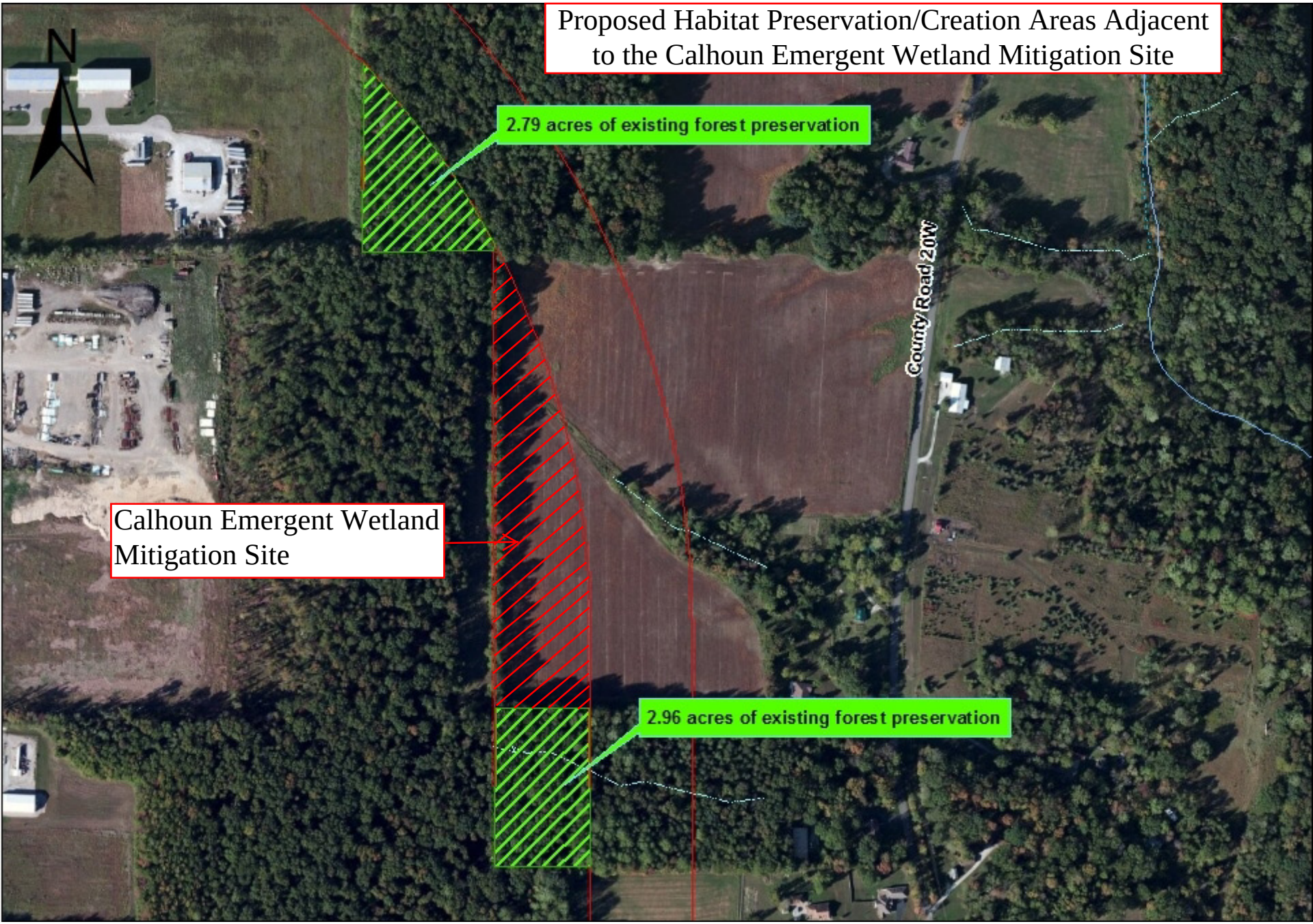
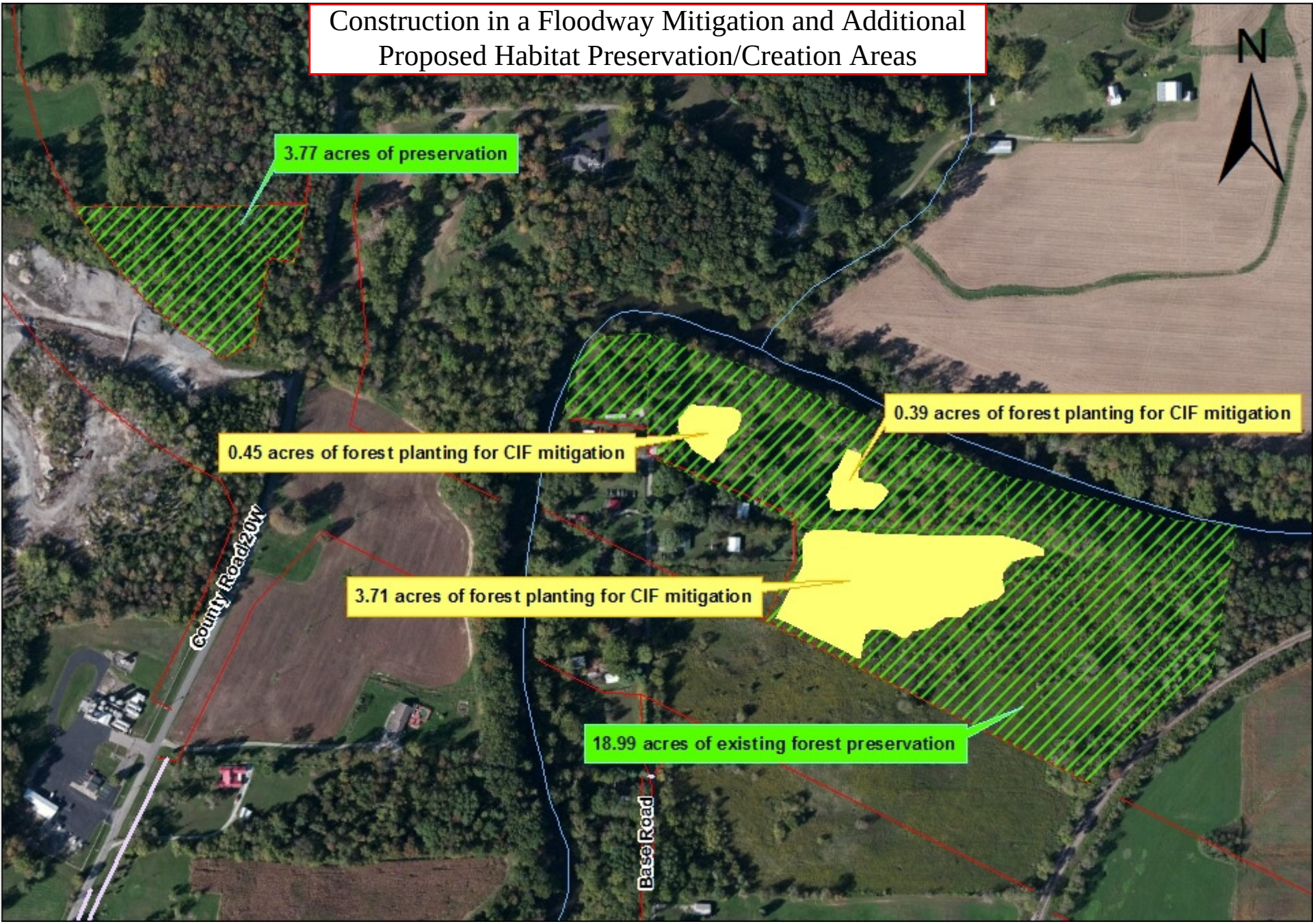
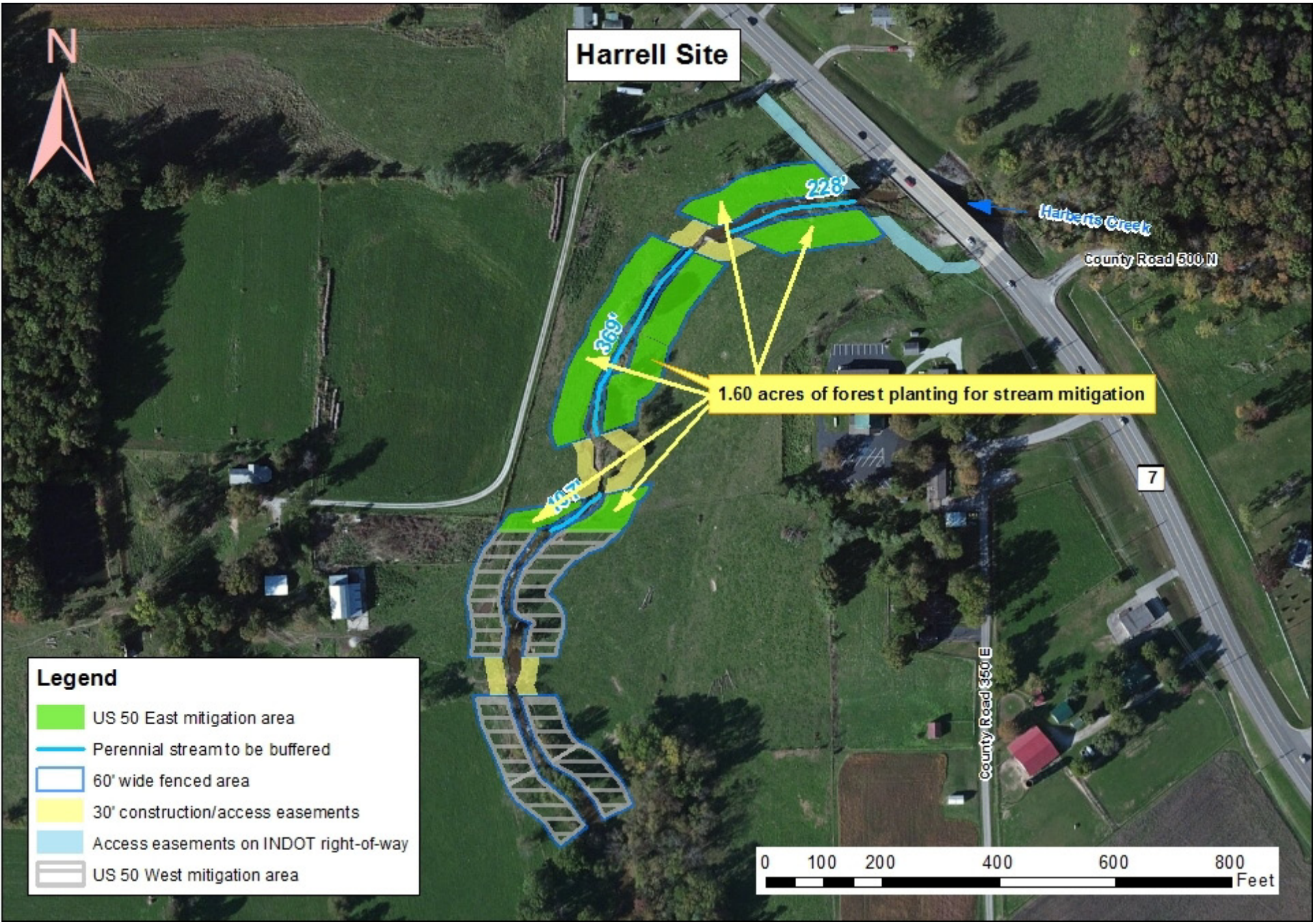
| | | | | INDOT provide additional discussion/clarification to substantiate its conclusion. | impacts to streams:<br>• Perennial: 0.0 linear feet<br>• Intermittent: 838.9 linear feet<br>• Ephemeral: 4,094.2 linear feet<br>Alternative 4NB2 would result in the following indirect impacts to streams:<br>• Perennial: 3,368.6 linear feet<br>• Intermittent: 9,344.2 linear feet<br>• Ephemeral: 17,317.5 linear feet<br>Because the cumulative impact area extends beyond the areas that were evaluated in the field, cumulative impacts to streams can only distinguish impacts to perennial and intermittent streams as adequate information on ephemeral streams is not available. Alternative 6D would result in 103,100 linear feet of cumulative impacts to streams (57,880 feet of intermittent and 45,220 feet of perennial). Alternative 4NB2 would result in 111,612 linear feet of cumulative impact to streams (78,332 feet of intermittent and 33,280 feet of perennial). It is assumed that indirect and cumulative impacts are permanent (as opposed to temporary).<br>As indicated in Table 31, the project has the potential to result in indirect impacts to the identified resources and that additional cumulative impacts to these resources could potentially occur as a result of other future projects. These impacts can be minimized and mitigated through local land use planning, zoning, and state and federal permitting. INDOT will coordinate with the local governments to provide guidance in the development of land use plans that could minimize the project's potential indirect and cumulative impacts. |

# Appendix D: Proposed Indiana and Northern Long-Eared Bat Habitat Preservation/Creation

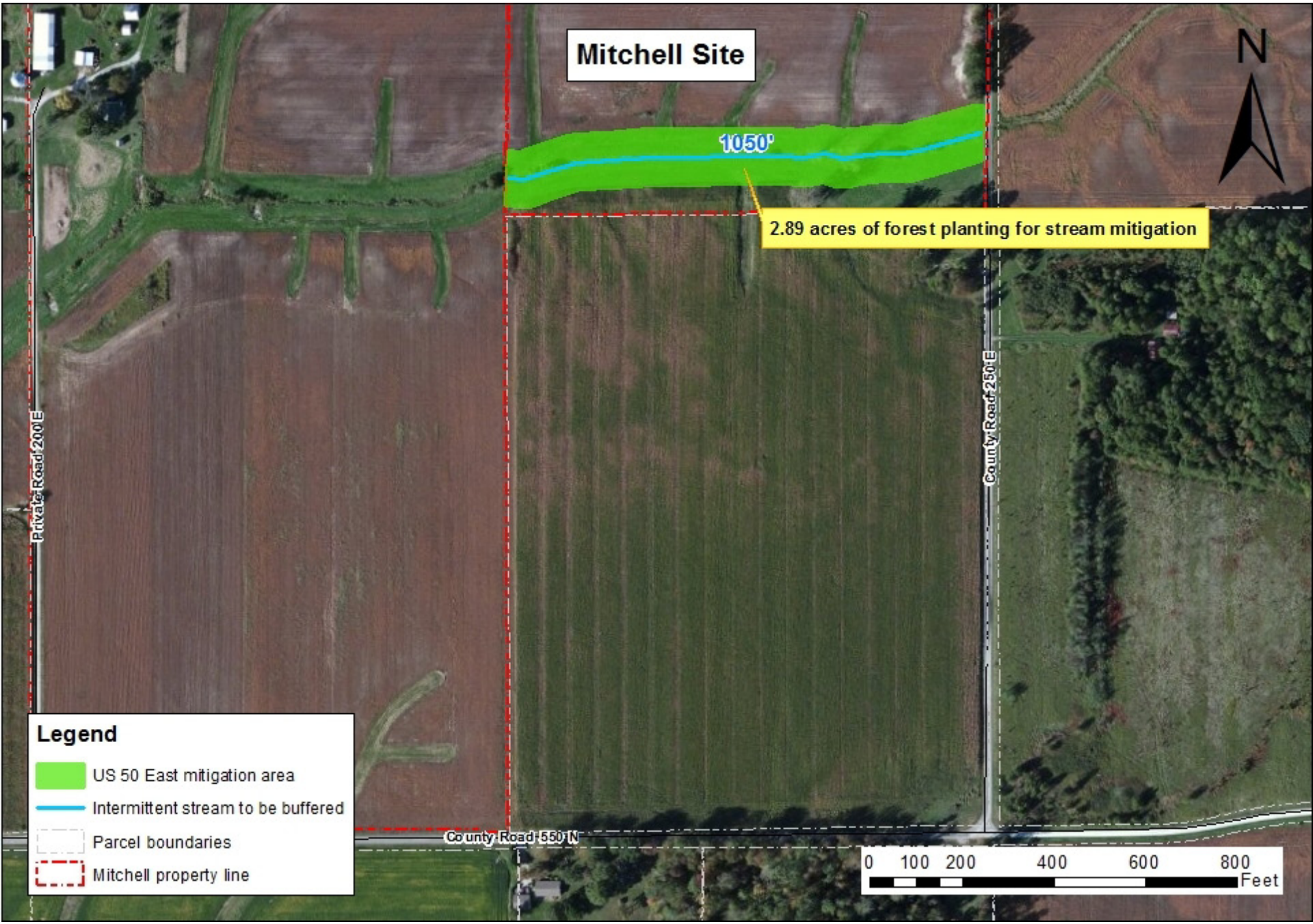

Proposed Habitat Preservation/Creation Areas Adjacent to the Calhoun Emergent Wetland Mitigation Site
N
2.79 acres of existing forest preservation
County Road 20W
Calhoun Emergent Wetland Mitigation Site
2.96 acres of existing forest preservation

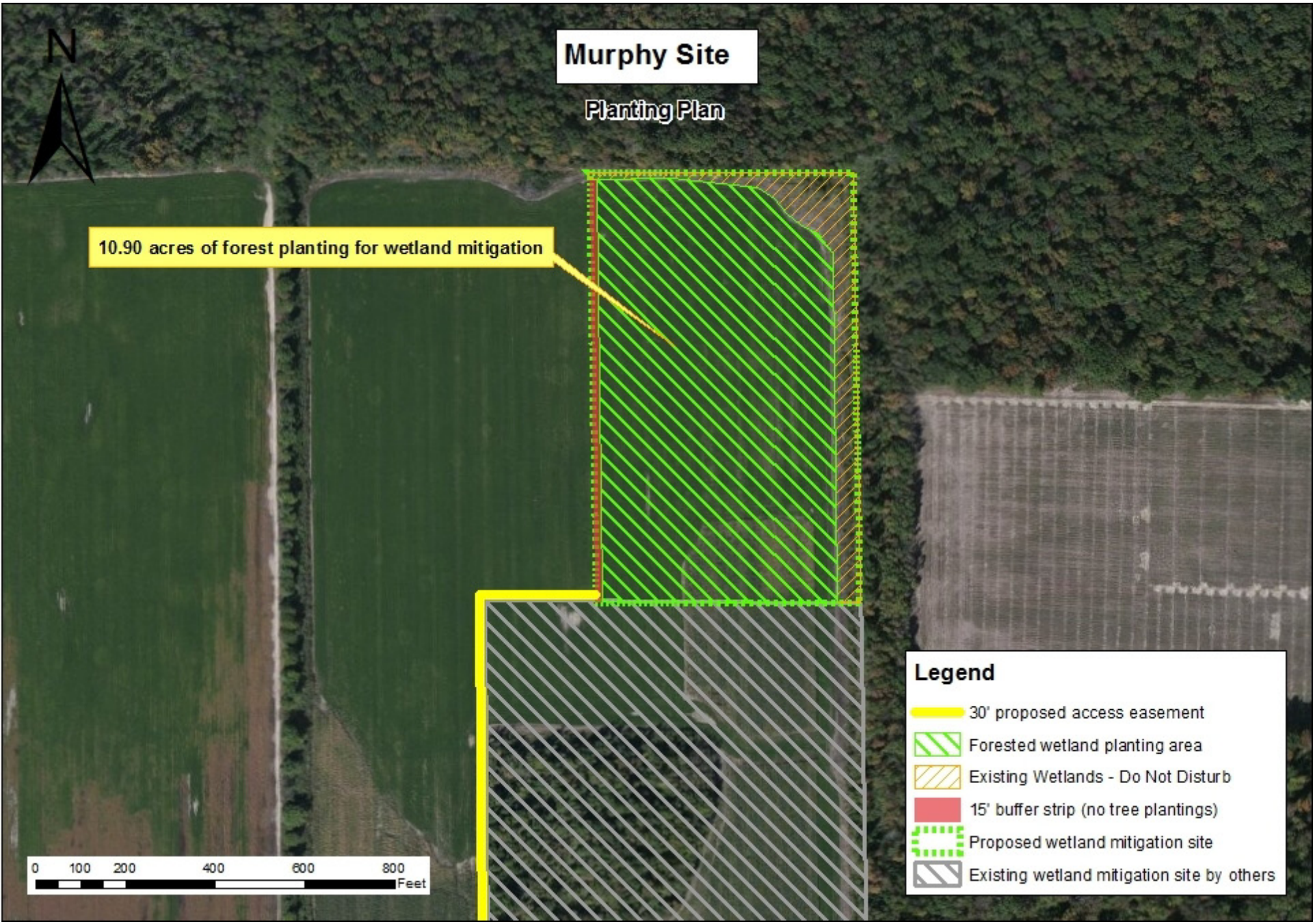

Construction in a Floodway Mitigation and Additional Proposed Habitat Preservation/Creation Areas
N
3.77 acres of preservation
0.39 acres of forest planting for CIF mitigation
0.45 acres of forest planting for CIF mitigation
3.71 acres of forest planting for CIF mitigation
18.99 acres of existing forest preservation
County Road 20W
Base Road

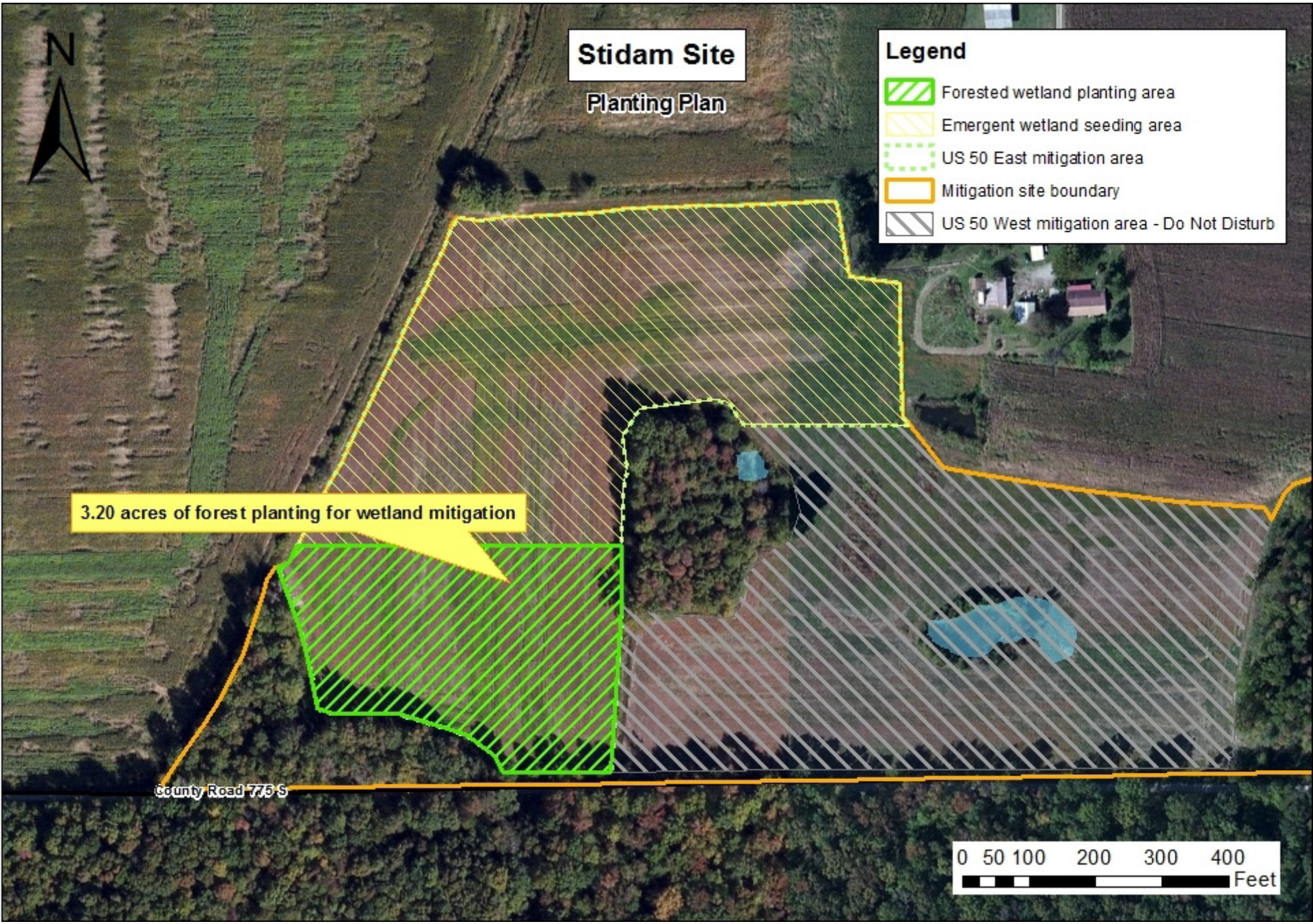

Goecker Site
N
County Road 700 S
County Road 700 E
1.72 acres of forest planting for stream mitigation
650'
Legend
US 50 East mitigation area
Intermittent stream to be buffered
US 50 West mitigation area
0 100 200 400 600 800
Feet


N
Harrell Site
228'
369'
407'
Harbens Creek
County Road 500 N
1.60 acres of forest planting for stream mitigation
7
County Road 350 E
Legend
US 50 East mitigation area
Perennial stream to be buffered
60' wide fenced area
30' construction/access easements
Access easements on INDOT right-of-way
US 50 West mitigation area
0 100 200 400 600 800
Feet


N
Luedeman Site
County Road 800 W
Base Road
31.8 acres of wetland forest preservation
Legend
Existing forested wetland to be preserved
Parcel boundaries
0 100 200 400 600 800
Feet


Mitchell Site
N
1050'
2.89 acres of forest planting for stream mitigation
Private Road 200 E
County Road 250 E
County Road 550 N
Legend
US 50 East mitigation area
Intermittent stream to be buffered
Parcel boundaries
Mitchell property line
0 100 200 400 600 800
Feet


N
Murphy Site
Planting Plan
10.90 acres of forest planting for wetland mitigation
0 100 200 400 600 800
Feet
Legend
30' proposed access easement
Forested wetland planting area
Existing Wetlands - Do Not Disturb
15' buffer strip (no tree plantings)
Proposed wetland mitigation site
Existing wetland mitigation site by others


N
Stidam Site
Planting Plan
Legend
Forested wetland planting area
Emergent wetland seeding area
US 50 East mitigation area
Mitigation site boundary
US 50 West mitigation area - Do Not Disturb
3.20 acres of forest planting for wetland mitigation
County Road 775 S
0 50 100 200 300 400
Feet