

# **Appendix D:**

## **Section 106 of the NHPA**



# INDIANA DEPARTMENT OF TRANSPORTATION

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

PHONE: (317) 296-0799

**Eric Holcomb, Governor**  
**Joe McGuinness, Commissioner**

April 16, 2021

This letter was sent to the listed parties.

RE: Des. No. 1500146; Old US 41 over US 41 Bridge Project, Vigo County, Indiana

Dear Consulting Party (see attached list),

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with the Old US 41 Bridge Project along US 41 (Des. No. 1500146) in Vigo County. Cultural Resource Analysts, Inc. (CRA) is under contract with Beam, Longest and Neff, LLC (BLN) on behalf of INDOT, to advance the environmental documentation for the referenced project.

This letter is part of the early coordination phase of the environmental review process requesting comments associated with the project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. No. and project description in your reply, and your comments will be incorporated into the formal environmental study.

The proposed undertaking is located along US 41 and Old US 41 (locally known as North Clinton Street) in Vigo County, Indiana. It is within Otter Creek Township, as shown on the Rosedale, Indiana, USGS Topographic Quadrangle, in Sections 13 & 14, Township 13 North, Range 8 West & 9 West.

The purpose of the project is to improve the functionality and safety of the existing interchange and the intersection of US 41 and Evans Avenue to the north of the existing bridge. The need for this project is due to the deteriorating condition of the existing bridge (041-84-04322-ANBL, NBI# 14990) along Old US 41 (North Clinton Street) over US 41, as well as the severity and frequency of crashes that have been observed at the intersection of US 41 and Evans Avenue to the north of the existing bridge.

The existing structure was constructed in 1960 and rehabilitated in 1982. Based upon the age and overall condition of the deck, wearing surface, and substructure, the existing bridge is nearing the end of its design life. In addition, site crash-history supports that crash frequency is a result of the Evans Avenue crossing where Evans Avenue traffic is required to cross a southbound US 41 lane and two northbound 41 movements; namely, Old US 41 (North Clinton Street) and the at-grade US 41 northbound lane.

The proposed project will include the removal of the existing four-span bridge and the lowering of Old US 41 (North Clinton Street) to the same elevation as the existing US 41 northbound lane in order to construct a new, at-grade intersection. Old US 41 (North Clinton Street) will be stop-controlled and US 41 northbound traffic will remain unchanged. A J-Turn will also be constructed along southbound US 41 to the west of the new intersection (motorists at a J-turn intersection turn right in the same direction of traffic, merge into the left lane, and then make a U-turn in the direction they intend to travel).



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Additional reconstruction and restriping of pavement markings are anticipated along US 41 as needed to facilitate the modified configuration. The change to the traffic patterns will eliminate the maintenance of the existing bridge. The Old US 41 (North Clinton Street) connectivity will improve driver perception and the overall safety of the Evans Avenue intersection by merging the northbound US 41 traffic to a single lane in advance of the intersection.

The project area begins approximately 1,600 feet (0.30 mile) north of the existing Old US 41 (North Clinton Street) over the US 41 bridge and continues southwest along US 41 for approximately 1,500 feet (0.28 mile). The project area also extends south along Old US 41 (North Clinton Street) for approximately 700 feet (0.13 mile), along Budd Road for approximately 500 feet (0.10 miles), and east along Evans Avenue for approximately 250 feet (0.05 mile). Additional right-of-way is not anticipated for the construction of this project.

The preferred method of traffic maintenance is to utilize lane shifts and phased construction to maintain a single lane open to traffic along US 41 during construction. However, short-term, nighttime closures may be required to complete the removal of the existing bridge. It is anticipated that access to US 41 will be maintained for Evans Avenue and Northwood Drive throughout the duration of the project. At this time, it is anticipated that Budd Road will be closed to through traffic between US 41 and Old US 41 (North Clinton Street). Old US 41 (North Clinton Street) traffic will be detoured to other local county roads.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic and archaeological properties. In accordance with 36 CFR 800.2 (c), you are hereby requested to be a consulting party to participate in the Section 106 process. Entities that have been invited to participate in the Section 106 consultation process for this project are identified in the attached list. Per 36 CFR 800.3(f), we hereby request that the Indiana State Historic Preservation Officer (SHPO) notify this office if the SHPO staff is aware of any other parties that may be entitled to be consulting parties or should be contacted as potential consulting parties for the project.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at <https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf>

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. At this time, no cultural resource investigations have occurred; however, the results of cultural resource identification and evaluation efforts, both above-ground and archaeological, will be forthcoming. Consulting parties will receive notification when these reports are completed.



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**Eric Holcomb, Governor**  
**Joe McGuinness, Commissioner**

Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party, or if you do not respond, you will not be included on the list of consulting parties for this project. If we do not receive your response in the time allotted, the project will proceed consistent with the proposed design and you will not receive further information about the project unless the design changes. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

For questions concerning specific project details, you may contact Alyssa Reynolds of Cultural Resource Analysts, Inc. (CRA) at (812) 253-3009 or [adreynolds@crai-ky.com](mailto:adreynolds@crai-ky.com). All future responses regarding the proposed project should be forwarded to CRA at the following address:

Alyssa Reynolds  
Architectural Historian  
Cultural Resource Analysts, Inc. (CRA)  
201 NW 4<sup>th</sup> Street, Suite 204  
Evansville, Indiana 47708  
[adreynolds@crai-ky.com](mailto:adreynolds@crai-ky.com)

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317-416-0876 or Kari-Carmany-George at FHWA at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) or 317-226-5629.

Sincerely,

Anuradha V. Kumar, Manager  
Cultural Resources Office  
Environmental Services

Enclosures: Distribution List, USGS Topographic map, and Aerial View Map.



**Automatic Section 106 Consulting Parties:**  
**Indiana Department of Natural Resources,**  
**Division of Historic Preservation &**  
**Archaeology, Indiana State Historic**  
**Preservation Office (SHPO)**  
402 W. Washington St., Room W274  
Indianapolis, Indiana 46204

**Invited Consulting Parties:**

**Indiana Landmarks Western Regional Office**  
Tommy Kleckner, Director  
669 Ohio Street  
Terre Haute, IN 47807  
812.232.4534  
{[tkleckner@indianalandmarks.org](mailto:tkleckner@indianalandmarks.org)}

**Terre Haute Area Metropolitan Planning**  
**Organization**  
Jeremey Weir, Director of Transportation  
630 Wabash Avenue, Suite 221  
Terre Haute, IN 47807  
812.244.1319  
{[jweir@terrehauteedc.com](mailto:jweir@terrehauteedc.com)}

**Terre Haute Landmarks, Inc.**  
Marlene Lu  
PO Box 9271  
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812.237.8835  
{[info@terrehautelandmarks.org](mailto:info@terrehautelandmarks.org)}

**Thrive West Central**  
Meadows Center  
2880 Poplar Street, Suite 9A  
Terre Haute, IN 47808  
812.238.1561

**Vigo County Commissioner**  
Brad Anderson  
650 S 1<sup>st</sup> Street  
Terre Haute, IN 47808  
812.462.3367  
{[brad.anderson@vigocounty.in.gov](mailto:brad.anderson@vigocounty.in.gov)}

**Vigo County Commissioner**  
Judith A. Anderson  
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**Vigo County Commissioner**  
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650 S 1<sup>st</sup> Street  
Terre Haute, IN 47808  
812.462.3367  
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**Vigo County Council**  
127 Oak Street  
Terre Haute, IN 47807  
812.231.5638

**Vigo County Engineer**  
Larry Robbins  
812.462.3419  
{[Larry.Robbins@vigocounty.in.gov](mailto:Larry.Robbins@vigocounty.in.gov)}

**Vigo County Highway Superintendent**  
Daniel Bennett  
3250 E Haythorne Avenue  
Terre Haute, IN 47807  
812.466.9635  
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**Vigo County Historian**  
Timothy Crumrin  
4603 Springfield Drive  
Terre Haute, IN 47803  
317.694.0819  
{[tcumrin@yahoo.com](mailto:tcumrin@yahoo.com)}

**Vigo County Historical Society**  
Susan Tingley, Executive Director  
929 Wabash Avenue  
Terre Haute, IN 47807  
812.235.9717  
{[susan.tingley@vchsmuseum.org](mailto:susan.tingley@vchsmuseum.org)}

**Vigo County Surveyor**

Bruce Allen, Jr.

143 Oak Street

Terre Haute, IN 47807

812.462.3380

[bruce.allen@vigocounty.in.gov](mailto:bruce.allen@vigocounty.in.gov)

**Wabash Valley Genealogical Society**

Mike Lewman, President

PO Box 9347

Terre Haute, IN 47808

812. 894.2404

[wvgs@inwvgs.org](mailto:wvgs@inwvgs.org)

**Delaware Tribe of Indians, Oklahoma**

**Eastern Shawnee Tribe of Oklahoma**

**Forest County Potawatomi Community**

**Miami Tribe of Oklahoma**

**Peoria Tribe of Indians of Oklahoma**

**Pokagon Band of Potawatomi Indians**

**Shawnee Tribe**

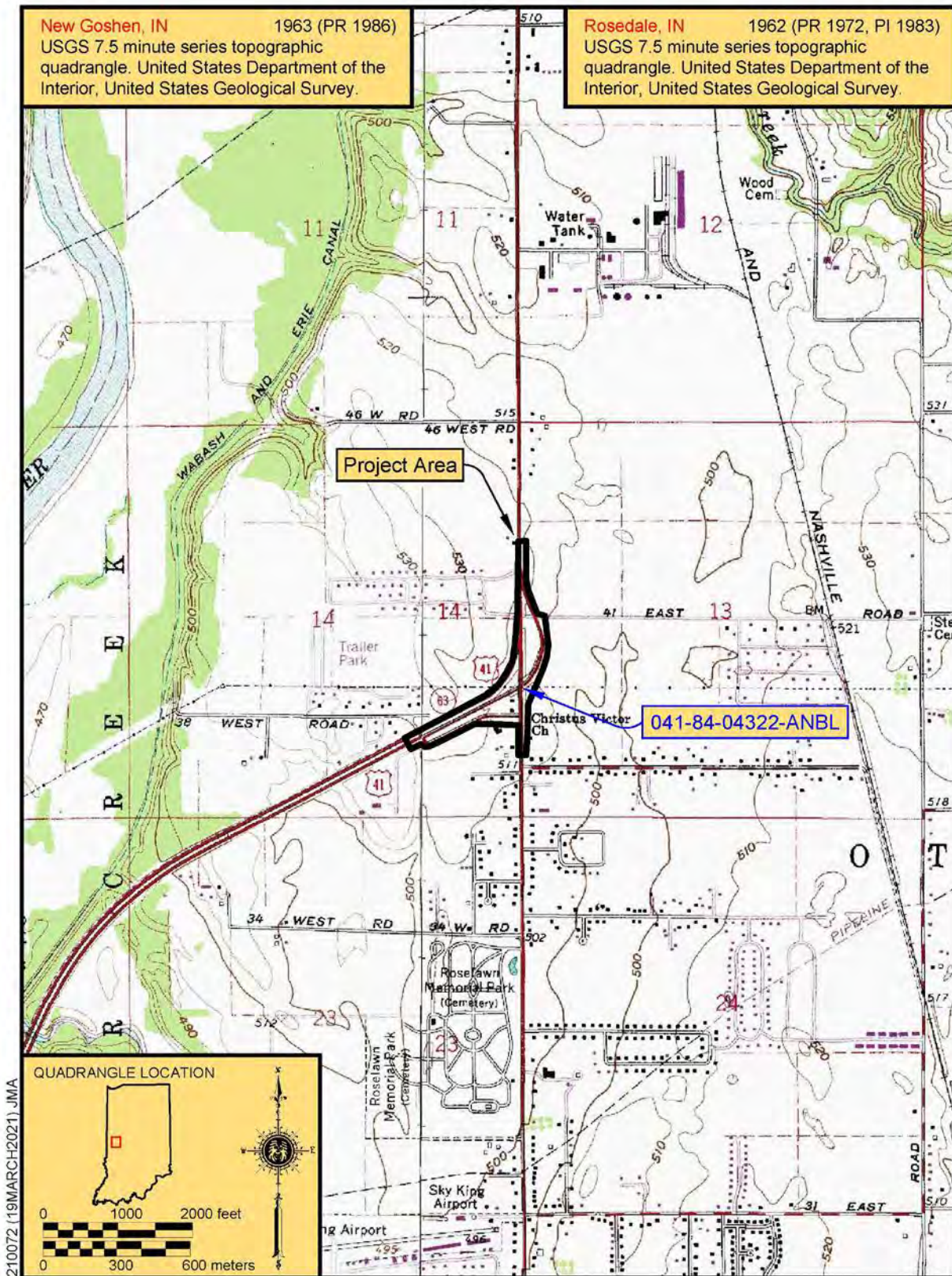


Figure 1. Topographic map showing the location of the project area and the location of the structure.





Figure 2. Aerial map showing the location of the project area and the location of the structure.

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](mailto:dhpa@dnr.IN.gov) · [www.IN.gov/dnr/historic](http://www.IN.gov/dnr/historic)



May 3, 2021

Alyssa Reynolds  
Architectural Historian  
Cultural Resource Analysts, Inc.  
201 NW 4<sup>th</sup> Street, Suite 204  
Evansville, Indiana 47708

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Early coordination letter for the Old US 41 over US 41 Bridge project, Otter Creek Township, Vigo County,  
Indiana (Des. No. 1500146; DHPA No. 27372)

Dear Ms. Reynolds:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed INDOT’s April 16, 2021 early coordination letter, received by our office the same day for the aforementioned project.

We are not aware of any parties who should be invited to participate in the Section 106 consultation on this federal undertaking, beyond those whom INDOT already has invited. However, if right-of-way is likely to be taken from a potentially historic property, it might be advisable to invite the owner of that property as soon as possible. In your next regular correspondence on this project, please advise us as to which of the invited consulting parties has accepted the invitation.

We look forward to reviewing the proposed area of potential effects and the reports on investigations of above-ground cultural resources and archaeological resources that the early coordination letter indicated will be forthcoming.

The Indiana SHPO staff’s archaeological reviewer for this project is Rachel Sharkey, and the structures reviewer is Danielle Kauffmann. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project. In all future correspondence about the Old US 41 over US 41 Bridge project in Vigo County, (Des. No. 1500146), please refer to DHPA No. 27372.

Very truly yours,

Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:DMK:dmk

emc: Anuradha Kumar, INDOT  
Shaun Miller, INDOT  
Susan Branigin, INDOT  
Alyssa Reynolds, Cultural Resource Analysts, Inc.  
Rachel Sharkey, DNR-DHPA  
Danielle Kauffmann, DNR-DHPA



# INDIANA DEPARTMENT OF TRANSPORTATION

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

PHONE: (317) 296-0799

**Eric Holcomb, Governor**  
**Joe McGuinness, Commissioner**

June 10, 2021

This letter was sent to the listed parties.

RE: FHWA Project: Des. No. 1500146; US 41 Bridge Project, Vigo County, Indiana

Dear Consulting Party (see attached list),

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with the bridge project along US 41 (Des. No. 1500146) in Vigo County.

This letter is part of the Section 106 review process for this project. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic and archaeological properties. We are requesting comments from you regarding the possible effects of this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

A Section 106 early coordination letter was distributed on April 16, 2021.

The proposed undertaking is located along US 41 and North Clinton Road (Old US 41) in Vigo County, Indiana. It is within Otter Creek Township, as shown on the Rosedale, Indiana, USGS Topographic Quadrangle, in Sections 13 & 14, Township 13 North, Range 8 West & 9 West.

The purpose of the project is to maintain a functional roadway along North Clint Road and US 41. The need for this project is due to the deteriorating condition of the bridge (041-84-04322-ANBL) along North Clinton Road over US 41. Due to the overall condition of the existing concrete deck and substructure units, there is a need for improvements to correct the existing deterioration. The existing superstructure was constructed in 1960 and rehabilitated in 1982. The existing structure is nearing the end of the design life for the concrete deck and based on the overall condition, also nearing the end of the design life for the entire structure. Currently, the existing wearing surface, concrete deck and substructure are rated in fair condition and the superstructure is rated in satisfactory condition. This structure is also located in an area where existing roads adjacent to the bridge may be utilized to access US 41, making this structure obsolete. The proposed project will include removing the existing four-span bridge. North Clinton Street will be lowered down to the same elevation as the existing US 41 northbound lane and a new intersection will be constructed for the northbound lane of North Clinton Street at US 41.

The project area begins approximately 950 feet (0.18 mile) north of the intersection of US 41 with East Northwood Avenue and continues south along US 41/North Clinton Street for approximately 2,850 feet (0.54 mile). The project area also extends southwest along Budd Road for approximately 1,478 feet (0.28 mile) and east along East Evans Avenue for approximately 264 feet (0.05 mile). Additional right-

of-way is anticipated at the intersection of US 41 and North Clinton Street. However, the exact amount is undetermined at this time.

The preferred method of traffic maintenance would be the full closure of North Clinton Street and Budd Road during construction and route traffic to a local detour utilizing Hasselburger Avenue and US 41. Hasselburger Avenue is located approximately 1.8 miles south of the existing bridge. The detour length will be approximately 4.0 miles in length, with a net increase in travel distance of 2.2 miles. US 41 traffic would be maintained with one lane of traffic in each direction.

Cultural Resource Analysts (CRA) is acting on behalf of Beam, Longest, & Neff, LLC (BLN), who is under contract with INDOT to advance the environmental documentation for the referenced project.

In accordance with 36 CFR 800.2 (c), you were invited to become a consulting party as part of the Section 106 process, or you are hereby invited to become a consulting party as part of the Section 106 process. Entities that have previously accepted consulting party status are identified in the attached list.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, to assess the undertaking's effects and to seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at <https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf>.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE does not contain any resources listed in the National Register of Historic Places (NRHP).

A historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP. As a result of the historic property identification and evaluation efforts, no above-ground resources are recommended as eligible for listing in the NRHP.

An archaeologist who meets the Secretary of the Interior's Professional Qualification Standards has conducted a survey of archaeological resources within the APE for potential eligibility for listing in the NRHP. One previously unrecorded archaeological site was identified during the survey, 12Vi1857. Site 12Vi1857 is a site that consists of a nineteenth-century through twentieth-century historic scatter that is likely associated with a mapped structure from an 1874 property map. However, Site 12Vi1857 may extend beyond the survey area boundary to the south. Overall, Site 12Vi1857 exhibited poor archaeological integrity from road maintenance and modern residential use. Therefore, the NRHP eligibility of this site could not be fully assessed. No further work is recommended for the portion of the site located within the survey area.

On May 3, 2021, DHPA acknowledged the project, accepting consulting party status. They also advised that if any right-of-way will be taken from a historic property, to invite the property owner as a consulting party.

The Historic Property Report and Phase 1a archaeology report are available for review in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and to respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the



environmental document. If you prefer a hard-copy of this material, please respond to this email with your request as soon as you can.

Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party or if you have not previously accepted consulting party status and you do not respond to this letter, you will not be included on the list of consulting parties for this project and will not receive further information about the project unless the design changes. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

For questions concerning specific project details, you may contact Alyssa Reynolds of Cultural Resource Analysts, Inc. (CRA) at (812) 253-3009 or [adreynolds@crai-ky.com](mailto:adreynolds@crai-ky.com). All future responses regarding the proposed project should be forwarded to CRA at the following address:

Alyssa Reynolds  
Architectural Historian  
Cultural Resource Analysts, Inc. (CRA)  
201 NW 4<sup>th</sup> Street, Suite 204  
Evansville, Indiana 47708  
[adreynolds@crai-ky.com](mailto:adreynolds@crai-ky.com)

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317-416-0876 Kari Carmany-George at FHWA at [K.CarmanyGeorge@dot.gov](mailto:K.CarmanyGeorge@dot.gov) or 317-226-5629.

Sincerely,

A handwritten signature in black ink, appearing to read "Anuradha", written over a horizontal line. There are two small dots below the line.

Anuradha V. Kumar, Manager  
Cultural Resources Office  
Environmental Services

Enclosures: Consulting Party Acceptance List, USGS Topographic map, Aerial View Map, Consulting Party Letter

USGS Topo Map removed because it is on duplicated Page D-20

## **Consulting Party Acceptance List**

**Indiana Department of Natural Resources, Division of Historic Preservation & Archaeology,  
Indiana State Historic Preservation Office (SHPO)**  
402 W. Washington St., Room W274  
Indianapolis, Indiana 46204

**Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas**

**Miami Tribe of Oklahoma**

**Peoria Tribe of Indians of Oklahoma**

**Seneca-Cayuga Nation**



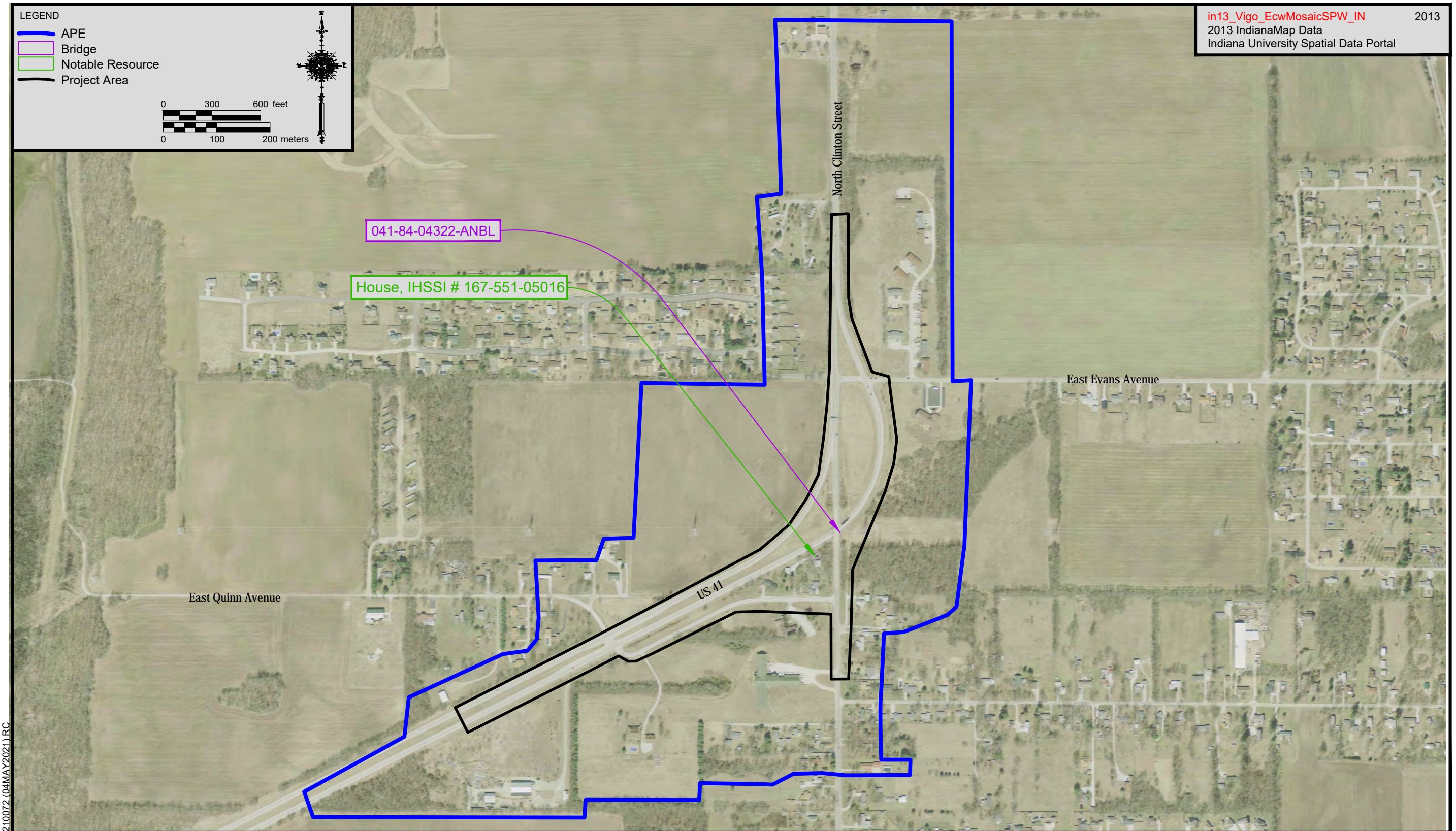


Figure 2. Aerial map showing the location of the proposed project, APE, bridge, and surveyed resources.





**EASTERN SHAWNEE**  
**CULTURAL PRESERVATION DEPARTMENT**  
70500 East 128 Road, Wyandotte, OK 74370

November 5, 2021

INDOT - Indiana Department of Transportation  
100 N. Senate Ave. IGCN642  
Indianapolis, IN 46201

**RE: Des No. 1500146, Vigo County Indiana, Vigo County, Indiana**

Dear Mr. Coon,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Vigo County, Indiana. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a)). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.

Sincerely,

Paul Barton, Tribal Historic Preservation Officer (THPO)  
Eastern Shawnee Tribe of Oklahoma  
(918) 666-5151 Ext:1833

**A PHASE IA ARCHAEOLOGICAL RECONNAISSANCE  
SURVEY FOR THE PROPOSED OLD US 41 OVER US 41  
BRIDGE REHABILITATION PROJECT AND US 41  
IMPROVEMENTS IN VIGO COUNTY, INDIANA  
(INDOT DES NO. 1500146)**

by

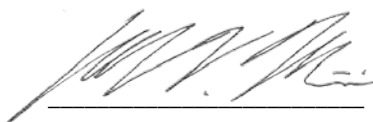
Sidney Travis  
with a contribution by Lisa Kelley

*Prepared for*

Brian Shaw  
Beam, Longest, and Neff, LLC  
8320 Craig Street  
Indianapolis, Indiana 46250  
Phone: (317) 849-5832  
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*Prepared by*

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Email: amartin@crai-ky.com  
CRA Project No.: I210071



Andrew V. Martin, RPA 61710  
Principal Investigator

June 3, 2021

Lead Agency: Indiana Department of Transportation  
INDOT DES No.: 1500146  
Indiana State Museum Accession No.: 71.19.1799

# ABSTRACT

Between April 28 and May 3 2021, Cultural Resource Analysts, Inc., personnel conducted a phase Ia archaeological reconnaissance survey for a proposed bridge replacement and improvement project along US 41 in Vigo County, Indiana (Indiana Department of Transportation Des. No. 1500146). The survey was conducted at the request of Beam, Longest, and Neff, LLC. The survey area encompassed approximately 12.5 ha (30.9 acres). Survey methods consisted of screened shovel testing, as well as visual inspection of areas with obvious disturbance.

Prior to conducting this survey, an archaeological records review was completed using the Indiana Division of Historic Preservation and Archaeology's State Historic Architectural and Archaeological Research Database. The records review revealed that there were no previously recorded archaeological sites within the survey area, and two surveys located directly adjacent to the current study area.

As a result of the field reconnaissance, one previously unrecorded archaeological site (12Vi1857) was recorded. Site 12Vi1857 was a low density historic artifact scatter associated with a mid-nineteenth- through mid-twentieth-century residence. This site likely extends outside of the survey area, and its National Register of Historic Places eligibility could not be fully assessed. However, the portion of this site investigated demonstrated poor integrity, and no further archaeological work is recommended at the site within the survey area. Therefore, project clearance is recommended.

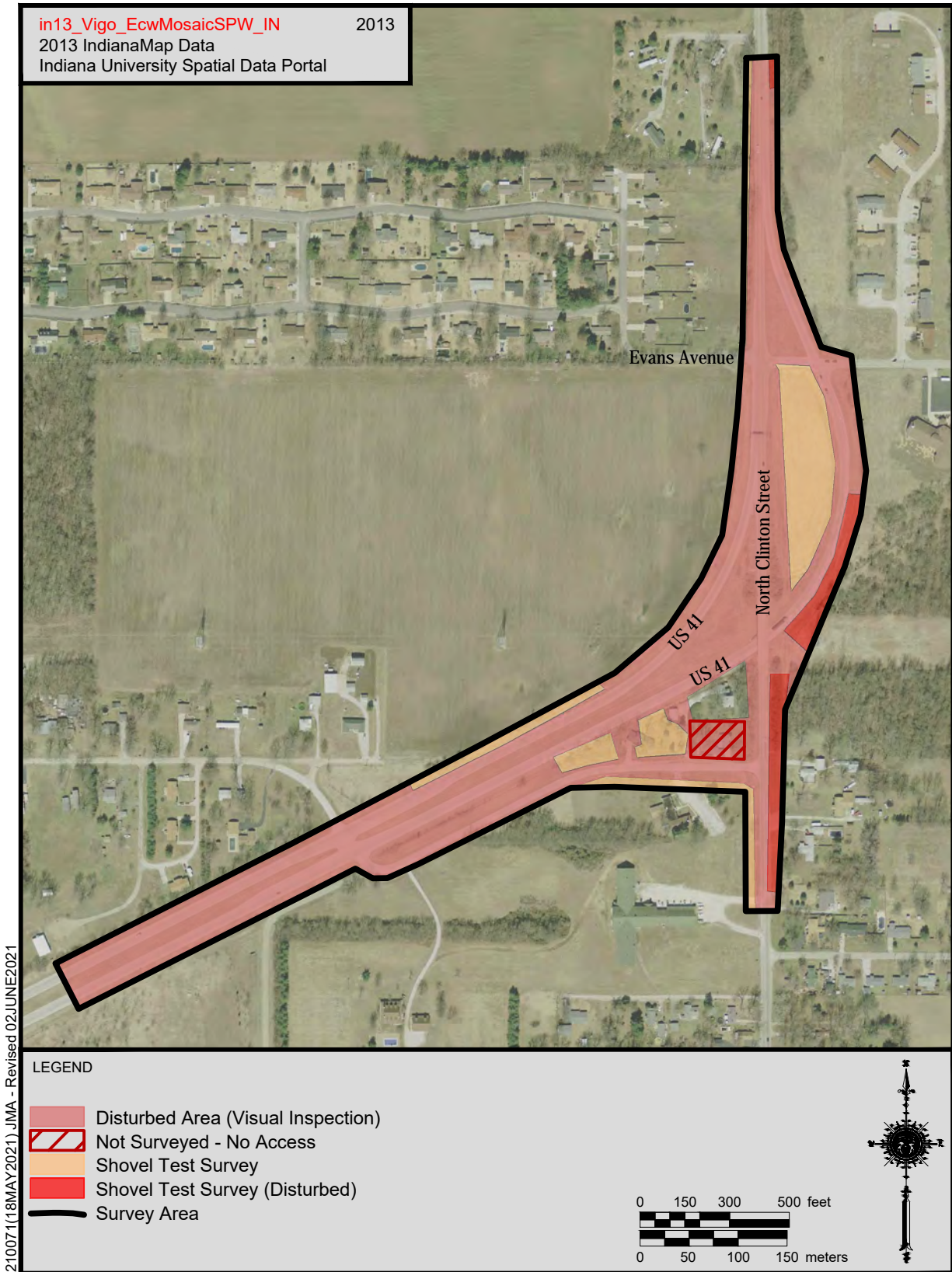


Figure 3. Survey area plan map showing Site 12Vi1857.



**HISTORIC PROPERTY REPORT FOR THE  
PROPOSED US 41 BRIDGE PROJECT IN  
OTTER CREEK TOWNSHIP, VIGO COUNTY, INDIANA  
(INDOT DES. NO. 1500146; DHPA NO. 26653)**

By

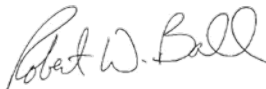
Alyssa Reynolds, MS

*Prepared for*

Brian Shaw  
Beam, Longest, and Neff, LLC  
Phone: (317) 849-5832  
Email: bshaw@b-l-n.com

*Prepared by*

Cultural Resource Analysts, Inc.  
201 NW 4th Street, Suite 204  
Evansville, Indiana 47708  
E-mail: amartin@crai-ky.com  
Phone: (812) 253-3009  
Fax: (812) 253-3010  
CRA Project No.: I210072



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Robert Ball, MHP  
Principal Investigator

May 11, 2021

INDOT Des. No.: 1500146  
DHPA No.: 26653

# ABSTRACT

This report documents the identification and evaluation efforts for properties included in the Area of Potential Effects (APE) for the proposed US 41 Bridge Project in Vigo County, Indiana (Indiana Department of Transportation [INDOT] Des. No. 1500146). Above-ground resources located within the project APE were identified and evaluated in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the regulations implementing Section 106 (36 CFR Part 800).

As a result of the NHPA, as amended, and CFR Part 800, federal agencies are required to take into account the impact of federal undertakings upon historic properties in the area of the undertaking. Historic properties include buildings, structures, sites, objects, and/or districts that are eligible for or listed in the National Register of Historic Places (NRHP). As this project is receiving funding from the Federal Highway Administration (FHWA), it is subject to a Section 106 review.

The APE contains no properties listed in the NRHP. The APE contains one property, House (Indiana Historic Sites and Structures Inventory [IHSSI] No. 167-551-05016), rated as “notable.”

**FEDERAL HIGHWAY ADMINISTRATION'S  
SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties) AND  
SECTION 106 FINDINGS AND DETERMINATIONS  
AREA OF POTENTIAL EFFECT  
ELIGIBILITY DETERMINATIONS  
EFFECT FINDING  
US 41 BRIDGE PROJECT  
VIGO COUNTY, INDIANA  
DES. NO.: 1500146  
DHPA NO.: 27372**

**AREA OF POTENTIAL EFFECTS  
(Pursuant to 36 CFR Section 800.4(a) (1))**

Given the nature of the proposed project, the area of potential effects (APE) was determined to include the proposed project area and portions of adjacent properties based on viewsheds from the project area and parcel boundaries. The archaeology APE was defined by a survey area encompassing approximately 12.5 ha (30.9 acres) of residential lots, roadways, road right-of-way (ROW), and highway medians. The APE does not include any resources that are eligible for inclusion in the National Register of Historic Places (NRHP). The APE takes into account the potential direct and indirect effects of the proposed project within the immediate contextual setting, which is comprised of residential and commercial properties constructed between the early twentieth century to the early twenty-first century and scattered tree lines (Appendix A).

**ELIGIBILITY DETERMINATIONS  
(Pursuant to 36 CFR 800.4(c)(2))**

The APE contains no properties listed in eligible or eligible for listing in the NRHP.

**EFFECT FINDING**

The Indiana Department of Transportation (INDOT), acting on behalf of the Federal Highway Administration (FHWA), has determined a “No Historic Properties Affected” finding is appropriate for this undertaking.

INDOT respectfully requests the Indiana State Historic Preservation Officer provide a written concurrence with the Section 106 determination of “No Historic Properties Affected.”

**SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties)**

**No National Register Eligible or listed properties are present in the APE** - This undertaking will not convert property from any Section 4(f) historic property to a transportation use; the INDOT, acting on FHWA’s behalf, has determined the appropriate Section 106 finding is “No Historic Properties Affected”; therefore no Section 4(f) evaluation is required.

Anuradha V. Kumar

Anuradha V. Kumar, for FHWA  
Manager  
INDOT Cultural Resources

01/27/2022

Approved Date

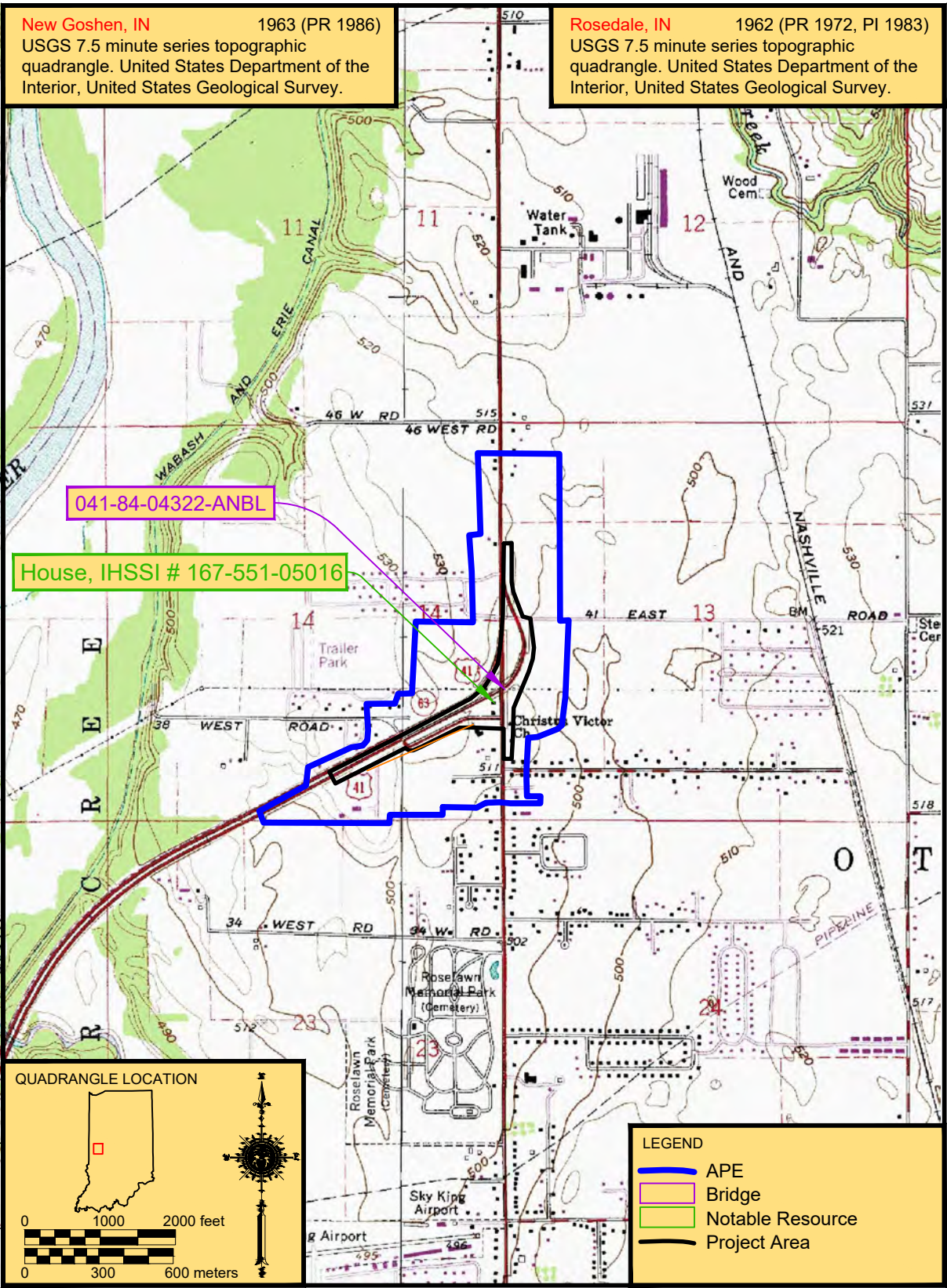


Figure 1. Topographic quadrangle showing the location of the proposed project, APE, bridge, and surveyed resources.



February 7, 2022

Alyssa Reynolds  
Architectural Historian  
Cultural Resource Analysts, Inc.  
201 NW 4<sup>th</sup> Street, Suite 204  
Evansville, Indiana 47708

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Indiana Department of Transportation’s finding of “no historic properties affected” on behalf  
of the Federal Highway Administration for the Old US 41 over US 41 Bridge Project (Des. No.  
1500146; DHPA No. 27372)

Dear Ms. Reynolds:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your January 27, 2022, submission, which enclosed INDOT’s finding and supporting documentation, received by our office the same day for this project in Otter Creek Township, Vigo County, Indiana.

The DHPA number on the review request submittal form is incorrect. The correct DHPA number for this project is DHPA 27372.

As previously indicated, for the purposes of the Section 106 review of this federal undertaking, we agree that there are no historic properties listed or eligible for inclusion in the National Register of Historic Places (“NRHP”) located within the project’s area of potential effects.

Also as previously indicated, in terms of archaeology, no currently known archaeological resources eligible for inclusion in the NRHP have been recorded within the proposed project area. A review of the archaeological reconnaissance report indicates that one archaeological resource was documented as a result. This site, 12-Vi-1847, is a historic artifact scatter associated with a mapped structure. We understand the southern extent of the site boundary was not fully documented due to landowner access, but this area will not be impacted by project activities. Therefore, we concur with the recommendation that no further archaeological reconnaissance is necessary.

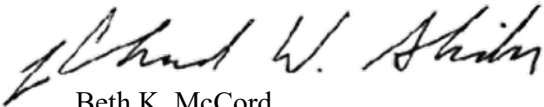
Accordingly, we concur with INDOT’s January 27, 2022, Section 106 finding of “No Historic Properties Affected” on behalf of FHWA for this federal undertaking.

If any prehistoric or historic 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 Indiana SHPO 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, including but not limited to 36 C.F.R. Part 800.

The Indiana SHPO staff's archaeological reviewer for this project is Rachel Sharkey, and the structures reviewer is Danielle Kauffmann. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

In all future correspondence about the Old US 41 over US 41 Bridge project in Vigo County (Des. No. 1500146), please refer to DHPA No. 27372.

Very truly yours,



Beth K. McCord  
Deputy State Historic Preservation Officer

BKM:DMK:dmk

emc: Kari Carmany-George, FHWA  
Anuradha Kumar, INDOT  
Matt Coon, INDOT  
Susan Branigin, INDOT  
Alyssa Reynolds, CRA, Inc.  
Eastern Shawnee Tribe of Oklahoma  
Danielle Kauffmann, DNR-DHPA  
Rachel Sharkey, DNR-DHPA



279319

# TRIBUNE STAR

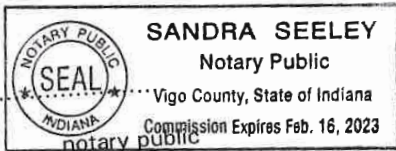
0 P.O. BOX 149  
TERRE HAUTE, IN 47808

I hereby certify that the attached advertisement of PUBLIC NOTICE DES. NO. 15  
in space of 58.58 lines was published in the TRIBUNE STAR  
On :

01/31/2022

Subscribed and sworn to before me this

1st day of February, 2022



Sue Seeley

12/31/2009

### Public Notice Des. No. 1500146

The Indiana Department of Transportation (INDOT) is planning to undertake an intersection improvement project, funded in part by the Federal Highway Administration (FHWA). The project is located 8 miles north-east of Terre Haute along US 41 and North Clinton Street (Old US 41) in Otter Creek Township, Vigo County, Indiana. Under the preferred alternative, the proposed project will include removing the existing four-span bridge. North Clinton Street will be lowered to the same elevation as the existing US 41 northbound lane and a new intersection will be constructed for the northbound lane of North Clinton Street at US 41. No additional permanent or temporary right-of-way is anticipated for this project. The proposed action does not impact properties listed in or eligible for the

National Register of Historic Places. INDOT, on behalf of the FHWA, has issued a "No Historic Properties Affected" finding for the project due to the fact that no historic properties are present within the Area of Potential Effects (APE). In accordance with the National Historic Preservation Act, the views of the public are being sought regarding the effect of the proposed project on the historic elements as per 36 CFR 800.2(d), 800.3(e) and 800.5(a)(4). Pursuant to 36 CFR 800.4(d)(1), the documentation specified in 36 CFR 800.11(d) is available for inspection in the offices of Cultural Resource Analysts, Inc., at 201 NW 4th St, Suite 204, Evansville, Indiana 47708. Additionally, this documentation can be viewed electronically by accessing INDOT's Section 106 document posting website IN SCOPE at <http://erms.indot.in.gov/Section106-Documents>. This documentation serves as the basis for the "No Historic Properties Affected" finding. The views of the public on this effect finding are being sought. Please reply with any comments to Alyssa Reynolds at 812.253.3009 or [adreynolds@crai-ky.com](mailto:adreynolds@crai-ky.com) at the offices of Cultural Resource Analysts, Inc., at 201 NW 4th St, Suite 204, Evansville, Indiana 47708 no later than March 1, 2022. In accordance with the "Americans with Disabilities Act," if you have a disability for which INDOT needs to provide accessibility to the document(s) such as interpreters or readers, please contact Richard Gilyeat, Jr., (765) 361-5684 or [rgilyeat@indot.in.gov](mailto:rgilyeat@indot.in.gov).  
279319-T/S-1/31-hspaxlp

# **Appendix E:**

## **Red Flag and Hazardous Materials**



# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N 758-ES  
Indianapolis, Indiana 46204

PHONE: (855) 463-6848  
(855) INDOT4U

**Eric Holcomb, Governor**  
**Joe McGuinness, Commissioner**

Date: February 14, 2022

To: Site Assessment & Management (SAM)  
Environmental Policy Office - Environmental Services Division (ESD)  
Indiana Department of Transportation  
100 N Senate Avenue, Room 758-ES  
Indianapolis, IN 46204

From: April Arroyo-Monroe  
Beam, Longest and Neff, LLC  
8320 Craig Street  
Indianapolis, IN  
aarroyomonroe@b-l-n.com

Re: RED FLAG INVESTIGATION  
DES #1500146, State Project  
Bridge Removal & Intersection Improvement  
Old US 41 over US 41 NBL, 6.13 Miles North of Middle Jct of SR 62  
Vigo County, Indiana

## PROJECT DESCRIPTION

Brief Description of Project: This project is located approximately 6.13 miles north of the middle junction of SR 63, within the northern boundary of the city of Terre Haute, along US 41 and North Clinton Street (Old US 41) in Vigo County, Otter Creek Township, Indiana. The project area begins approximately 1,600 feet north of the existing North Clinton Street, over the US 41 bridge (041-84-04322-ANBL) and continues southwest along US 41 for approximately 1,500 feet. The project area then extends south along North Clinton Street for approximately 700 feet, along Budd Road for approximately 500 feet and east along Evans Avenue for approximately 250 feet.

The proposed project includes removing the existing four-span bridge (041-084-04322-ANBL) and lowering North Clinton Street to the same elevation as the existing US 41 northbound lane to construct a new, at grade, intersection. North Clinton Street will be the new US 41 southbound lane and will be stop controlled while US 41 NBL will remain unchanged. A J-turn will also be constructed along SB US 41 to the west of the new intersection. Additional reconstruction and restriping of pavement markings are anticipated along US 41 as needed to facilitate the modified configuration.

Bridge and/or Culvert Project: Yes  No  Structure # 041-084-04322-ANBL

If this is a bridge project, is the bridge Historical? Yes  No  , Select  Non-Select

(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).

Proposed right of way: Temporary  # Acres \_\_\_\_\_ Permanent  # Acres \_\_\_\_\_, Not Applicable

Type and proposed depth of excavation: The excavation in this project consists of earthwork to remove the existing bridge and ranges from eight (8) feet to thirteen (13) feet within the limits of the existing bridge. The rest of the earthwork will be from two (2) feet to five (5) feet below the existing grade in the location of the pilings. The rest of the proposed work is assumed to be no more the one (1) foot to two (2) feet deep in areas of pavement replacement and any minor ditch grading where there will be connection to any existing ditches.

Maintenance of traffic: The preferred maintenance of traffic is to utilize lane shifts and phased construction to maintain a single lane open to traffic along US 41 during construction. However, short-term nighttime closures may be required to complete the removal of the existing bridge. It is anticipated that access to US 41 will be maintained for Evans Avenue and Northwood Drive throughout the duration of the project. As this time, it is anticipated that Budd Road will be closed to through traffic between US 41 and North Clinton Street. North Clinton Street traffic will be detoured to other local county roads.

Work in waterway: Yes  No  Below ordinary high water mark: Yes  No

State Project:  LPA:

Any other factors influencing recommendations: N/A

**INFRASTRUCTURE TABLE AND SUMMARY**

<b>Infrastructure</b>			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Religious Facilities	<b>2</b>	Recreational Facilities	N/A
Airports <sup>1</sup>	<b>1</b>	Pipelines	<b>1</b>
Cemeteries	<b>1</b>	Railroads	N/A
Hospitals	N/A	Trails	N/A
Schools	N/A	Managed Lands	N/A

<sup>1</sup>In order to complete the required airport review, a review of public-use airports within 3.8 miles (20,000 feet) is required.

**Explanation:**

Religious Facilities: Two (2) religious facilities are located within the 0.5 mile search radius. Both, Christus Victor Lutheran Church and Terre Haute Bible Center, are adjacent to the project area. Coordination with Christus Victor Lutheran Church and Terre Haute Bible Center will occur.

Airports<sup>1</sup>: Although not located within the 0.5 mile search radius, one (1) public use airport, Sky King Airport, is located within 3.8 miles (20,000 feet) of the project area. The public-use airport is located approximately 1.33 miles south of the project area; therefore, early coordination with INDOT Aviation will occur.

Cemeteries: One (1) cemetery is located within the 0.5 mile search radius. Lyons Cemetery is located 0.47 mile west of the project area. No impact is expected.

Pipelines: One (1) pipeline segment is located within the 0.5 mile search radius. One pipeline segment, Terre Haute Gas Corp., crosses the project area. Coordination with INDOT Utilities and Railroads should occur.

**WATER RESOURCES TABLE AND SUMMARY**

<b>Water Resources</b>			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI – Points	N/A	Canal Routes - Historic	N/A
Karst Springs	N/A	NWI - Wetlands	N/A
Canal Structures – Historic	N/A	Lakes	N/A
NPS NRI Listed	N/A	Floodplain - DFIRM	N/A
NWI-Lines	N/A	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	N/A	Sinkhole Areas	N/A
Rivers and Streams	N/A	Sinking-Stream Basins	N/A

Explanation: No water resources were identified within the 0.5 mile search radius.

**MINING AND MINERAL EXPLORATION TABLE AND SUMMARY**

<b>Mining/Mineral Exploration</b>			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Petroleum Wells	N/A	Mineral Resources	N/A
Mines – Surface	N/A	Mines – Underground	N/A

Explanation: No mining and mineral resources were identified within the 0.5 mile search radius.

**HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY**

<b>Hazardous Material Concerns</b>			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	N/A	Manufactured Gas Plant Sites	N/A
RCRA Generator/ TSD	N/A	Open Dump Waste Sites	N/A
RCRA Corrective Action Sites	N/A	Restricted Waste Sites	N/A
State Cleanup Sites	N/A	Waste Transfer Stations	N/A
Septage Waste Sites	N/A	Tire Waste Sites	N/A
Underground Storage Tank (UST) Sites	<b>1</b>	Confined Feeding Operations (CFO)	N/A
Voluntary Remediation Program	N/A	Brownfields	N/A
Construction Demolition Waste	N/A	Institutional Controls	N/A
Solid Waste Landfill	N/A	NPDES Facilities	<b>1</b>
Infectious/Medical Waste Sites	N/A	NPDES Pipe Locations	N/A
Leaking Underground Storage (LUST) Sites	N/A	Notice of Contamination Sites	N/A

Unless otherwise noted, site specific details presented in this section were obtained from documents reviewed on the

Indiana Department of Environmental Management (IDEM) Virtual File Cabinet (VFC).

Explanation:

UST: One (1) UST site is located in the 0.5 mile search radius. An abandoned fueling station, North Pines Mini Mart, 9198 US 41 N, Rosedale, IN 47874, AI ID No. 50921, is located 0.24 mile north of the project site. IDEM issued a Violation Letter, dated July 31, 2017, for various citations including failure to comply with inspections, submitting financial responsibility, and failure to register. No impact is expected.

NPDES Facilities: One (1) NPDES Facility within the 0.5 search radius. The Raintree Storage facility, 8688 N. Raintree Ct., Terre Haute, IN 47805 Permit # INRA05045, facility is located within the project area. The permit is in effect until February 20, 2025. Coordination with the permit holder will occur.

### **ECOLOGICAL INFORMATION SUMMARY**

The Vigo County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high-quality natural communities are provided at [https://www.in.gov/dnr/nature-preserves/files/np\\_vigo.pdf](https://www.in.gov/dnr/nature-preserves/files/np_vigo.pdf). A preliminary review of the Indiana Natural Heritage Database by INDOT ESD did not indicate the presence of ETR species within the 0.5 mile search radius. Coordination with USFWS and IDNR will occur.

A review of the US Fish and Wildlife did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project is located in a rural residential area surrounded by agricultural land. The September 10, 2019, inspection report for Bridge #041-84-04322-ANBL states that no evidence of bats was seen or heard under the bridge; however, since the inspection report is greater than 2 years old, additional investigation to determine the presence or absence of bats under the bridge will be necessary. The range wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects."

### **RECOMMENDATIONS SECTION**

Include recommendations from each section. If there are no recommendations, please indicate N/A:

INFRASTRUCTURE:

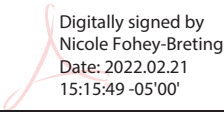
- Religious Facilities: There are two churches, Christus Victor Lutheran Church and Terre Haute Bible Center, adjacent to the project. Early coordination will occur with these facilities.
- Airport: Although not mapped within the 0.5 mile search radius, there is one public-use airport, Sky King, located within 3.8 miles (20,000 feet) of the project site. Early coordination with INDOT Aviation will occur.
- Pipelines: There is one pipeline segment, Terre Haute Gas Corp., going through the project site. Coordination with INDOT Railroad and Utilities will occur.

WATER RESOURCES: N/A

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: NPDES Facilities: One (1) NPDES Facility within the 0.5 search radius. The Raintree Storage facility, 8688 N. Raintree Ct., Terre Haute, IN 47805 Permit # INRA05045, facility is located within the project area. The permit is in effect until February 20, 2025. Coordination with the permit holder will occur.

ECOLOGICAL INFORMATION: Coordination with USFWS and IDNR will occur. Additional investigation to determine the presence or absence of bats under the bridge will occur. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects."

INDOT ESD concurrence: Nicole Fohey-Breting  (Signature)  
Digitally signed by  
Nicole Fohey-Breting  
Date: 2022.02.21  
15:15:49 -05'00'

Prepared by:  
April Arroyo-Monroe  
Senior Environmental Analyst  
Beam, Longest and Neff, LLC

**Graphics:**

A map for each report section with a 0.5 mile search radius buffer around all project area(s) showing all items identified as possible items of concern is attached. If there is not a section map included, please change the YES to N/A:

SITE LOCATION: YES

INFRASTRUCTURE: YES

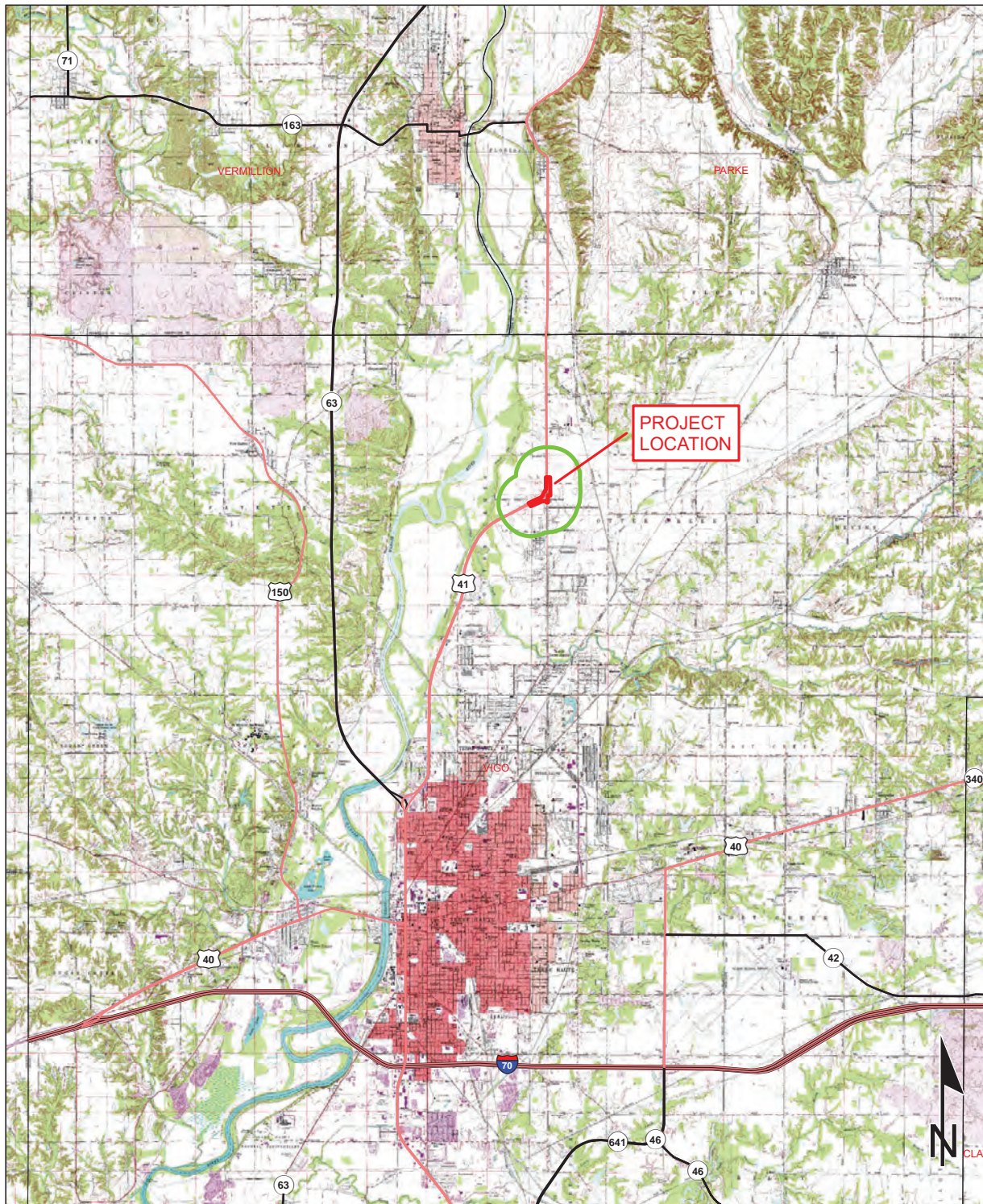
WATER RESOURCES: N/A

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: YES



Red Flag Investigation - Site Location  
 Old US 41 over US 41, 6.13 Miles North of Middle JCT SR 63  
 Des. No.1500146, Bridge Removal and Intersection Improvement  
 Vigo County, Indiana



Sources: 2 1 0 2 Miles  
**Non Orthophotography Data** - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83  
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

ROSEDALE AND NEW GOSHEN  
 QUADRANGLES INDIANA  
 7.5 MINUTE SERIES  
 (TOPOGRAPHIC)



Red Flag Investigation - Infrastructure  
 Old US 41 over US 41, 6.13 Miles North of Middle JCT SR 63  
 Des. No.1500146, Bridge Removal and Intersection Improvement  
 Vigo County, Indiana

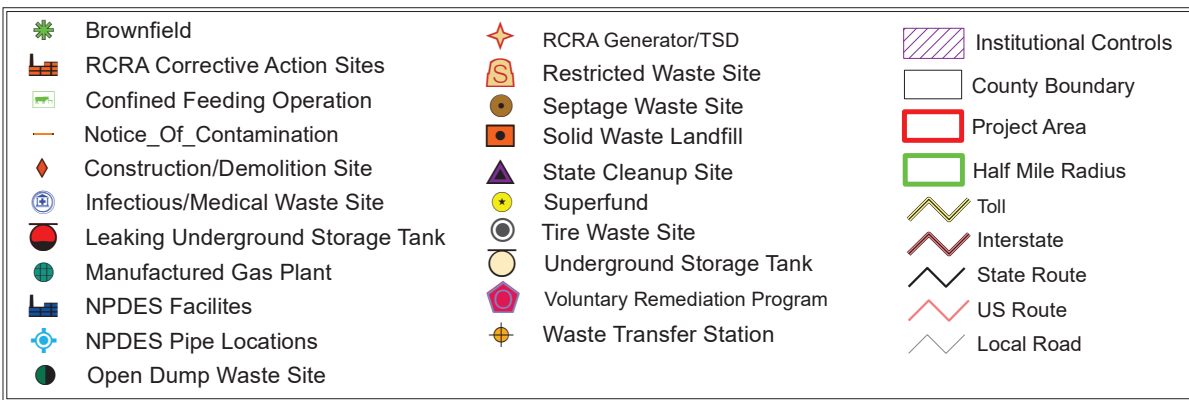


Sources: 0.25 0.125 0 0.25 Miles  
**Non Orthophotography Data** - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
 Map Projection: UTM Zone 16 N Map Datum: NAD83  
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

	Religious Facility		Recreation Facility		Project Area
	Airport		Pipeline		Half Mile Radius
	Cemeteries		Railroad		Toll
	Hospital		Trails		Interstate
	School		Managed Lands		State Route
			County Boundary		US Route
					Local Road



**Red Flag Investigation - Hazardous Materials Concerns**  
**Old US 41 over US 41, 6.13 Miles North of Middle JCT SR 63**  
**Des. No. 1500145, Bridge Removal and Intersection Improvement**  
**Vigo County, Indiana**



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

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

# **Appendix F:**

# **Water Resources**

**Water of the US Report**  
**Old US 41 (Clinton Street) over US 41**  
**Vigo County, Indiana**  
**Bridge Removal, Intersection and Roadway Modifications**  
**Des# 1500146**  
**Asset ID# 041-84-04322-ANBL NBI# 015050**

Prepared by: April Arroyo-Monroe  
[arroyo-monroe@b-l-n.com](mailto:arroyo-monroe@b-l-n.com); 800-382-5206  
 Date: March 9, 2022

**PROJECT LOCATION**

Date of Field Reconnaissance  
 May 5, 2021 and March 8, 2022

Location  
 Rosedale Quadrangle Section 13 & 14, Township 13 North, Range 8 and 9 West  
 Otter Creek Township, Vigo County, Indiana Quadrangle Map  
 Latitude: 39.569167 North, Longitude: -87.370278 West

**PROJECT DESCRIPTION**

The proposed project (Des. No. 1500146) consists of removing bridge # 041-84-04322-ANBL (NBI# 015050) that carries Old US 41 (Clinton Street) over the northbound lane (NBL) of US 41, constructing an at-grade intersection at US 41 NBL and Old US 41, (Clinton Street), modifying the intersection of US 41 and Budd Road (Rd) and Quinn Avenue (Ave), and restriping and resigning the approach roadways from west of the US 41 and Quinn Ave and Budd Rd intersection to north of the US 41 and Evans Ave intersection. This project is located approximately 6.13 miles north of the middle junction of State Road (SR) 63, within the northern boundary of Terre Haute, Vigo County, Indiana. This project is expected to impact portions of Old US 41, US 41, Budd Rd and Quin Ave. Old US 41 and US 41 are classified as Urban Minor Arterials with US 41 being classified as an Urban Minor Arterial north of Old US 41. Though portions of US 41 are part of the National Highway System, the section in the investigated area is not.

Clinton St intersects Budd Rd approximately 500 feet south of the existing bridge and Evans Ave approximately 1,000 feet north of the existing bridge.

The general topography in the area is gently rolling hills. According to the United States Geological Survey (USGS) Rosedale Quadrangle, Indiana 7.5 Minute topographic map, the investigated area has an elevation of approximately 521-feet above Mean Sea Level (MSL).

**DESKTOP DATA REVIEW**

**Soils**  
 According to the Soil Survey Geographic (SSURGO) Database for Cass County, Indiana, the investigated area does not contain soil areas with Nationally Listed Hydric Soils (Figure 6). There were two different types of soils found within the investigated area (Table 1).

**Table 1: Soils Series within Investigated Area**

Soil Name	Symbol	NRCS Flooding Frequency	NRCS Drainage Class	NRCS Hydric Soil Category	SSURGO Hydric Rating
Elston sandy loam, 0 to 2 percent slopes	EIA	None	Well drained	Non-Hydric	0% Non-Hydric
Elston sandy loam, 2 to 6 percent slopes	EIB	None	Well drained	Non-Hydric	0% Non-Hydric

**National Wetland Inventory (NWI) Information**  
 There were no NWI wetlands identified in or near the investigated areas. There were no NWI linear water features identified within the investigated area (Figure 5).

**National Hydrography Dataset (NHD)**  
 The NHD represents the water drainage network surface water component on the USGS topographic maps. There is one canal ditch line and two pipeline lines (Figure 5).

### **Hydrologic Unit Code (HUC)**

The investigated areas are situated in the Wastewaters Creek-Otter Creek River watershed, which is identified by the 12-digit HUC 051201110406 (Figure 8).

### **Floodplain**

An Indiana Department of Natural Resources (IDNR) Floodplain and Regulatory Analysis (FARA) shows that there are no floodplain located with the investigated areas (Figure 6).

### **Karst**

There are no mapped karst features within the investigated areas (Figure 9).

### **Attached Documents**

- Graphics (Figures 1-12)
- Ground Level Photographs

## **FIELD RECONNAISSANCE**

Field visits to inspect the investigated areas for aquatic resources were conducted by BLN staff on May 5, 2021 and March 8, 2022. Primary land use in the general investigated area boundaries consists mainly of residential property with wooded areas beyond the grass limits. The field investigations identified no waterways, no wetlands or other potential jurisdictional waterways in the investigated areas (Figure 5). The investigated areas begin 800 feet south of the Budd Rd and Quinn Rd intersection with US 41 and proceeds along both lanes of US 41 north to 65 feet south of Money Tree Boulevard. It then continues east along Budd Rd from the US 41 intersection to Clinton Street. On Clinton Street, the investigated area begins 287 feet north of East Broadlands Ave, continues north on Clinton St and merges with the investigation area between NBL and southbound US 41. The length of the investigated area is 2,848 feet from the north end to the south end on Clinton St and 3,688 feet on US 41. The width varies from 254 feet to 463 feet along the US 41 corridor and 107 feet on Clinton St (Figure 4).

### **Streams**

The investigated areas were inspected for the presence of streams; any streams found were mapped, measured, evaluated and jurisdictional determination regarding the status of water resources within the investigated area were made based on guidance from the *US Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (2007). There were no streams or waterways found within the investigated area.

### **Wetlands**

The investigated areas were inspected for the presence of wetlands; any wetlands found were mapped and evaluated using the guidance based on the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*. There were no areas found within the investigated areas that meet the definition of Wetland as defined by the U.S. Army Corps of Engineers (USACE). The terrestrial area within the investigated areas is mainly highway median grassy slopes with one grouping of trees dominated by American Elm (*Ulmus americana*) and Red Mulberry (*Morus rubra*). The trees along the west side of US 41 NBL are dominated by American Elm. There were no areas found within the investigated areas that met the definition of Wetland as defined by the USACE. There were no hydric soils, wetland vegetation or hydrologic indicators observed in the field.

### **Other Water Features**

The investigated areas were also surveyed for other aquatic features including roadside ditches and open waterbodies. Any features identified were evaluated for potential jurisdictional status.

There were neither roadside ditches nor lakes or ponds observed in the investigated areas. There were also no karst features observed in the investigated areas.

### **Conclusions**

BLN conducted a field investigation for wetlands and Waters of the U.S. at the investigated area on May 5, 2021 and March 8, 2022. The investigations identified no likely jurisdictional waterways and no wetlands within the investigated areas.

**Acknowledgement**

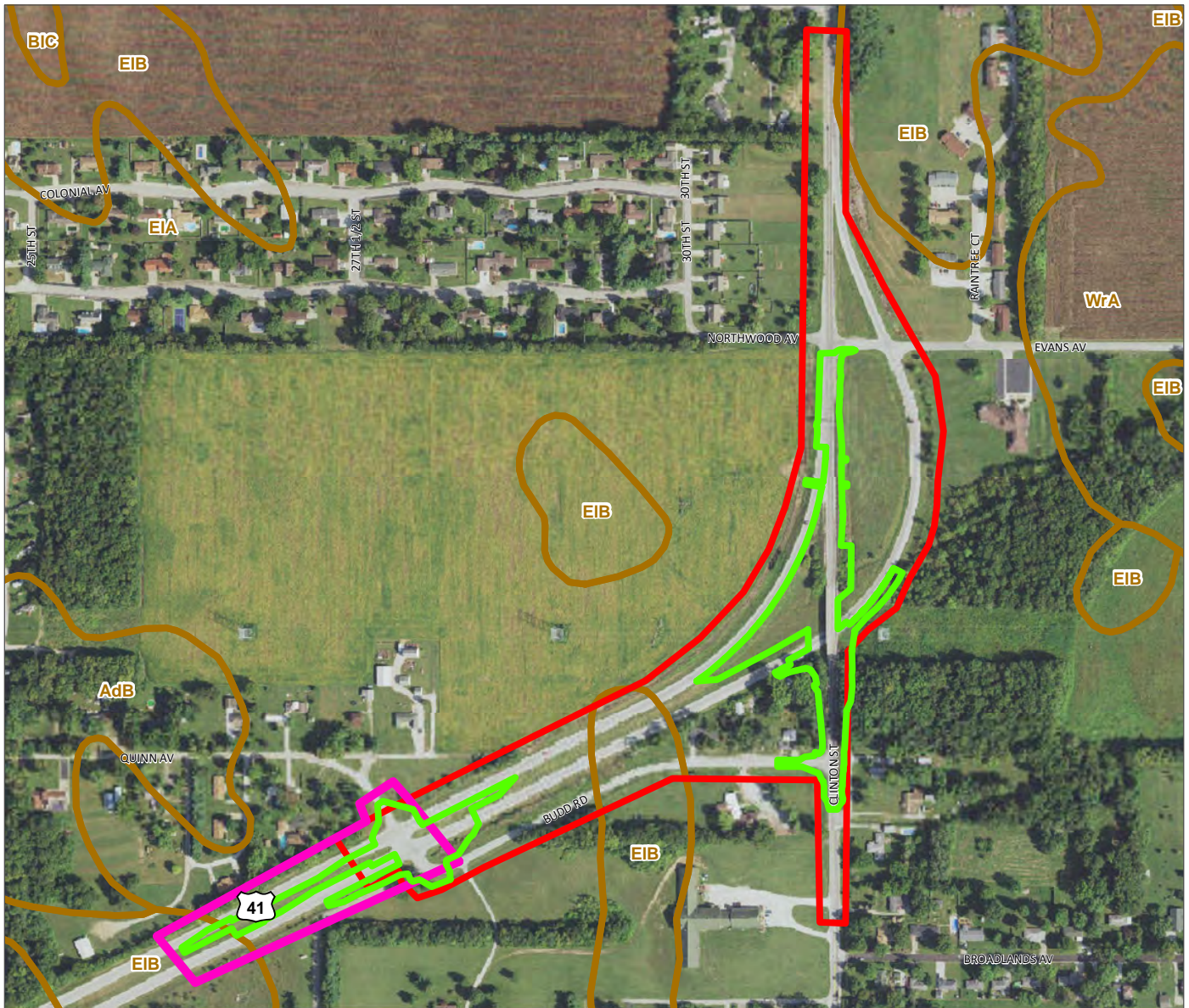
This waters determination has been prepared based on the best available information, interpreted in the light of the investigator's training, experience, and professional judgement, in the conformance with the 1987 *Corps of Engineers Wetlands Delineation Manual*, the appropriate regional supplement,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

*April Arroyo-Monroe*

April Arroyo-Monroe  
Senior Environmental Analyst  
Beam, Longest and Neff, LLC

Several maps, graphics and photos have been moved to Appendix B





**Table 1: Soils Series within Investigated Area**

Soil Name	Symbol	NRCS Flooding Frequency	NRCS Drainage Class	NRCS Hydric Soil Category	SSURGO Hydric Rating
Elston sandy loam, 0 to 2 percent slopes	EIA	None	Well drained	Non-Hydric	0% Non-Hydric
Elston sandy loam, 2 to 6 percent slopes	EIB	None	Well drained	Non-Hydric	0% Non-Hydric



Source: Natural Resources Conservation Service, U.S. Department of Agriculture

1:6,000

1 in = 500 ft



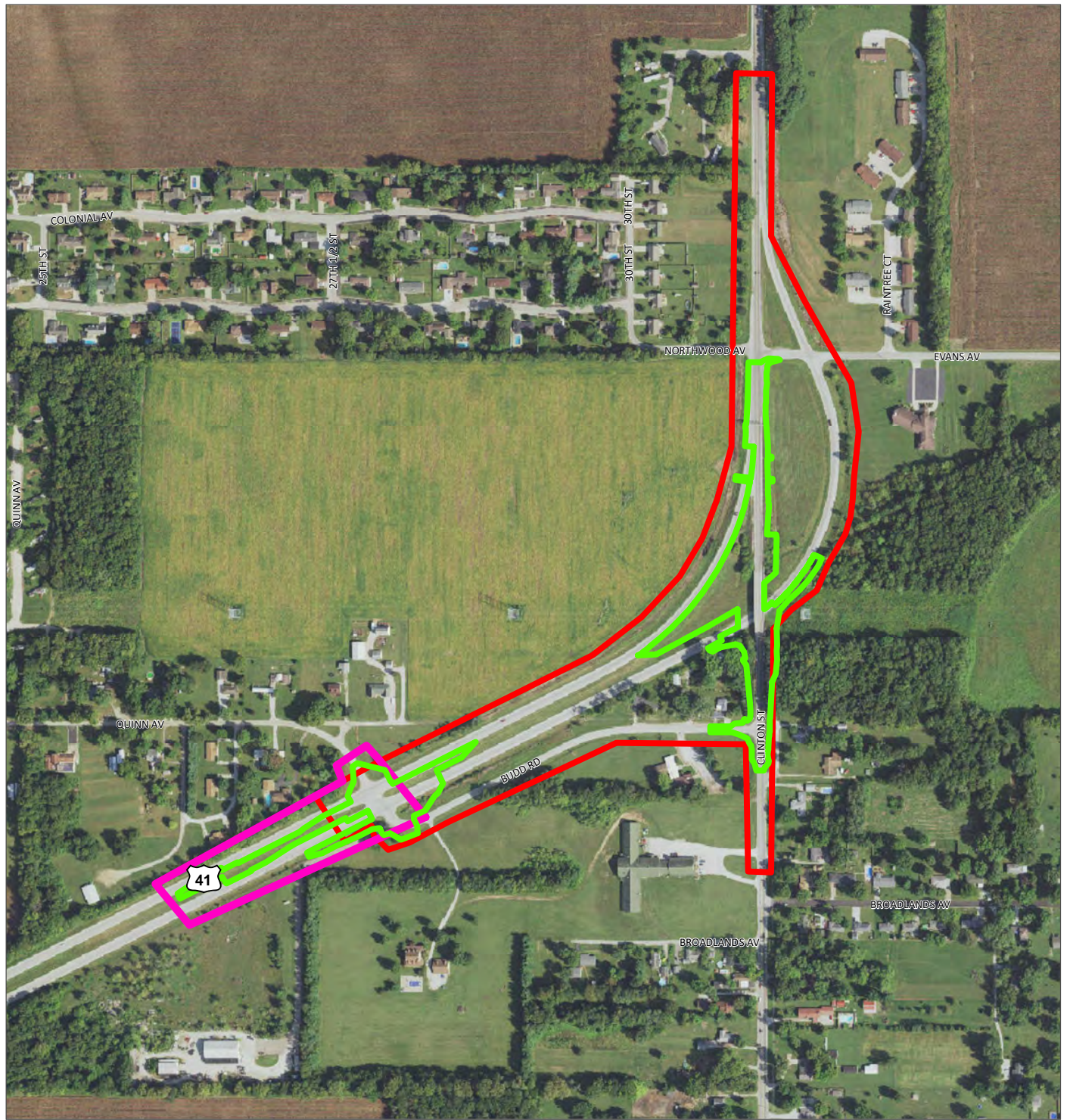
**Legend**

- Construction Limits
- Additional Investigated Area
- Investigated Area
- Soils

**Figure 6: Soil Survey Map**  
 Intersection Improvement, Roadway Modifications and Bridge Removal  
 Bridge Removal of North Clinton St (Old US 41) over US 41  
 6.13 miles North of the Middle Junction of SR 62  
 Vigo County, Indiana  
 Des. No. 1500146  
 Author: April Arroyo-Monroe

March 09, 2022





Source: BLN Field Investigation

1:6,000

1 in = 500 ft



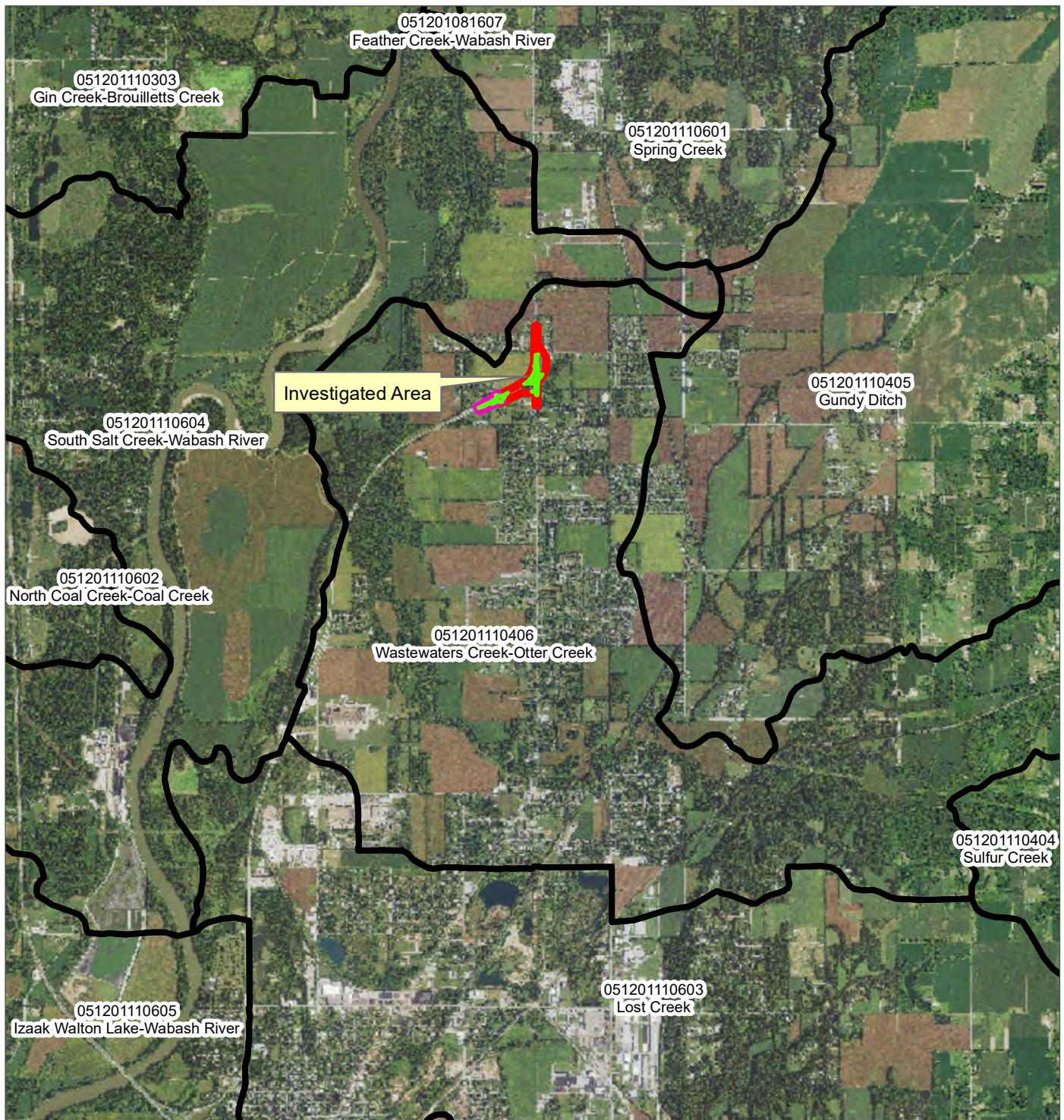
**Legend**

- ▭ Investigated Area
- ▭ Construction Limits
- ▭ Additional Investigated Area

**Figure 10: Water Resources Map**  
 Intersection Improvement, Roadway Modifications and Bridge Removal  
 Bridge Removal of North Clinton St (Old US 41) over US 41  
 6.13 miles North of the Middle Junction of SR 62  
 Vigo County, Indiana  
 Des. No. 1500146  
 Author: April Arroyo-Monroe

March 09, 2022









Source: Indiana Department of Environmental Management

1:60,000

1 in = 5,000 ft



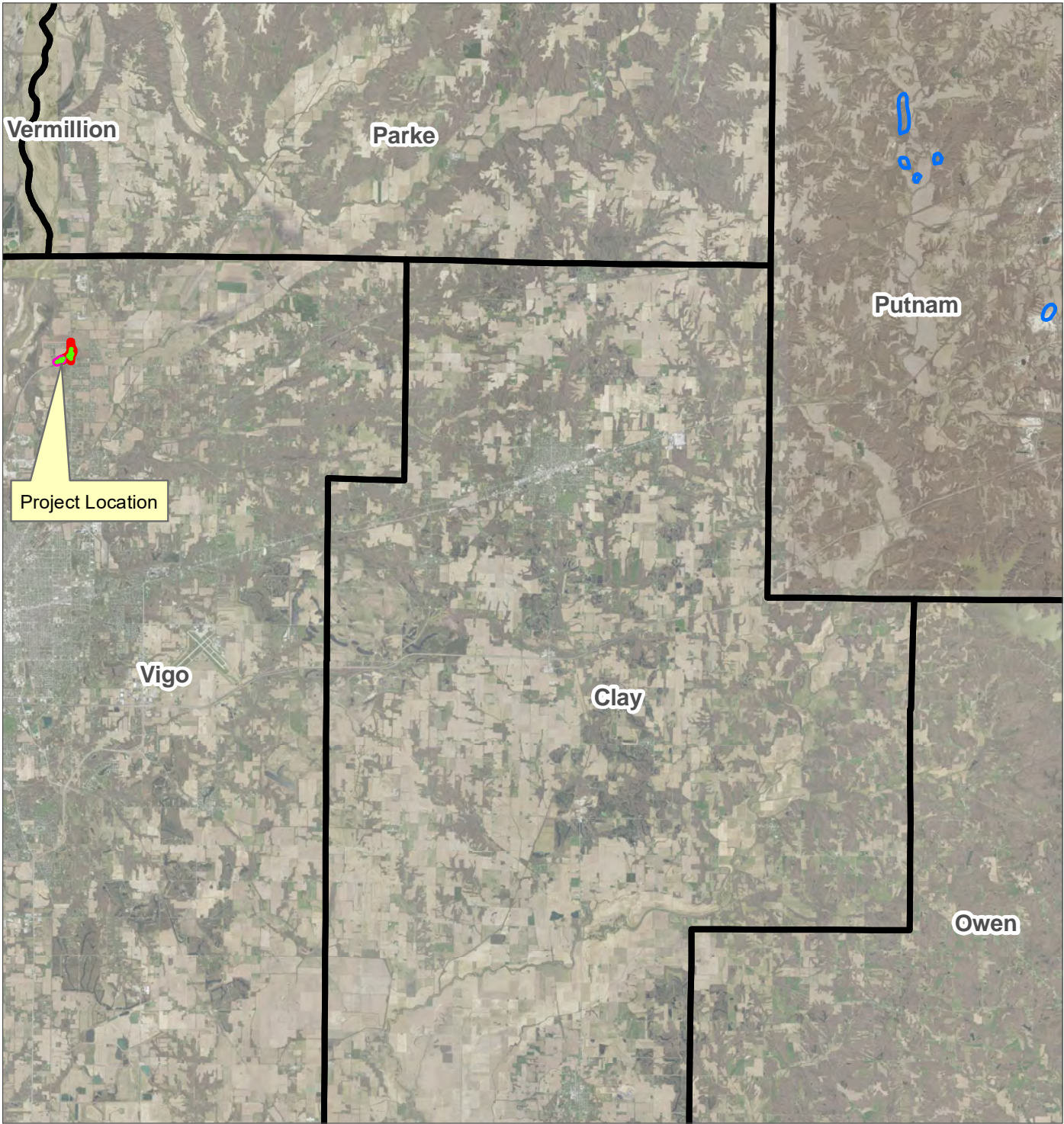
**Legend**

-  Investigated Area
-  Watershed - HUC 12
-  Construction Limits
-  Additional Investigated Area

**Figure 8: Watershed Map**  
 Intersection Improvement, Roadway Modifications and Bridge Removal  
 Bridge Removal of North Clinton St (Old US 41) over US 41  
 6.13 miles North of the Middle Junction of SR 62  
 Vigo County, Indiana  
 Des. No. 1500146  
 Author: April Arroyo-Monroe

March 09, 2022







Source: Indiana MAP  
 1:240,000  
 1 in = 20,000 ft



**Legend**

-  Additional Investigated Area
-  Investigated Area
-  Potential Karst Region
-  Construction Limits

**Figure 9: Karst Map**  
 Intersection Improvement, Roadway Modifications and Bridge Removal  
 Bridge Removal of North Clinton St (Old US 41) over US 41  
 6.13 miles North of the Middle Junction of SR 62  
 Vigo County, Indiana  
 Des. No. 1500146  
 Author: April Arroyo-Monroe

March 09, 2022

**Appendix G:**  
**Public Involvement**

NOTICE OF SURVEY  
March 15, 2021

Sample Notice of Entry Letter

Property Owner  
Street Address  
City, IN ZIP

Re: Terre Haute, Indiana  
US 41 and Old US 41  
Roadway Improvement Project  
Des. No. 1500146

Dear Property Owner:

Our information indicates that you own or occupy property near this proposed roadway improvement project. Our employees will be doing a survey of the project area in the near future. It may be necessary for them to come onto your property to complete this work. This is permitted by law per Indiana Code IC 8-23-7-26. They will show you their identification, if you are available, before coming onto your property. If you have sold this property, or it is occupied by someone else, please let us know the name and address of the new owner or current occupant so we can contact them about the survey.

At this stage, we generally do not know what effect, if any, our project may eventually have on your property. If it is determined that your property is involved, you will be contacted with additional information.

The survey work will include mapping the location of features such as trees, buildings, fences and drives, and obtaining ground elevations. The survey is needed for the proper planning and design of this roadway improvement project. Please be assured of our sincere desire to cause you as little inconvenience as possible during this survey. If any problems do occur, please speak to our field crew or contact me at the telephone number or address shown above.

Sincerely,

BEAM, LONGEST AND NEFF, L.L.C.



Edward J. Sweetland, P.L.S.  
Survey Department Manager

xc: 160061

# **Appendix H:**

## **Air Quality**

Indiana Department of Transportation (INDOT)  
 State Preservation and Local Initiated Projects FY 2020 - 2024

SPONSOR	CONTR ACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL CATEGORY	Estimated Cost left to Complete Project*	PROGRAM	PHASE	FEDERAL	MATCH	2020	2021	2022	2023	2024
Indiana Department of Natural Resources	1801756	Init.	VA VARI	Bike/Pedestrian Facilities	Vigo County- Dresser Trail - DNR # RT-18-007	Crawfordsville	.65	RTP		Local Funds	CN	\$0.00	\$33,040.00	\$20,000.00	\$13,040.00			
										Recreational Trails Program	RW	\$3,840.00	\$0.00	\$3,840.00				
										Recreational Trails Program	CN	\$132,160.00	\$0.00	\$80,000.00	\$52,160.00			
Vigo County	38270 / 1500254	Init.	VA VARI	Bridge Inspections	Countywide Bridge Inspection and Inventory Program for Cycle Years 2017-2020	Crawfordsville	0	Multiple		Local Funds	PE	\$0.00	\$24,024.89	\$22,452.65	\$1,572.24			
										Local Bridge Program	PE	\$96,099.57	\$0.00	\$89,810.61	\$6,288.96			
Indiana Department of Transportation	39963 / 1601110	Init.	US 40	HMA Overlay Minor Structural	From I-70 to 3.32 mi E of I-70 ( Wabash Ave)	Crawfordsville	3.324	NHPP		Bridge Construction	CN	\$313,134.40	\$78,283.60		\$391,418.00			
										Road Construction	CN	\$4,319,623.20	\$1,079,905.80		\$5,399,529.00			
Indiana Department of Transportation	40103 / 1602044	Init.	SR 63	Bridge Thin Deck Overlay	SB Bridge over Coal Creek Rd & Railroad, 4.23 mi N of Middle Jct of US 41	Crawfordsville	0	NHPP		Bridge Construction	CN	\$898,765.60	\$224,691.40	\$1,123,457.00				
Indiana Department of Transportation	40163 / 1601076	Init.	SR 159	HMA Overlay Minor Structural	From SR 246 N Jct to 0.08 mi S of SR 46	Crawfordsville	11.65	STPBG		Road Construction	CN	\$6,097,793.60	\$1,524,448.40		\$7,622,242.00			
Indiana Department of Transportation	40548 / 1500146	Init.	US 41	Bridge Deck Replacement	Bridge over US 41 NB, 6.13 mi N of Middle Jct of SR 63	Crawfordsville	0	NHPP		Bridge Construction	CN	\$2,195,484.80	\$548,871.20			\$2,744,356.00		
										Bridge ROW	RW	\$24,000.00	\$6,000.00	\$30,000.00				
Indiana Department of Transportation	40873 / 1702970	Init.	VA VARI	Bike/Pedestrian Facilities	Multi-Use Path - S side US 150, 1.66 mi W of US41 to 0.7 mi W of US41	Crawfordsville	0	STPBG		Local Funds	CN	\$1,227,622.72	\$306,905.68	\$1,534,528.40				
										Statewide Construction	CN	\$4,910,490.88	\$1,227,622.72	\$6,138,113.60				
Indiana Department of Transportation	40958 / 1800524	Init.	PR 641	Bridge Thin Deck Overlay	NB @ Little Honey Creek; 04.00 mi N of US 41	Crawfordsville	0	STPBG		Bridge Construction	CN	\$2,108,900.80	\$527,225.20		\$2,636,126.00			
Indiana Department of Transportation	41273 / 1800640	Init.	I 70	ITS Traffic Management Systems	CCTV/DMS from Illinois State Line to Vigo/Clay County Line, 5.2 miles E of SR 46	Crawfordsville	16.374	NHPP		Statewide Construction	CN	\$1,679,850.90	\$186,650.10		\$1,866,501.00			
										Statewide Consulting	PE	\$157,500.00	\$17,500.00	\$175,000.00				
Indiana Department of Transportation	41371 / 1800955	Init.	US 41	HMA Overlay, Preventive Maintenance	From SR 63 S Jct to 6.6 mi N of SR 63 (4 Lane section)	Crawfordsville	5.996	NHPP		Road Construction	CN	\$3,090,972.80	\$772,743.20		\$3,863,716.00			
Indiana Department of Transportation	41540 / 1701563	Init.	SR 63	HMA Overlay, Preventive Maintenance	from 1.63 mi N of US 41 (Barnhart Rd) to SR 163	Crawfordsville	10.23	NHPP		Road Construction	CN	\$8,281,827.20	\$2,070,456.80		\$10,352,284.00			
Indiana Department of Transportation	41613 / 1800193	Init.	US 150	Pavement Replacement	From 0.60 mi W of US 41 to US 41	Crawfordsville	.59	NHPP		Road Construction	CN	\$2,144,681.60	\$536,170.40			\$2,680,852.00		

\*Estimated Costs left to Complete Project column is for costs that may extend beyond the four years of a STIP. This column is not fiscally constrained and is for information purposes.



Corridor, DES or Project Number	KIN	Facility	FC	Work Type			Location or Description				Project AQ Exempt	
	Federal Funding Category	State Fiscal Year	Phase	Federal Share	% Federal	State Share	% State	Local Share	% Local	Total	Project Length	Estimated Additional Cost to Complete Project

**Appendix: 08 - INDOT**

1800554	US 40	Other Principal Art		HMA Overlay, Preventive Maintenance			From Wabash Ave. to SR 340 W Jct				5.23	Exempt
	NHPP	2020	RW	16,000	80%	4,000	20%			20,000		2,977,079
	Remarks:											
	NHPP	2021	CN	2,365,663	80%	591,416	20%			2,957,079		2,957,079
	Remarks:											
			<b>Total</b>	<b>2,381,663</b>		<b>595,416</b>				<b>2,977,079</b>		<b>5,934,158</b>
1500146	US 41	Other Principal Art		Bridge Deck Replacement			Bridge over US 41 NB, 6.13 mi N of Middle Jct of SR 63				0.14	Exempt
	NHPP	2020	RW	24,000	80%	6,000	20%			30,000		2,774,356
	Remarks:											
	NHPP	2022	CN	2,195,485	80%	548,871	20%			2,744,356		2,744,356
	Remarks:											
			<b>Total</b>	<b>2,219,485</b>		<b>554,871</b>				<b>2,774,356</b>		<b>5,518,712</b>
1800955	US 41	Other Principal Art		HMA Overlay, Preventive Maintenance			From SR 63 S Jct to 6.6 mi N of SR 63 (4 Lane section)				6.60	Exempt
	NHPP	2021	CN	3,090,973	80%	772,743	20%			3,863,716		3,863,716
	Remarks:											
			<b>Total</b>	<b>3,090,973</b>		<b>772,743</b>				<b>3,863,716</b>		<b>3,863,716</b>

As of: 6/23/2020

**Appendix I:**  
**Additional Studies**

**Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated July 2020)**

ProjectNumber	SubProjectCode	County	Property
1800625	1800625	Vigo	Fairbanks Park
1800406	1800406	Vigo	Fairbanks Park
1800066	1800066	Vigo	Fowler Park & Wilderness Area
1800394	1800394	Vigo	Hawthorn Access Site
1800410	1800410	Vigo	Hawthorn Access Site
1800348	1800348	Vigo	Hawthorn Park & Access Site
1800152	1800152	Vigo	Hulman Links Golf Course, Terre Haute Golf Course
1800112	1800112	Vigo	Prairie Creek Park
1800146	1800146	Vigo	Prairie Creek Park
1800360	1800360	Vigo	Spencer F. Ball Park
1800387	1800387	Vigo	Voorhees Park

\*Park names may have changed. If acquisition of publically owned land or impacts to publically owned land is anticipated, coordination with IDNR, Division of Outdoor Recreation, should occur.

**INDOT Bridge/Small Structure Bat Inspection Data Sheet (Rev 4/29/2016)**

General Information		
Date of Inspection: August 12, 2021	Initial Inspection <input checked="" type="checkbox"/>	Temp: Approx 80 degrees F Wind: no noticeable wind Precip: No precipitation. Sunrise: 7:03    Sunset: 20:46
Time of Inspection: 10:30 AM	Follow-up Inspection <input type="checkbox"/>	
County: Vigo	Construction <input type="checkbox"/>	
Inspected by: April Arroyo-Monroe: Beam, Longest and Neff, LLC		
GPS    Northing: Easting: UTM Zone: 16	Contract Number: B-42975	Anticipated Start Date for Construction:

Bridge or Culvert	Bridge or Culvert
Stream or Road Crossed: US 41 North Bound Lanes	Station: 26+00 "S-1-C"
Bridge/Culvert number: 041-84-04322-ANBL	Number of Spans: 4 Spans
Type of Structure: <input type="checkbox"/> Concrete box beam <input checked="" type="checkbox"/> Steel beam <input type="checkbox"/> Concrete I-beam <input type="checkbox"/> Steel girder <input type="checkbox"/> Concrete bulb tee beam <input type="checkbox"/> Steel pony truss <input type="checkbox"/> Concrete arch <input type="checkbox"/> Welded steel thru girder <input type="checkbox"/> Concrete girder <input type="checkbox"/> Concrete box culvert <input type="checkbox"/> Concrete slab <input type="checkbox"/> Concrete pipe <input type="checkbox"/> Multi-plate arch <input type="checkbox"/> Corrugated steel pipe <input type="checkbox"/> Other (list):	Material: <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Other (describe):  Shape: <input type="checkbox"/> Box Culvert <input type="checkbox"/> Pipe <input type="checkbox"/> Arch <input checked="" type="checkbox"/> Slab <input type="checkbox"/> Other (describe)
Searched entire structure? If not, why not? Yes. Could see tops of all of the pylons.	Location of bats or signs of use (w/drawing and photos):
Bats Present? <input type="checkbox"/> Seen? <input type="checkbox"/> Heard?	
In Clusters? Number of clusters:	
Number of bats in largest cluster:	
Approximate total number of bats found:	
Signs of previous bat use? <input type="checkbox"/> Guano <input type="checkbox"/> Staining	

If Bats Present
Date and Time Project Supervisor was notified:
Name of Project Supervisor notified:

No signs (or sounds) of bats at time of inspection.



**Corporate Office**  
 7172 N. Keystone Ave. Ste. G  
 Indianapolis, IN 46240  
 317.466.9520  
 www.eticagroup.com  
 Certified WBE | DBE

March 19, 2021

Mike Seals  
 IN American Water  
 555 E County Line Rd, Suite 201  
 Greenwood, IN 46143  
[inutilitycoordination@amwater.com](mailto:inutilitycoordination@amwater.com)

Subject: Initial Notice of Proposed Improvement Project Des. No. 1500146

Dear Utility Representative,

Our firm has been assigned the task of utility coordination for the project referenced above by the Indiana Department of Transportation. In accordance with 105 IAC 13-3, this letter serves as your initial notice of the proposed improvement project Des. No. 1500146 on Old US 41 (Clinton St) in the City of Terre Haute in Vigo County, Indiana.

The following information is provided. The dates listed in items (4) and (5) below are the currently scheduled dates.

- |   |   |
|---|---|
| (1) Name or route number:                     | Old US 41 (Clinton Street)  |
| (2) Geographical limits:                      | Bridge over US 41 NB, 6.13 mi N or Middle Jct of SR 63                                      |
| (3) General description of work:              | Bridge Deck Replacement   |
| (4) Date approved work plan will be needed:   | May 8, 2022   |
| (5) Ready for contracts date:                 | July 23, 2022   |
| (6) Name of designer and contact information: | Rick Perry, BLN, 317-849-5832 x3027, <a href="mailto:rperry@b-l-n.com">rperry@b-l-n.com</a> |
| (7) Major or minor project:                   | Major   |

Within 30 days after receiving the initial notice, the utility shall respond in writing with a:

- (1) Description of the type and location of its facilities within the geographical limits of the proposed improvement project; or
- (2) If the utility has determined to the best of their abilities that they do not have facilities within the geographical limits of the improvement project; complete, sign and return Page 1 of the attached Work Plan.

Additionally, please provide us the name, telephone number, postal address and email address of the person selected as your designated contact for this project to expedite future communications. We will contact Indiana 811 and request locates for this project prior to our survey. If you would prefer to provide us location information by some other means please contact this office to discuss.

Please send your response to Cat Mescall, Utility Coordinator, Etica Group, 7172 N Keystone Ave, Indianapolis, IN 46240, telephone: 317-268-1806, email [utilitycoordination@eticagroup.com](mailto:utilitycoordination@eticagroup.com). Thank you for your attention to these matters.

Sincerely;

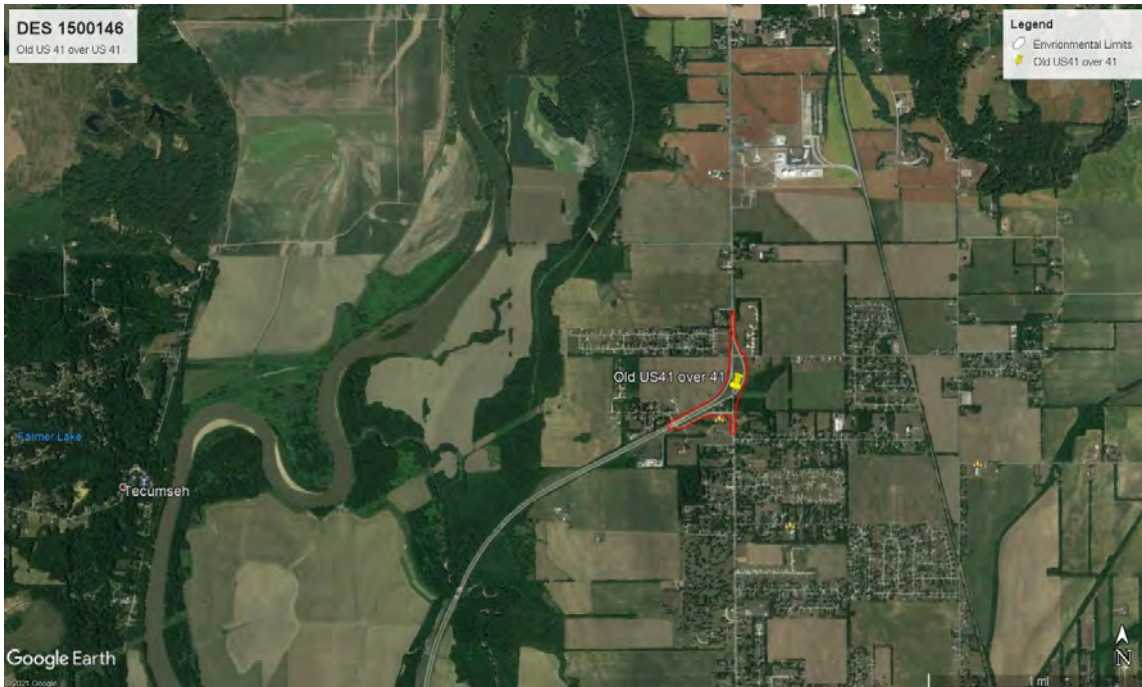
Catherine Mescall  
 Utility Coordinator

Cc: Etica Project 210050

## Detailed Project Location



## Project Location







## MEMORANDUM

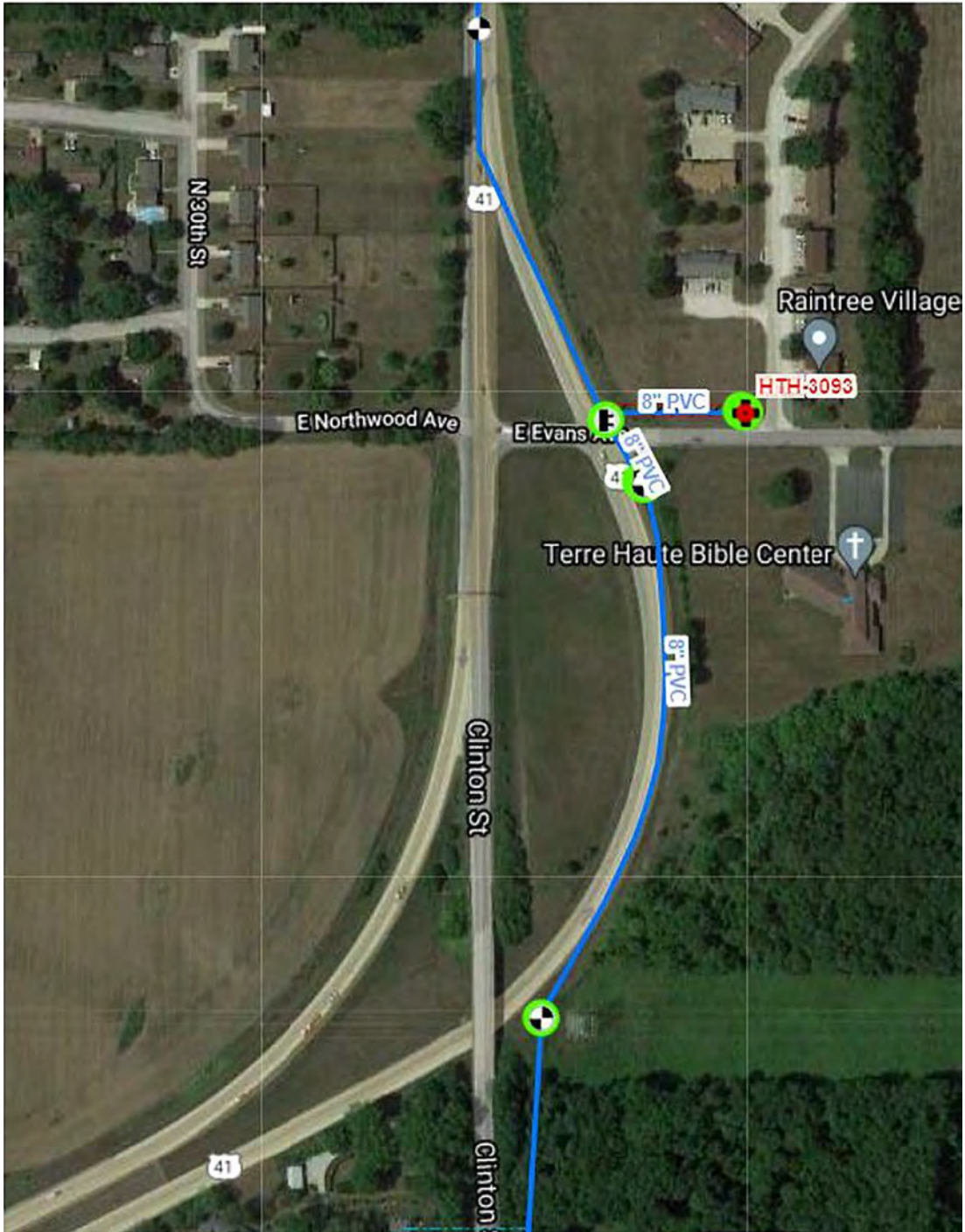
To: **Catherine Mescall**  
From: Richard H. Miller, PE  
Date: April 19, 2021  
Re: **Initial Notice - TER Old US 41 Des. 1500146**

INAW has an existing 8" PVC watermain, valves, and hydrants in the project vicinity. Please see attached exhibit form our GIS mapping.

I will be your primary contact for this project. Please see my contact information below, and feel free to contact me with questions.

Thank You,

Richard H. Miller, PE  
Indiana-American Water Company, Inc.  
153 North Emerson Avenue  
Greenwood, IN 46143  
P: 317.885.2439  
C: 317.694.2116



**From:** [Jacob Hellmann](#)  
**To:** [Brian Shaw](#)  
**Subject:** Raintree  
**Date:** Friday, May 13, 2022 2:06:20 PM

---

**EXTERNAL EMAIL**

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Brian,

As thought that permit number INRA05045 is for our SWPP for the construction of the storage buildings. I talked with the local inspector and he will be signing off on the site within the next few days and will provide a Notice of Termination (NOT) of the permit.

Thank you

--

Jacob A. Hellmann P.E. LEED AP  
President

1033 Lafayette Ave  
Terre Haute, IN 47804  
[812-232-3700](tel:812-232-3700) Office  
[812-235-6757](tel:812-235-6757) Fax  
[keymarkcompany.com](http://keymarkcompany.com)

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**Sequence of Construction**

**Phase I:**

1. Install advance warning signs, traffic control devices, and temporary traffic barriers on the NB US 41 and SB US 41.
2. Maintain at least one through traffic lanes for both directions
3. Construct median U-Turn south of Quinn Ave. Leave advance warning signs, traffic control devices, and temporary barriers in place.
4. Construct Quinn Avenue radius widening and raised island under Phase Construction.

**Phase II:**

1. Install advance warning signs, traffic control devices, and barricades to close the existing median crossover at Quinn Avenue.
2. Construct the Reduced Conflict Intersection (RCI). Complete HMA surface and pavement marking and signing at the intersection.
3. Construct the truck loon at the RCI.
4. Close Budd Road at NB US 41 intersection.
5. Construct a turn-around at the end of Budd Rd making this road into a dead-end roadway with no outlet.

Access to Budd Road will be provided from Clinton Street for local traffic only during construction of the turn-around.

Access to Quinn Avenue will be provided from SB US 41.

**Phase III:**

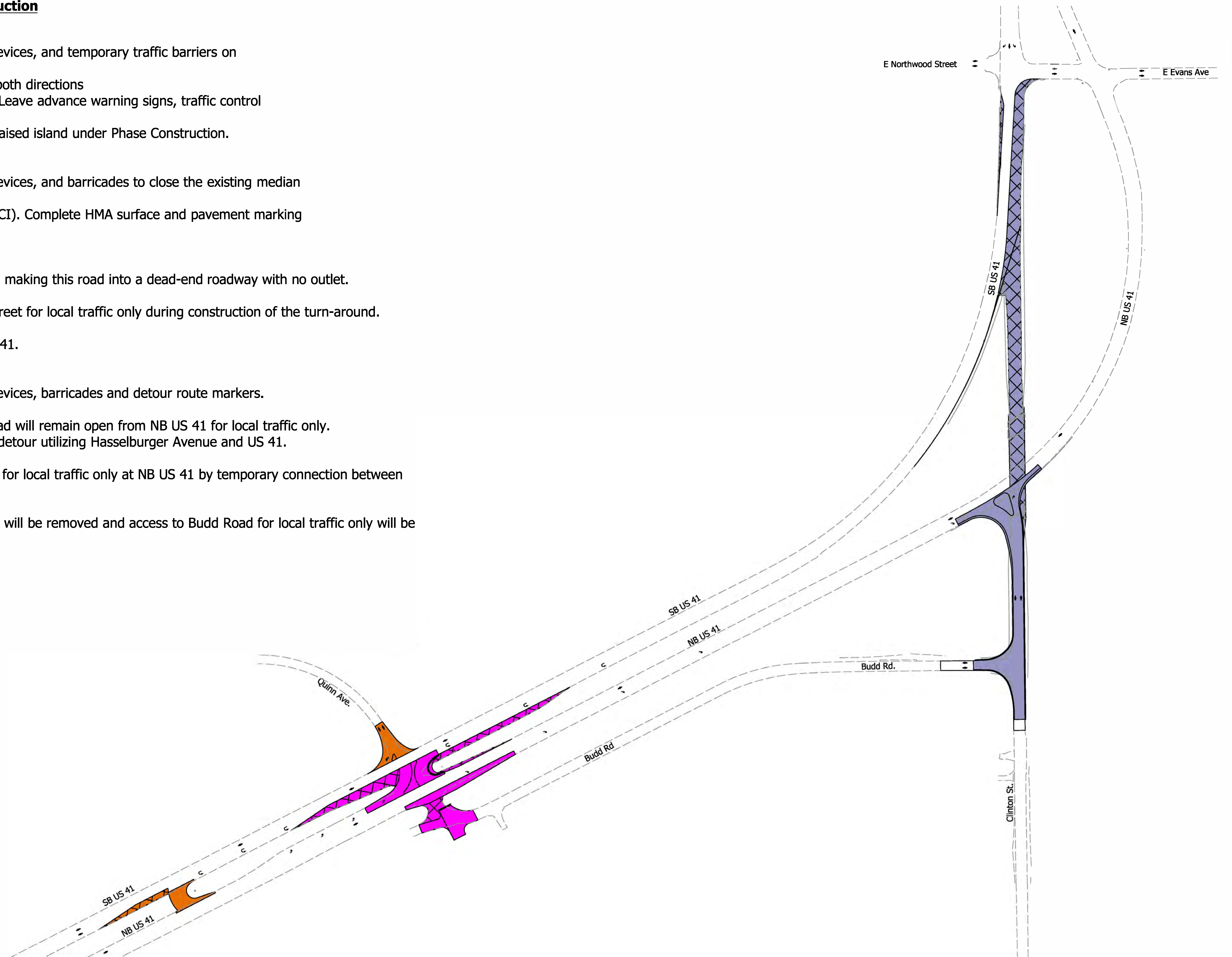
1. Install advance warning signs, traffic control devices, barricades and detour route markers.
2. Close Clinton St. Bridge over US 41 NBL.
3. Close Budd Road traffic at Clinton St. Budd Road will remain open from NB US 41 for local traffic only.
4. Clinton Street traffic will be directed to a local detour utilizing Hasselburger Avenue and US 41.

Access to Budd Road during Phase III will be provide for local traffic only at NB US 41 by temporary connection between truck loon and turn-around.

At the completion of Phase III, temporary connection will be removed and access to Budd Road for local traffic only will be provided from Clinton St.

**LEGEND:**

	<b>PHASE 1</b>
	<b>PHASE 2</b>
	<b>PHASE 3</b>
	<b>PAVEMENT REMOVAL</b>

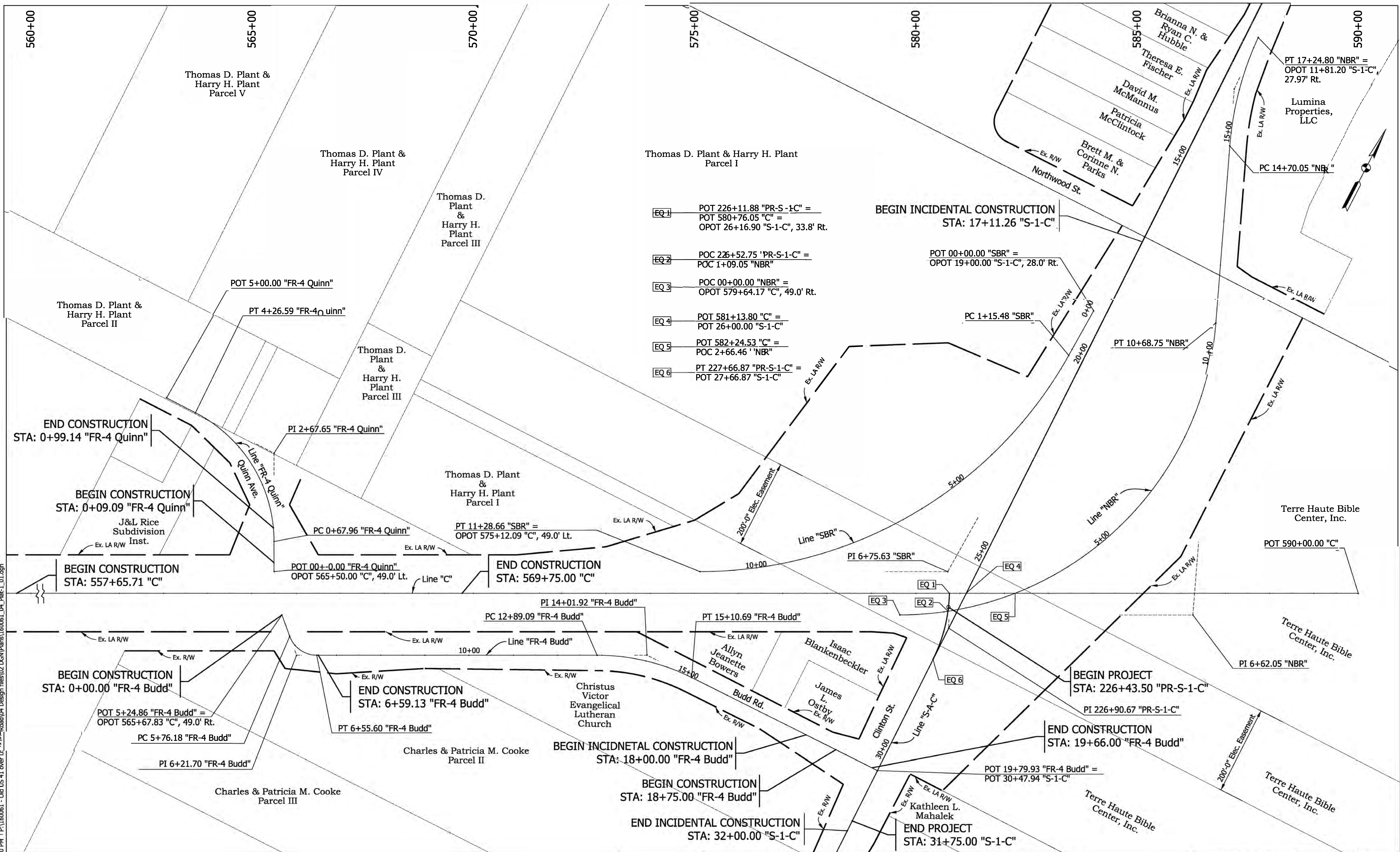


5/15/2022 5:15/2022 2:14:29 PM I:\160061 - Old US 41\09Road\04 Design files\ASettillan\160061\_MOT\_Concept - ASettillan.dgn

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	<b>INDIANA DEPARTMENT OF TRANSPORTATION</b>	HORIZONTAL SCALE N.A. VERTICAL SCALE N.A.	BRIDGE FILE 041-84-04322-ANBL DESIGNATION 1500146
DESIGNED: AS CHECKED: RAP	DRAWN: AS CHECKED: RAP	<b>MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION</b>	
		SURVEY BOOK ELECTRONIC CONTRACT B-42975	SHEETS 1 of 1 PROJECT 1500146



5/13/2022 5:13:37 PM I:\160061 - Old US 41, over I-11\Road\04\_Design\160061\_04\_Plat-1\_01.dgn



- EQ 1 POT 226+11.88 "PR-S-1-C" =  
POT 580+76.05 "C" =  
OPOT 26+16.90 "S-1-C", 33.8' Rt.
- EQ 2 POC 226+52.75 "PR-S-1-C" =  
POC 1+09.05 "NBR"
- EQ 3 POC 00+00.00 "NBR" =  
OPOT 579+64.17 "C", 49.0' Rt.
- EQ 4 POT 581+13.80 "C" =  
POT 26+00.00 "S-1-C"
- EQ 5 POT 582+24.53 "C" =  
POC 2+66.46 "NBR"
- EQ 6 PT 227+66.87 "PR-S-1-C" =  
POT 27+66.87 "S-1-C"

BEGIN INCIDENTAL CONSTRUCTION  
STA: 17+11.26 "S-1-C"

POT 00+00.00 "SBR" =  
OPOT 19+00.00 "S-1-C", 28.0' Rt.

PT 17+24.80 "NBR" =  
OPOT 11+81.20 "S-1-C",  
27.97' Rt.

END CONSTRUCTION  
STA: 0+99.14 "FR-4 Quinn"

BEGIN CONSTRUCTION  
STA: 0+09.09 "FR-4 Quinn"

BEGIN CONSTRUCTION  
STA: 557+65.71 "C"

END CONSTRUCTION  
STA: 569+75.00 "C"

BEGIN CONSTRUCTION  
STA: 0+00.00 "FR-4 Budd"

END CONSTRUCTION  
STA: 6+59.13 "FR-4 Budd"

BEGIN INCIDENTAL CONSTRUCTION  
STA: 18+00.00 "FR-4 Budd"

BEGIN CONSTRUCTION  
STA: 18+75.00 "FR-4 Budd"

END INCIDENTAL CONSTRUCTION  
STA: 32+00.00 "S-1-C"

BEGIN PROJECT  
STA: 226+43.50 "PR-S-1-C"

END CONSTRUCTION  
STA: 19+66.00 "FR-4 Budd"

END PROJECT  
STA: 31+75.00 "S-1-C"

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: RAP	DRAWN: JJP	
CHECKED: DJG	CHECKED: RAP	

INDIANA DEPARTMENT OF TRANSPORTATION	
PLAT NO. 1	

HORIZONTAL SCALE 1"=100'	BRIDGE FILE 041-84-04322-ANBL
VERTICAL SCALE N.A.	DESIGNATION 1500146
SURVEY BOOK ELECTRONIC	SHEETS 1 of 1
CONTRACT B-42975	PROJECT 1500146



**ADDENDUM No. 1  
TO (ABBREVIATED) ENGINEER'S REPORT**

Project Number: Des. No. 1500146  
Route / Feature Crossed: Old US 41 over US 41  
Project Location: Bridge over US 41 NB, 6.13 mi N of Middle Jct of SR 63  
Date: 07/11/2021

**ADDENDUM JUSTIFICATION:**

This addendum is being provided for clarification to modify the original approved Engineer's Report for the referenced project. Upon additional review and the completion of traffic capacity analysis, it was determined that there are several adjustments that are being implemented to improve the operations and safety of the intersection while also reducing the overall project cost. The concerns, modifications, and justifications for the changes to the original scoping document are summarized and included in the project correspondence.

**REVISION TO ORIGINAL SCOPE DOCUMENT:**

The (Abbreviated) Engineer's Report is being revised as follows:

Alternative No. 8 (Preferred): Remove Existing Bridge and Lower South Portion of Clinton S. to US 41. Provide J-Turn for SBL US 41 to Clinton.

The revised configuration of the intersection addresses the concerns as described during the Project Alternative Virtual Meetings on May 25, 2021, and June 16, 2021 (see Correspondence).

The revised proposal updates the geometric design criteria for the project. US 41 operates as a rural facility and the characteristics of roadway do not align with Urban characteristics. The design criteria for US 41 has been revised from urban to rural and confirmed with the District as a Rural Arterial.

The posted speed along northbound US 41 is 55 mph. An existing 50 mph advisory speed plate in advance of the northbound US 41 horizontal curve exceeds the computed equivalent design speed for the existing radius. The advisory sign should be revised to 45 mph. The District confirmed the need to update the advisory sign to 45 mph.

The revised geometric configuration includes the following:

- 1) Shifting the J-turn to the southwest with slotted turn lanes, maximizing the use of existing pavement to reduce project cost
- 2) Construction of a truck loop to facilitate the truck turning movement at the J-turn
- 3) SB US 41 will remain a single lane with an auxiliary left turn lane until south of both the J-turn and the proposed U-turn
- 4) Convert Budd Road to a dead-end roadway with no outlet with a hammer head turn around to accommodate a school bus as the design vehicle.
- 5) Northbound Clinton Street is to be stop controlled at the US 41 intersection and avoid the construction of a slip lane.
- 6) The elimination of access between US 41 and Budd Road is being investigated by acquiring limited access rights.

Does the revision change the project’s Purpose & Need statement?  Yes  No

Does the revision change the project’s recommended alternative?  Yes  No

Does the revision change the project’s cost estimate?  Yes  No

*Remove table below if cost is not revised; state in the comments section if there is no change to a specific portion of project cost. For example, the CN cost may increase without changing the ROW requirements or railroad costs.*

<i>Estimated Total Project Costs</i>	<i>Revised Amount</i>	<i>Original Amount</i>
Road Construction	\$1,336,000	\$1,411,000
Bridge Removal	\$165,000	\$165,000
<b>Total Construction</b>	<b>\$1,501,000</b>	<b>\$1,576,000</b>
Right of Way Services	\$30,000	\$30,000
Utility Relocation	\$0	\$0
<b>TOTAL:</b>	<b>\$1,531,000</b>	<b>\$1,606,000</b>

Does the revision change the project’s environmental impacts?  Yes  No

Does the revision require additional Right-of-Way?  Yes  No

Does the revision change the project’s schedule (design or construction)?  Yes  No

Does the revision require additional coordination with utility companies?  Yes  No

ADDENDUM CONCURRENCE

This document was prepared by:



[Date] 9/1/2021

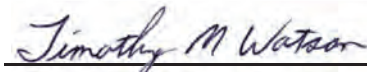
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[Date] 9/1/2021

Rick Perry  
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Tim Watson  
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[Date] 9/2/2021

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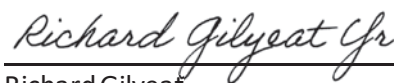
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[Date] 9/13/2021

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# ENGINEERING ASSESSMENT REPORT

OLD US 41 OVER US 41 NBL  
BRIDGE REHABILITATION PROJECT  
VIGO COUNTY  
Version 2

BRIDGE FILE #:041-84-04322-ABL

CONTRACT# R-37781

DESIGNATION #:1500146



PREPARED FOR:

PREPARED BY: BEAM, LONGEST & NEFF

INDIANA DEPARTMENT OF TRANSPORTATION

REV. MARCH 2020



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# ENGINEERING ASSESSMENT REPORT

**PROJECT NUMBER: 1500146**

**BRIDGE FILE NUMBER: 041-84-04322-ANBL**

**DESIGNATION NUMBER: 1500146**

**ROUTE IDENTIFICATION AND FEATURE CROSSED:  
Old US 41 over US 41 NBL**

**PROJECT LOCATION: Otter Creek Township, Vigo County,  
Section 13 & 14, T 13N, R 8W & 9W**

**REFERENCE POST: 120+23**

## 1. PURPOSE OF REPORT:

The purpose of this report is to provide an engineering assessment for the existing structure carrying North Clinton Street (Old US 41) over US 41 Northbound lane (NBL). This report provides background information on the project site and provides conclusions and recommendations for future improvements at this location. The report will guide the subsequent survey, design, environmental investigation, public involvement, right of way and other project elements leading to the proper course of construction.

## 2. PROJECT LOCATION:

The project is located along North Clinton Street within the INDOT Crawfordsville District in Vigo County. The existing bridge is located approximately 6.13 miles north of the middle junction of SR 63, within the northern boundary of Terre Haute, Indiana. This project is anticipated to impact portions of Clinton Street, US 41, Budd Road and Evans Avenue. The intersection between Clinton Street and Budd Road is located south of the existing bridge and the intersection with Clinton Street and Evans Avenue is located north of the existing bridge. The existing bridge length is approximately 223 ft. Depending on the selected alternative, both intersections identified may require reconstruction. Budd Road is anticipated to receive improvements for approximately 375 ft. extending from the intersection with Clinton Street. Evans Avenue may require improvements at the intersection only. A map of the project location is provided in Appendix A.

## 3. PROJECT NEED AND PURPOSE:

Due to the overall condition of the existing concrete deck and substructure units, there is a need for improvements to correct the existing deterioration. The existing superstructure was constructed in 1960 and rehabilitated in 1982. The existing structure is nearing the end of the design life for the concrete deck and based on the overall condition nearing the end of the design life for the entire structure. Currently, the existing wearing surface, concrete deck and substructure are rated in fair condition and the superstructure is rated in satisfactory condition. This structure is also located in an area where existing roads adjacent to the bridge may be utilized to access US 41, making this structure obsolete. The purpose of this project is to examine the best alternative for a course of work for the existing structure or adjacent roads that will provide equivalent or better conditions and functionality over the current conditions.

## 4. EXISTING FACILITIES:

Clinton Street and US 41 are classified as an Urban Other Principal Arterials, with the portion of US 41 being classified as an Urban Minor Arterial north of Clinton Street. Budd Road and Evans Avenue are considered local roads as no designation was provided on the functional classification map. Portions of US 41 are considered part of the National Highway System, however the section within the project limits is not included. The existing facility is part of the 3R roadway network. The posted speed limit is 40 mph on Clinton Street and Evans Avenue and 55

mph on US 41. Budd Road is not posted for a speed limit but was assumed to be similar to Clinton Street. The existing paved clear roadway width on Clinton Road is approximately 28 ft. providing two 12 ft. lanes boarded by 2 ft. width shoulders. The south end of the existing bridge has rolled concrete curb and gutter along with a short section along the northeast corner of the bridge which appears to be paved over with bituminous pavement. The paved width on US 41 is approximately 32 ft. but tapers from two 12 ft. lanes to one 18 ft. lane under the existing Clinton Street bridge. The shoulder widths were identified as 5 ft. aggregate shoulders in the existing plans within the project limits, however the shoulders appear to be variable width paved shoulders based on the field investigation. The existing bridge provides a minimum of 13.5 ft. vertical clearance over US 41 NBL. No shoulder corrugations were present on either facility. The road embankment side slopes at the bridge are at a maximum of 2:1 or flatter slope. Based on the existing plans, both Budd Road and Evans Avenue consist of two 11 ft. lanes with earthen shoulders. Photos of the existing roadway conditions are provided in Appendix A.

**Road History:**

Clinton Street (Old US 41) Pavement History Within Project Limits		
Date	Width	Type of Work
1919	18 ft	Gravel Surface
1926	18 ft	Concrete pavement, 7" depth
1960	24 ft	Existing plans – 15" Bituminous on 5" subbase type II.

US 41 Pavement History Within Project Limits		
Date	Width	Type of Work
1956	24 ft	New Construction – 15" Bituminous Pavement
1956	18 ft	New Construction Ramps – 15" Bituminous Pavement
1971	24 ft	Bituminous Overlay on mainline and ramps
1984	24 ft	Partial 3R project
2004	24 ft	Minor pavement resurfacing/Reconstruction

Note: Pavement history for US 41 provided by INDOT.

Based on the pavement history, concrete pavement was originally constructed for Old US 41, however this pavement section is outside the limits of the pavement constructed for the existing bridge. No concrete pavement, other than the approach slabs, is anticipated to be under the existing pavement and requiring removal. The existing pavement appeared to be in fair condition for US 41 lanes at the field check meeting. The pavement exhibited transverse, longitudinal and map cracking throughout the section evaluated during the field check. Clinton Street appeared to be in satisfactory condition, exhibiting intermittent transverse cracking throughout the area investigated. Budd Road was in fair condition with sections of transverse and map cracking near the intersection with Clinton Street. The existing road plans for old US 41 and the new portion of US 41 are available through the INDOT Central Office. No pavement history was available for Evans Avenue but it appeared to be in fair condition with transverse cracking throughout.

**Horizontal and Vertical Roadway Alignments:**

The horizontal alignment of US 41 is curved under the existing bridge. The existing radius is approximately 716.20 ft. for the northbound lanes(NBL) and 954.93 ft. for the southbound lanes(SBL). Using the current geometric standards, the roadway is required to be superelevated at a minimum of 8.0% cross slope through the limits of the curve for a maximum design speed of 45 mph. The existing radius for the southbound lanes meets a design speed 50 mph. Currently

US 41 is posted for 55 mph. Based on the superelevation chart in the existing plans, this section of US 41 was to be constructed at an 8% rate. A Level One Design Exception will be required if the existing superelevation is maintained at the current posted speed limit and portions of the roadway are reconstructed. Clinton Street is in a tangent alignment over US 41. Evans Avenue is in tangent section and Budd Road is tangent near the intersection with Clinton street but does have a horizontal curve approximately 400 ft. west of Clinton Street. The existing curve radius is approximately 475 ft. which would meet the horizontal curve radius for an 8% superelevation at 40 mph.

The vertical alignment of Clinton Street over US 41 is in a large vertical crest curve starting just north of Budd Road. Based on the existing roadway plans, the vertical profile was constructed in one vertical curve with the PVI placed near the center of the existing bridge with a maximum grade of 2.38%. Survey will be required to verify the existing grade matches the existing plans. Any grade modification will meet current design standards. Currently Clinton Street provides substandard vertical clearance over US 41 NBL measuring at 13.5 ft.

#### **Intersection:**

Clinton Street intersects Budd Road approximately 500 ft. south of the existing bridge and Evans Avenue approximately 1000 ft. north of the existing bridge. Including any work required at US 41, up to three intersections may be impacted by this project. The length of reconstruction will be determined on the amount of grade lowering required for the adjacent intersections. The intersection at Budd road is anticipated to be lowered by 2 ft. if a new intersection is constructed at Clinton Road and US 41 in place of the existing bridge. No major elevation change is anticipated at Evans Avenue.

#### **Bridge Structure 041-84-04322-ANBL:**

The existing structure is listed as being constructed in 1960 and rehabilitated in 1982, with deck patching and a new concrete overlay. The existing bridge structure is a four span steel beam structure 222.4 ft. in length. The bridge consists of four spans, 38'-3", 71'-7", 71'-7", 38'-3" and a 26.59-degree skew left. The structure out-to-out coping width is approximately 36'-6", per the existing plans and per the current bridge inspection report. The clear roadway width was measured at 29'-11" per the existing SI&A report, however the existing plans indicate a 30'-0" clear roadway width. The 30'-0" clear roadway meets the minimum for a curbed section, but does not meet the requirements for a shoulder section, which requires 6 ft. minimum shoulders. The substructure consists of concrete end bents founded on concrete piles and column bent piers founded on treated timber piles. The bridge overall structure rating was fair condition based on the last routine bridge inspection performed in 2017(See Appendix F). The existing bridge deck has spalling in the outer bays in all four spans, some locations with patching visible. The wearing surface has transverse and longitudinal cracking. The superstructure has locations of rusting on the end bearings and around splice plates. Beams 1, 3 and 5 all have impact damage to the bottom flanges above US 41 NBL. Piers 2 and 3 have cracking and spalling on the columns and cracking in the crash walls. The north bent cap is spalled at beam 2. All components of the bridge were rated in fair condition except for the superstructure which was rated in satisfactory condition. The existing bridge construction plans and all rehabilitation plans are available through the INDOT Central Office.

#### **Existing Utilities:**

During the site visit, various utilities were found to exist within the project limits. Below is a list of existing utilities that are believed to be located within the proposed project limits:

Telephone/Cable: Frontier Communications  
Attn: Joe Sarll  
8001 West Jefferson Blvd.  
Fort Wayne, IN 46804

Joink, LLC  
Attn: Timothy McCombs  
834 South 10<sup>th</sup> Street  
Terre Haute, IN 47807

New Wave Communication  
Attn: Joel Harrelson  
102 North 5<sup>th</sup> Street  
Vincennes, IN 47591

Insight Communication (Formerly Time Warner Cable)  
Attn: Scott Dotson  
1900 North Fares Avenue  
Evansville, IN 47711

There are existing overhead lines attached to the Duke Energy poles and sections with underground lines depending on the locations. A majority of the lines are located along the eastside of Clinton Street.

Electric: Duke Energy – Includes Transmission lines  
Attn: Cindy Rowland  
100 South Mill Creek Road  
Noblesville, IN 46062

The overhead power lines are located along the east side of Clinton Street and US 41. High tension transmission lines cross over the existing bridge carrying Clinton Street over US 41 NBL.

Water: Indiana American Water  
Attn: Michael Seals  
153 north Emerson Avenue  
Greenwood, IN 46143

Water facilities were identified on the utility research as being located within the area however no markers for a water line were identified in the field.

Sewer: Terre Haute Utilities  
Attn: Marcus Maurer  
17 Harding Avenue, Room 200  
Terre Haute, IN 47807

There is an existing sewer line located underground along the east side of Clinton Street and appears to end south of US 41.

Gas: Vectren Energy Delivery  
Attn: Public Project  
16000 Allisonville Road  
Noblesville, IN 46061

There is a gas line located underground along the west side of Clinton Street and gas meters identified along the east side of Clinton Street. No evidence was found north of US 41.

**Existing Right-of-Way:**

Based on the existing plans, the right-of-way (R/W) limits along Clinton Street and US 41 varied in width. US 41 NBL R/W limits varied from 38 ft. to 87 ft. along the south and eastside of US 41. Clinton Street varied from 38 ft. to 67 ft. along the eastside and 45 ft. to 55 ft. along the west side of Clinton Street. The R/W was discussed with the INDOT Crawfordsville District and was determine that the existing R/W limits would remain at the limits identified in the existing plans. Based on the existing R/W limits identified, new R/W is not anticipated based on the scope of the recommended alternative. The R/W limits shall be investigated further during the survey and R/W engineering phases.

**Environmental Conditions:**Wetlands

The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping did not identify any potential wetlands in the project vicinity. To ensure that no wetlands will be impacted, it is recommended that a field investigation be conducted to evaluate the project site. Due to the lack of streams and apparent wetlands in the project area, it is unlikely that a Waters of the U.S. Report (WOUSR) should be prepared as no permits are anticipated. Coordination with the Indiana Department of Transportation (INDOT) Ecology and Waterway Permitting Section would confirm the presence of any jurisdictional waters. Additional coordination with the US Army Corps of Engineers, Louisville District (USACE) and the Indiana Department of Environmental Management (IDEM) would also be required.

Floodplains

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps did not identify any floodplains in the project area. This project will have no expected impact on any floodplains. If coordination is required, contact with the Indiana Department of Natural Resources (IDNR) and INDOT Ecology and Waterway Permitting Section should be initiated.

Cultural Resources

There are two potentially historic (above-ground) buildings located south of the US 41 interchange. The first is a (1940s) Colonial Revival house (Survey Number 167-551-05016), which is on Old US 41, and rated as Notable in the Indiana State Historic Architectural and Archeological Research Database (SHAARD) and in the Indiana State Register of Historic Sites and Structures (Register). A contributing resource, a (1920s) Bungalow house (Survey Number 167-454-05017) is further to the south on 87<sup>th</sup> Avenue and within the project area; it is listed in the SHAARD database and in the Register. Eligibility of either house for listing on the National Register of Historic Places (NRHP) has not been completed. An exhibit entitled *Historic Buildings, Bridges and Cemeteries* is attached with a 0.5-mile buffer of the existing bridge, which shows both of these sites. In addition, no cemeteries are shown on this exhibit within the buffer. Coordination with the INDOT Cultural Resource Office (INDOT CRO) and the Indiana State Historic Preservation Officer (IN SHPO) should be initiated.

The Indiana Historic Bridge Inventory Report (Mead and Hunt, 2010) did not list Structure #041-84-04322-ANBL as an historic resource, nor include it on the Select/Non-Select listing. In the Report, it was recommended as not eligible under criteria A (events) and C (architecture) for listing on the NRHP.

The project area will need to be evaluated by a Qualified Professional meeting the Secretary of Interior's Professional Qualification Standards for compliance with Section 106 for above ground resources. If permanent right-of-way is required, an assessment of the area by a Professional Archaeologist will be necessary to identify and evaluate impacts to below ground resources as part of the Section 106 compliance.



### Section 4(f) – Section 6(f)

No publicly owned parks and recreational areas or wildlife and waterfowl refuges considered as Section 4(f) properties were identified within the project limits; however, two potentially historic properties are within the project area. Section 4(f) of the US Department of Transportation Act of 1966 prohibits the use of public parks, recreational facilities, wildlife refuges or historic sites for federally funded transportation facilities unless there is no feasible and prudent alternative to such use. Depending upon the property boundaries of the Colonial Revival house in relation to the proposed project footprint, a Section 4(f) Evaluation may be needed as part of the environmental documentation for this house. Due the location of the Bungalow house nearly 0.5 mile southwest of the bridge, no Section 4(f) use of property is expected.

No potential Section 6(f)3 sites were identified within the project area. The National Park Service (NPS) Land and Water Conservation Fund (LWCF) was created through the Land and Water Conservation Fund Act of 1965. Section 6(f)3 of the Act prohibits the conversion of LWCF lands unless the NPS approves the conversion of property with property of reasonable equivalent usefulness, location and of at least equal fair market value. As there are no sites encumbered by Section 6(f)3 funds within the project area, a Section 6(f)3 Case Study Report will not be necessary as part of the environmental documentation prepared for the project.

### Land Use

The entirety of the project area falls within the urban area boundary of the City of Terre Haute. The primary land uses within the project limits are residential and agricultural. Residential properties are located northwest, northeast, southwest and southwest in the project area in subdivisions and along Clinton Street further to the south. Agricultural land in crop production dominates outside of the immediate project area. A small wooded riparian parcel is immediately east of US 41 to the north and south. The topography is generally flat at approximately 500 feet above Mean Sea Level (MSL). If any of the proposed construction activities impact the wooded areas, coordination with the US Fish and Wildlife Service (USFWS) and the IDNR is recommended.

### Noise

As proposed, the rehabilitation or removal of the existing bridge will be considered a Type III project. The project will not result in any added travel or auxiliary lanes and the roadway will not have a substantial horizontal or vertical alteration. In accordance with 23 CFR 772 and the (2017) INDOT Traffic Noise Policy, this action does not require a formal noise analysis.

All construction equipment will be required to comply with the Occupational Safety and Health Administration's (OSHA) regulations. Proper construction equipment maintenance with original exhaust equipment will help to mitigate any impacts. Additionally, the contractor will be required to follow best management practices to reduce noise impacts from construction equipment. These provisions will be incorporated into the project specifications.

### Aviation

The Federal Aviation Administration (FAA) website was checked, and one public airport was found within 3.8 miles (20,000 feet) of the project. The Sky King Airport is located approximately 1.3 miles (6,900 feet) south of the project area near Clinton Street and Rosehill Avenue. Coordination with INDOT Division of Aviation should be included as part of the environmental documentation.

### Records Review and Hazardous Materials

A desktop investigation of the project area was completed. No hazardous material (hazmat) of concern were identified within a 0.5-mile radius of the project area. A four-inch natural gas pipeline runs approximately 350 feet east of and parallel to Clinton Street/US 41. It is owned by the Terre Haute Gas Company and extends through the project area. Coordination with INDOT Utilities Section should be undertaken during the environmental and design phases.

### Air Quality

This project is of a type qualifying as a categorical exclusion (Group 1) under 23 CFR 771.117(c), or exempt under the Clean Air Act conformity rule under 40 CFR 93.126, and as such, a Mobile Source Air Toxics analysis is not required. Conformance of the project with the 2018-2021 Indiana Statewide Transportation Improvement Program (STIP) must be completed as part of the environmental documentation.

### Endangered, Threatened and Rare Species

The Vigo County listing of the Indiana Natural Heritage Data Center information on endangered, threatened and rare (ETR) species and high quality natural communities was reviewed. No ETR species and significant areas were documented within 0.5 mile of the project area. Coordination with the IDNR is recommended as part of the environmental document process.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. Additional investigation to confirm the presence or absence of bats will be necessary. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will need to be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

An inquiry using the USFWS IPaC website did not indicate the presence of the federally endangered species, the Rusty Patched Bumble Bee, in or within 0.5 mile of the project area. No impact is expected.

### Permits

No waterway permits (Section 401 Water Quality Certification (WQC) or a Section 404 Permit for Discharge of Dredged or Fill Material) are required for construction. A rule 5 permit is anticipated for this project with the construction limits measuring over 1 acre of impact.

### **Drainage:**

All of the drainage within the project limits currently collects in roadside ditches and drains toward the intersection of US 41 and Clinton Street. The water appears to collect and drain east of US 41 NBL. There is an existing pipe which runs under Budd Road and carries drainage toward US 41. There is also a drainage pipe under the southbound leg of US 41 which carries drainage to the east toward Clinton Street and US 41 NBL. The four quadrants around the existing bridge appear to all have small drainage swales or ditches, but no noticeable large ditches within the project limits.

### **Land Use:**

The land use within the project limits is mainly residential with the northwest quadrant being agricultural. The northeast quadrant consists of grass residential property with wooded areas beyond the grass limits. The southeast quadrant is wooded, with residential properties located south of Budd Road. The southwest quadrant is all residential with a church located south of Budd Road. There are no field entrances within the proposed limits, however there are a couple of residential drives located south of Budd Road. See aerial photos located in the Appendix A.

## **5. FIELD CHECK MEETING:**

A preliminary field check meeting was held at the project site on February 6, 2019. The field check was held to determine if there were existing site conditions that may cause additional issues during the design phase. A copy of the field check minutes are provided in Appendix D.

## **6. TRAFFIC DATA AND CAPACITY ANALYSIS:**

Traffic data was obtained from traffic counts performed by BLN on Clinton Street. Traffic data was provided for the current year, construction year and design year. The table below

shows the data provided. A growth rate was determined to be 0.6% per year. A copy of the summary is provided in Appendix B. INDOT also performed traffic movement counts at the intersection with Budd Road for 24 hours. The Counts are provided in the table below and included in Appendix B. Traffic turning movement data was also provided by INDOT for the intersection of Clinton Street and Budd Road. The data obtained is provided in the table below.

Traffic data for US 41 was taken from the INDOT traffic counts website. There were counts taken south of the intersection with Clinton Street and additional counts taken north of the intersection after Clinton Street merges with US 41. The information taken from the website is provided below. See Appendix B for tables.

TRAFFIC DATA – CLINTON STREET			
Year	AADT (VPD)	DHV	TRUCK AADT
2018	5,086	2%	11%
2021	5,178		
2041	5,836		

TRAFFIC DATA – TURNING MOVEMENT AT BUDD ROAD 24 HOUR				
Vehicle	Clinton NB Left onto Budd Rd.	Clinton SB Right onto Budd Rd.	Budd Rd. Right onto Clinton St.	Budd Rd. Left onto Clinton Street
Cars	336 veh.	6 veh.	337 veh.	3 veh.
Trucks	3 trucks	1 truck	3 trucks	1 truck

TRAFFIC DATA – US 41			
Year	AADT (VPD)	DHV	TRUCK AADT
2018	5,798 (South of intersection)	10%	5%
2019	5,833 (South of intersection)		
2041	7,260 (South of Intersection)		
2018	8,198 (North of intersection)	9%	5%
2019	8,247 (North of intersection)		
2041	10,265 (North of Intersection)		

**7. CRASH DATA AND ANALYSIS:**

Vehicular crash data was obtained from the Indiana Department of Transportation for this report. The INDOT database recorded multiple crashes along US 41 and Clinton Street, including intersections with Budd Road and Evans Avenue. In narrowing down the incidents over the last 3 years, there were approximately 14 crashes at the intersection of US 41 northbound and Evans Avenue as the highest total within the project limits. Additionally, two crashes were recorded at US 41 and Budd Road, three recorded at intersection of Clinton Street and Budd Road, and four crashes recorded at the intersection of Clinton Street and Northwood Drive. Four of the crashes at the intersection of US 41 and Evans Avenue resulted in personal injury. Two of the crashes at Clinton Street and Northwood Dr./Evans Avenue resulted in personal injury.

Based on the information provided, most accidents occurred due to vehicles failing to yield to oncoming traffic. A copy of the INDOT summary is provided in Appendix B.

INDOT provided additional data for crashes utilizing the Road Hazard Analysis Tool (HAT) software. The study was performed on the intersection of US 41 northbound and Evans Avenue. A three year study (2016-2018) resulted in an Index of Crash Frequency (ICF) of 3.33 and an Index of Crash Cost (ICC) of 1.88. The ICF result indicates that the intersection exceeds the anticipated number of crashes for this location by 3.33 standard deviations and is considered a high crash location. High crash locations should be discussed further with INDOT Traffic Safety to determine possible solutions. The ICC value is 1.88, indicating that the severity of the crashes is 1.88 times higher than the expected cost for crashes. Improvements to the intersection may be recommended to lower the severity of the crashes. After reviewing the data provided, it is recommended that improvements to the intersection with US 41 and Evans Avenue should be made if the selected alternate includes work at the existing intersection. See Appendix I for the ROADHAT output.

CRASH DATA				
Year	US 41 at Budd Road	Clinton Street at Budd Road	Clinton Street and Northwood Dr./Evans	NB US 41 at Evans Avenue
2016	1	1	2	3
2017	0	2	1	5
2018	1	0	1	6
Total	2	3	4	14

NOTE: Of the 14 crashes found at the intersection of NB US 41 and Evans Avenue, four recorded personal injury, two recorded injury at Clinton Street and Northwood Drive. No fatalities were recorded during the traffic crashes.

## 8. DISCUSSION OF ALTERNATIVES AND RECOMMENDATIONS:

### Alternate No.1: Do Nothing

This alternate would allow the existing roadway and bridge to remain in place with no improvements.

### Alternate No. 2: Remove the Existing Bridge and Route Traffic to Budd Road

This alternate will remove the existing four span bridge and portions of Clinton Street and reroute traffic onto Budd Road to access US 41. The pavement north of the intersection with Budd Road and Clinton Street will be removed along with portions of pavement north of the existing bridge up to US 41 SBL. Stop signs will be installed on Clinton Street for the left turn onto Budd Road. The existing embankment for Clinton Road will remain in place, permanent barricade and/or guardrail will be installed just beyond the intersection with Budd Road to the south and just north of the existing bridge to reroute traffic. Based on the current condition of Budd Road, the existing pavement will be milled and resurfaced. The intersection of Budd Road with US 41 and also with Clinton Street will need to be upgraded for trucks to make a right turn onto US 41 NBL and also onto Clinton Street. A queuing analysis may need to be performed during the design phase to determine if the left turn lane from US 41 SBL onto Budd Road will need to be extended to accommodate the Clinton Street traffic now routed onto Budd Road. No improvements are anticipated at Evans Avenue for this alternate. No additional R/W is anticipated for this alternate.

**MOT Discussion:** It is anticipated that a few night-time short term closures will be required for US 41 NBL during the removal of the existing bridge. Traffic may be maintained on Budd Road during construction.



<b>Alternate No. 2 – Estimated Construction Cost</b>	
Road Construction	\$352,000
Bridge Construction (Removal)	\$165,000
<b>Total Construction</b>	<b>\$517,000</b>
Right-of-Way (Land Acquisition)	\$0
Utility Relocation	\$0
<b>Project Total (2019 Dollars)</b>	<b>\$517,000</b>

**Alternate No. 3: Remove Existing Bridge and Construct New Intersection**

This alternate will remove the existing four span bridge and lower Clinton Street down to the same elevation as the existing US 41 NBL and construct a new intersection for both northbound and southbound Clinton Street at US 41. A majority of the embankment for Clinton Street between Budd Road and US 41 SBL will be removed to reduce the elevation of Clinton Street down to US 41 NBL. Approximately 1500 ft. of Clinton Street will be reconstructed to meet current roadway geometric standards. Stop signs will be installed for Clinton Street at US 41 and the US 41 northbound lane will remain unchanged. Due to the lowering Clinton Street, the southbound portion of US 41 will also need to be lowered to accommodate the lowering of Clinton Street. Approximately 900 feet of the southbound ramp lane will need to be lowered and reconstructed.

This work will also include lowering the intersection at Budd Road and Clinton Street by approximately 2 feet. Budd Road will be reconstructed for approximately 375 feet to accommodate the lowering of the intersection at Clinton Street. An additional 100 ft. of Budd Road will be milled and resurfaced. No improvements are anticipated at Evans Avenue for this alternate. No additional R/W is anticipated for this alternate.

**MOT Discussion:** In order to maintain traffic during construction, the existing US 41 NBL will be temporary widened and US 41 SBL will utilize the US 41 NBL section and provide a crossover prior to the intersection with Budd Road to move US 41 southbound traffic over to the existing alignment. Evans Avenue and Northwood Drive will be maintained and intersect at the single intersection. Short term night closures may be required during removal of the existing bridge for US 41 NBL. Budd Road will be closed during construction.

<b>Alternate No. 3 – Estimated Construction Cost</b>	
Road Construction	\$3,177,000
Bridge Construction (Removal)	\$165,000
<b>Total Construction</b>	<b>\$3,342,000</b>
Right-of-Way (Land Acquisition)	\$0
Utility Relocation	\$0
<b>Project Total (2019 Dollars)</b>	<b>\$3,342,000</b>

**Alternate No. 4: Remove Existing Bridge and Lower South Portion of Clinton St. to US 41. SBL US 41 to Utilize Budd Road**

This alternate will remove the existing four span bridge and lower Clinton Street down to the same elevation as the existing US 41 NBL and construct a new intersection for northbound Clinton Street at US 41. Approximately 700 ft. of Clinton Street is anticipated to be reconstructed. The reconstructed intersection with US 41 NBL will include a right turn for US 41 NBL onto southbound Clinton Street and a right turn onto US 41 NBL for northbound Clinton Street traffic. Traffic utilizing Southbound US 41 will be directed to Budd Road to continue to Clinton Street. A

majority of the embankment for Clinton Street between Budd Road and US 41 NBL will be removed to reduce the elevation of Clinton Street down to US 41 NBL. The section of Clinton Street north of US 41 NBL will be removed, however some of the embankment may remain, approximately 700 ft. of pavement removal is required. Clinton Street will be reconstructed to meet current roadway geometric standards. Stop signs will be installed for Clinton Street at US 41 and the northbound lane of US 41 will remain unchanged.

This work will also include lowering the intersection at Budd Road and Clinton Street by approximately 2 feet. Budd Road will be reconstructed for approximately 375 feet to accommodate the lowering of the intersection at Clinton Street. An additional 100 ft. of Budd Road will be milled and resurfaced. No improvements are anticipated at Evans Avenue for this alternate. No additional R/W is anticipated for this alternate.

**MOT Discussion:** This alternate is anticipated to be constructed under a full road closure for Clinton Street and traffic rerouted onto local streets for detour. Clinton Street will be completely closed between Budd Road and US 41 NBL to reconstruct the intersection between Budd Road and Clinton Street. Short term night closures may be required during removal of the existing bridge for US 41 NBL.

<b>Alternate No. 4 – Estimated Construction Cost</b>	
Road Construction	\$1,020,000
Bridge Construction (Removal)	\$165,000
<b>Total Construction</b>	<b>\$1,185,000</b>
Right-of-Way (Land Acquisition)	\$0
Utility Relocation	\$0
<b>Project Total (2019 Dollars)</b>	<b>\$1,185,000</b>

**Alternate No. 5: Remove Existing Bridge and Lower South Portion of Clinton St. to US 41. Reconstruct US 41 Southbound Lane**

This alternate will remove the existing four span bridge and lower Clinton Street down to the same elevation as the existing US 41 NBL and construct a new intersection for both northbound and southbound Clinton Street at US 41 NBL. Approximately 700 ft. of Clinton Street is anticipated to be reconstructed and include another 600 ft. of slip ramp construction. The intersection will include a right turn for US 41 NBL onto Clinton Street and a ramp lane onto US 41 NBL for northbound Clinton Street traffic. US 41 southbound lane will be reconstructed and relocated closer to US 41 NBL. The length of reconstruction is anticipated to be approximately 2230 ft. A median crossing and turn lane will be constructed for US 41 SBL to turn left onto Clinton Street southbound. The reconstructed lane will match the existing northbound lane which meets the design speed for 45 mph. A majority of the embankment for Clinton Street between Budd Road and US 41 NBL will be removed to reduce the elevation of Clinton Street down to US 41. The section of Clinton Street north of US 41 NBL will be removed, however some of the embankment may remain, only pavement removal is required. Approximately 1100 ft. of pavement is anticipated to be removed. Clinton Street will be reconstructed to meet current roadway geometric standards. The ramp for northbound Clinton Street onto US 41 NBL will not be stop controlled and include a merging lane into the existing 18 ft. wide northbound ramp.

This work will also include lowering the intersection at Budd Road and Clinton Street by approximately 2 feet. Budd Road will be reconstructed for approximately 375 feet to accommodate the lowering of the intersection at Clinton Street. An additional 100 ft. of Budd Road will be milled and resurfaced. The intersection at Evans Avenue will also need to be reconstructed between the northbound lane and the old southbound US 41 lane. The new southbound ramp lane will provide improvements to the Evans Avenue intersection. It is anticipated that this alternative will require right-of-way to be purchase for the new ramp lane from Clinton Street to US 41 NBL

**MOT Discussion:** It is anticipated that a majority of the new SBL may be constructed without closures to the surrounding roads except Clinton Street. Traffic will need to be maintained to allow vehicles access from Northwood Drive and Evans Avenue. Turning movements from these side streets may need to be restricted to one direction during construction. It is also anticipated that Clinton Street between Budd Road and US 41 will be closed for a short duration. Budd Road will also be closed during construction. US 41 NBL will be maintained on the current alignment with a single lane of traffic. Traffic will need to be phased to reconstruct portions of the existing ramp. Short term night closures may be required during removal of the existing bridge for US 41 NBL.

<b>Alternate No. 5 – Estimated Construction Cost</b>	
Road Construction	\$2,570,000
Bridge Construction (Removal)	\$165,000
<b>Total Construction</b>	<b>\$2,735,000</b>
Right-of-Way (Land Acquisition)	\$30,000
Utility Relocation	\$0
<b>Project Total (2019 Dollars)</b>	<b>\$2,765,000</b>

**Alternate No. 6: Bridge Deck Replacement**

This alternate will remove the existing concrete bridge deck and replace with a new concrete composite bridge deck. The existing end bents will be converted to semi-integral to eliminate the bridge joints. The existing approach slabs will also be removed and replaced. Current standard bridge railing, FC railing will be installed to replace the existing aluminum bridge railing. The existing approach guardrail will be removed and replaced. Approximately 50 ft. of pavement resurfacing is anticipated at each end of the bridge. No painting of the existing steel beams will be included in this alternative.

No additional R/W is required with this alternate and no improvements will be made to Evans Avenue.

**MOT Discussion:** Clinton Street will be closed during construction and utilized Budd Road or another County Street as a detour route.

<b>Alternate No. 6 – Estimated Construction Cost</b>	
Road Construction	\$115,000
Bridge Construction (Rehabilitation)	\$800,000
<b>Total Construction</b>	<b>\$915,000</b>
Right-of-Way (Land Acquisition)	\$0
Utility Relocation	\$0
<b>Project Total (2019 Dollars)</b>	<b>\$915,000</b>

**Alternate No. 7: Bridge Deck Replacement and Increase Vertical Clearance to 16 ft.**

This alternate will remove the existing concrete bridge deck and replace with a new concrete composite bridge deck. The bridge superstructure will be raised by approximately 2.5 ft. to provide 16.0 ft. of vertical clearance over US 41 northbound lanes. The end bents will be converted to semi-integral to eliminate the existing joints. Pedestals will be constructed on each pier cap to raise the bridge. The existing approach slabs will also be removed and replaced. Current standard bridge railing, FC railing will be installed to replace the existing aluminum bridge railing. The existing bridge out-to-out coping will be maintained at 36.5 ft. which provides a 33.5 ft. clear roadway. Based on the INDOT Geometric tables, the minimum clear roadway required is 34'-0". A Level One Design Exception will be required for shoulder width. The existing approach

guardrail will be removed and replaced. Approximately 290 ft. of pavement reconstruction is anticipated at each end of the bridge, resulting in a total project length of 800 ft. No painting of the existing steel beams will be included in this alternative.

It is anticipated that this alternative will require right-of-way to be purchased due to the grade raise of Clinton Street. No improvements will be made to Evans Avenue.

**MOT Discussion:** Clinton Street will be closed during construction and utilized Budd Road or another County Street as a detour route.

<b>Alternate No. 7 – Estimated Construction Cost</b>	
Road Construction	\$505,000
Bridge Construction (Rehabilitation)	\$1,070,000
<b>Total Construction</b>	<b>\$1,575,000</b>
Right-of-Way (Land Acquisition)	\$50,000
Utility Relocation	\$0
<b>Project Total (2019 Dollars)</b>	<b>\$1,625,000</b>

**Alternate No. 8: Remove Existing Bridge and Lower South Portion of Clinton St. to US 41. Provide J-Turn for SBL US 41 to Clinton.**

This alternate will remove the existing four span bridge and lower Clinton Street down to the same elevation as the existing US 41 NBL and construct a new intersection for northbound Clinton Street at US 41. Approximately 650 ft. of Clinton Street will be reconstructed down to the new intersection. The intersection will include a right turn for US 41 NBL onto southbound Clinton Street and a right turn onto US 41 NBL for northbound Clinton Street traffic. Traffic utilizing southbound US 41 will be directed to a new J-turn located west of the new intersection. Approximately 500 ft. of the US 41 SBL ramp shoulder will be reconstructed for the addition of the J-turn lane. New pavement will be required for the median crossing used for the J-turn. The right lane and shoulder for US 41 NBL will be reconstructed. No work will be performed on the left lane and median shoulder which will require a Level One Design Exception for shoulder width. Northbound US 41 approaching the reconstructed portions of US 41 will be restriped and signed for through traffic to use the left lane. The US 41 northbound right lane and shoulder are anticipated to be reconstructed for approximately 400 ft. total and the restriping is anticipated to begin 500 ft. prior to the reconstructed section.

A majority of the embankment for Clinton Street between Budd Road and US 41 NBL will be removed to reduce the elevation of Clinton Street down to US 41 NBL. A short section of Clinton Street north of US 41 NBL will be removed, however some of the embankment may remain, only pavement removal is required. Approximately 500 ft. of pavement will be removed. Clinton Street will be reconstructed to meet current roadway geometric standards. Stop signs will be installed for Clinton Street at US 41 and the northbound lane of US 41 will remain unchanged.

This Alternate will also include lowering the intersection at Budd Road and Clinton Street by approximately 2 feet. Budd Road will be reconstructed for approximately 375 feet to accommodate the lowering of the intersection at Clinton Street. An additional 100 ft. of Budd Road will be milled and resurfaced. No additional R/W is anticipated with this alternate. The change in traffic patterns for northbound traffic will provide improvements to the Evans Avenue intersection by merging all northbound traffic to a single lane.

**MOT Discussion:** It is anticipated that all traffic will remain on US 41 during construction and utilized lane shifts and phasing to maintain a single lane of traffic. Traffic will also be maintained for Northwood Drive and Evans Avenue to access US 41. It is also anticipated that Clinton Street between Budd Road and US 41 will be closed. Budd Road will be closed to through traffic during construction. Traffic will then be diverted to other County Roads for the Clinton Street and Budd Road Detours. Short term night closures of US 41 NBL may be required during removal of the existing bridge.



<b>Alternate No. 8 – Estimated Construction Cost</b>	
Road Construction	\$1,411,000
Bridge Construction (Removal)	\$165,000
<b>Total Construction</b>	<b>\$1,576,000</b>
Right-of-Way (Land Acquisition)	\$30,000
Utility Relocation	\$0
<b>Project Total (2019 Dollars)</b>	<b>\$1,606,000</b>

**Alternate No. 9: Remove Existing Bridge and lower Clinton Street to US 41. Reconstruct US 41 Southbound Lane to Clinton Street, improve Evans Avenue.**

This alternate will remove the existing four span bridge, lower Clinton Street down to the same elevation as the existing US 41 NBL and construct a new intersection for the both northbound and southbound Clinton Street at US 41 NBL. Approximately 1400 ft. of Clinton Street will be reconstructed and an additional 100 ft. milled and resurfaced at the north end of the project. The new intersection will include a right turn for US 41 NBL onto south Clinton Street and a ramp lane onto US 41 NBL for northbound Clinton Street traffic. A US 41 exit ramp to Clinton Street southbound will be constructed at the US 41 NBL intersection. A majority of the embankment for Clinton Street between Budd Road and US 41 NBL will be removed to reduce the elevation of Clinton Street down to US 41. The section of Clinton Street north of US 41 NBL will be removed and reconstructed for the Southbound Clinton Street exit. A majority of the embankment will be removed to accommodate the lowering of the southbound Clinton Street Ramp. Clinton Street will be reconstructed to meet current roadway geometric standards. The ramp for northbound Clinton Street onto US 41 NBL will not be stop controlled and include a merging lane. The southbound ramp for Clinton Street will be stop controlled. It would be recommended that flashing red lights be included with the stop signs due to the change in the traffic pattern. Approximately 200 ft. of the US 41 SBL ramp will be resurfaced due to grading and other incidentals for the lowering of Clinton Street. Approximately 900 ft. of the US 41 NBL will be milled and resurfaced as part of this alternate.

This work will also include lowering the intersection at Budd Road and Clinton Street by approximately 2 feet. Budd Road will be reconstructed for approximately 375 feet to accommodate the lowering of the intersection at Clinton Street. An additional 100 ft. of Budd Road will be milled and resurfaced. The north leg of Clinton Street will now be incorporated with US 41 NBL which should improve the traffic patterns at Evans Avenue. It is anticipated that this alternative will require right-of-way to be purchased for the new ramp lane from Clinton Street to US 41 NBL and for the right turn from US 41 NBL to Clinton Street Southbound.

**MOT Discussion:** It is anticipated that all traffic will remain on US 41 NBL during construction and utilize lane shifts and phasing to maintain a single lane of traffic. US 41 SBL will be maintained during the construction of the new ramp to Clinton Street. Resurfacing of US 41 SBL may take place under traffic with flagging operations. Traffic will also be maintained for Northwood Drive and Evans Avenue to access US 41. It is also anticipated that Clinton Street between Budd Road and US 41 will be closed. Budd Road will also be closed to through traffic during construction. Traffic will then be diverted to other County Roads for the Clinton Street and Budd Road Detours. Short term night closures of US 41 NBL may be required during removal of the existing bridge.

<b>Alternate No. 9 – Estimated Construction Cost</b>	
Road Construction	\$2,251,000
Bridge Construction (Removal)	\$165,000
<b>Total Construction</b>	<b>\$2,461,000</b>
Right-of-Way (Land Acquisition)	\$30,000
Utility Relocation	\$0
<b>Project Total (2019 Dollars)</b>	<b>\$2,491,000</b>

**Alternate No. 10: Remove Existing Bridge and Raise US 41 for new intersection with Clinton Street. New signal at Clinton Street and Evans Avenue.**

This alternate will remove the existing four span bridge and lower Clinton Street approximately 8 ft. at the bridge while raising US 41 NBL approximately 10 ft. to create a new signalized intersection at Clinton Street and US 41 NBL. Approximately 1350 ft. of Clinton Street will be reconstructed and an additional 400 ft. milled and resurfaced. The new intersection will include a right and left turn for US 41 NBL onto Clinton Street/US 41 NBL. The Clinton Street alignment will remain the same as the existing. Embankment removal will be required for Clinton Street between Budd Road and Evans Avenue to reduce the elevation of Clinton Street at the existing bridge location. Approximately half of the embankment will be removed and the area under the existing bridge will be filled in with new material to raise the intersection. Clinton Street will be reconstructed to meet current roadway geometric standards. A short section of MSE wall is anticipated along the south side of US 41 at the intersection with Clinton Street. A short length of guardrail is also anticipated.

A portion of the US 41 Southbound ramp, approximately 600 ft., will also be reconstructed due to the lowering of Clinton Street north of the new intersection. Approximately 600 ft. of US 41 NBL is anticipated to be reconstructed and an additional 100 ft. resurfaced to the south. The 600 ft. of reconstructed pavement will include a new southbound lane to connect Clinton Street to US 41 southbound from the intersection. A new signal will be installed at the intersection of Clinton Street and US 41 NBL.

This work will also include lowering the intersection at Budd Road and Clinton Street by approximately 2 feet. Budd Road will be reconstructed for approximately 375 feet to accommodate the lowering of the intersection at Clinton Street. An additional 100 ft. of Budd Road will be milled and resurfaced. Evans Avenue will also be reconstructed to align the intersection with Northwood Drive. Evans Avenue will be reconstructed for approximately 400 ft. A new signal will be installed at Evans Avenue and US 41. It is anticipated that this alternative will require right-of-way to be purchase for the raising of US 41 and also for the reconstruction of Evans Avenue.

**MOT Discussion:** It is anticipated that US 41 NBL will be maintained on US 41 SBL while the new intersection is reconstructed. A crossover will be constructed west of the Budd Road intersection to crossover a single lane of US 41. The existing US 41 southbound ramp will be widened to accommodate two lanes of traffic in conjunction with the crossover being constructed. Upon completion of the new intersection, US 41 SBL may be temporarily maintained on the new section of Clinton Street to the intersection while the new portion of US 41 SBL is reconstructed. This may require the radius at the northwest corner of the intersection to be over built to accommodate truck traffic. Clinton Street and Budd Road will be closed during construction and utilized local roads for a detour. Evans Avenue will need to be closed during the reconstruction of the new intersection. Short term night closures of US 41 NBL may be required during removal of the existing bridge.

<b>Alternate No. 10 – Estimated Construction Cost</b>	
Road Construction	\$4,046,000
Bridge Construction (Removal)	\$165,000
<b>Total Construction</b>	<b>\$4,211,000</b>
Right-of-Way (Land Acquisition)	\$50,000
Utility Relocation	\$0
<b>Project Total (2019 Dollars)</b>	<b>\$4,261,000</b>

**Alternate No. 11: Remove Existing Bridge and Raise US 41 for new intersection with Clinton Street. New signal at Clinton Street, Realign Evans Avenue.**

This alternate will remove the existing four span bridge and lower Clinton Street approximately 8 ft. at the bridge while raising US 41 NBL approximately 10 ft. to create a new signalized intersection at Clinton Street, US 41 NBL and Evans Avenue. Approximately 1300 ft. of Clinton Street will be reconstructed and an additional 150 ft. milled and resurfaced. The new intersection will include a right and left turn for US 41 NBL onto Clinton Street/US 41 NBL and a through movement to Evans Avenue. The Clinton Street alignment will remain the same as the existing. Embankment removal will be required for Clinton Street between Budd Road and Evans Avenue to reduce the elevation of Clinton Street at the existing bridge location. Approximately half of the embankment will be removed and the area under the existing bridge will be filled in with new material to raise the intersection. Clinton Street will be reconstructed to meet current roadway geometric standards. A short section of MSE wall is anticipated along the south side of US 41 at the intersection with Clinton Street. A short run of guardrail is also anticipated.

A portion of the US 41 Southbound ramp, approximately 600 ft., will also be reconstructed due to the lowering of Clinton Street north of the new intersection. Remaining portions of the ramp will be milled and resurfaced. Approximately 600 ft. of US 41 NBL is anticipated to be reconstructed and an additional 100 ft. resurfaced to the south. The 600 ft. of reconstruction pavement will include a new southbound lane to connect Clinton Street to US 41 southbound from the intersection. A new signal will be installed at the intersection of Clinton Street and US 41 NBL only.

This work will also include lowering the intersection at Budd Road and Clinton Street by approximately 2 feet. Budd Road will be reconstructed for approximately 375 feet to accommodate the lowering of the intersection at Clinton Street. An additional 100 ft. of Budd Road will be milled and resurfaced. Evans Avenue will be reconstructed for approximately 1300 ft. Evans Avenue will carry both east and westbound traffic. The new section of Evans Avenue will need to be signed for 30 mph as the northern-most curve will need to be minimized to avoid impacting the church located on the south side of the roadway. Evans Avenue may be reposted for 40 mph past the end of the project.

**MOT Discussion:** It is anticipated that US 41 NBL will be maintained on US 41 SBL while the new intersection is reconstructed. A crossover will be constructed west of the Budd Road intersection and crossover a single lane of US 41. The existing US 41 southbound ramp will be widened to accommodate two lanes of traffic in conjunction with the crossover being constructed. Upon completion of the new intersection, US 41 SBL may be temporarily maintained on the new section of Clinton Street to the intersection while the new portion of US 41 SBL is reconstructed. This may require the radius at the northwest corner of the intersection to be over built to accommodate truck traffic. Clinton Street and Budd Road will be closed during construction and utilized local roads for a detour. Evans Avenue will need to be closed during the reconstruction of the new intersection. Short term night closures of US 41 NBL may be required during removal of the existing bridge.

<b>Alternate No. 11 – Estimated Construction Cost</b>	
Road Construction	\$4,052,000
Bridge Construction (Removal)	\$165,000
<b>Total Construction</b>	<b>\$4,217,000</b>
Right-of-Way (Land Acquisition)	\$100,000
Utility Relocation	\$0
<b>Project Total (2019 Dollars)</b>	<b>\$4,317,000</b>

**Project Discussions:**

Alternate No. 1, Do Nothing, doesn't meet the needs for this project and will be dismissed.

Alternates 2 thru 11 meet the needs for this project and will be evaluated for the Engineers Assessment Report.

**Design Guidelines:**

<b>US 41, Clinton Street, &amp; Budd Road</b>	
Design Criteria:	Alternate No. 2 thru 11: 3R
Geometric Criteria:	IDM Figure 55-3F (US 41 & Clinton St.); Fig. 55-3H (Budd Rd., Evans Ave.)
Design Class:	Alternate No. 2 thru 11: Rural Principle Arterial; Local Road (Budd)
Terrain:	Alternate No. 2 thru 11: Level
Design Speed:	Alternate No. 2 thru 10: 45 mph (US 41); 40 mph (Clinton St., Budd Road, Evans Ave.) Alternate No. 11 – 30 mph (Evans Ave.)
Terrain:	Level
Travel Lane Width:	12 ft. (Lane) or 18 ft. Ramp Lane (US 41); 12 ft. (Clinton Street) & 11 ft. (Budd Road, Evans Ave.)
Shoulder Width:	6 ft. Paved (US 41 & Clinton St.); 4 ft. Paved (Budd Road, Evans Ave.)

**Project Limits:**

It is anticipated that the project limits for all alternates will vary in length based on the scope of work provided. The alternates vary from bridge removal only, to bridge removal with multiple sections of roadway reconstruction on US 41, Clinton Street and Budd Road, to bridge rehabilitation. The estimated project limits are shown on the plan sheets, see Appendix C.

**Pavement Elements:**

Alternates No. 3, 4, 5, and 7 thru 11 are anticipated to use the same pavement sections for the specified roads to be reconstructed, with the exception that Alternate No. 3, 5, 9, 10 and 11 will require underdrains for the US 41 southbound ramp. A thicker pavement section is anticipated for US 41 than Clinton Street, Budd Road and Evans Avenue. Alternate No. 2 is anticipated to require resurfacing of Budd Road only and Alternate No. 6 requires resurfacing on Clinton Street only. A preliminary pavement section of 10 inches will be utilized, per the INDOT Design Manual Figure 304-21B, throughout the limits of new pavement for Clinton Street and Budd Road. Any pavement replacement on US 41 will follow the section per IDM Figure 304-21C and 21D, requiring 13 inches of pavement. The designer will request a pavement design from INDOT during the design phase to determine the final pavement depth. All roads are anticipated to include full depth pavement within certain alternates. A request for shoulder thicknesses will be included with the pavement design request, but it is anticipated to match the mainline depth. A pavement design request will also be submitted for the crossover required on Alternates 3, 10



and 11. The incidental limits will be milled and resurfaced with a layer of asphalt surface to transition the proposed pavement into the existing pavement for each alternate.

### **Roadway Geometric Improvements:**

Alternate No. 2 will require no major pavement reconstruction. The only pavement construction will be required at the intersection of US 41 and Budd Road. The remaining portions of Budd Road will be milled and resurfaced. The existing pavement between Budd Road and Evans Avenue for the existing Clinton Street will be removed. The existing bridge will be removed.

Alternate No. 3 will be constructed utilizing the existing alignments. Clinton Street will be reconstructed starting approximately 650 ft. south of the intersection of US 41 NBL and Clinton Street and extending approximately 850 ft. north of the same intersection. The existing roadway will be lowered approximately 19 ft. to match the grade of the existing US 41 NBL and a new intersection will be constructed with a stop condition. A right turn from US 41 to Clinton Street southbound and a right turn from Clinton Street onto US 41 NBL will be included. The portion of Clinton Street north of the intersection will only be constructed with the southbound Clinton Street lane. Approximately 1150 ft. of US 41 SBL will also be reconstructed due to the change in grade. The existing SBL is built to an 8.0% superelevation and horizontal curve meeting a 50 mph design speed. The ramp will be reconstructed to match the existing conditions and the interchange will need to be signed for 45 mph due to the existing geometry of the northbound lane. Approximately 375 ft. of Budd Road will be reconstructed due to the Clinton Street reconstruction requiring the intersection with Budd Road to be lowered approximately 2 ft. An additional 100 ft. of Budd Road will be resurfaced. If the 45 mph design speed is not utilized for US 41, a Level One Design Exception will be required.

Alternate No. 4 will be constructed utilizing the existing alignments. Clinton Street will be reconstructed starting approximately 650 ft. south of the intersection of US 41 NBL and Clinton Street. The existing roadway will be lowered approximately 19 ft. to match the grade of the existing US 41 NBL and a new intersection will be constructed with a stop condition. A right turn from US 41 to Clinton Street southbound and a right turn from Clinton Street onto US 41 NBL will be included. The southbound traffic for US 41 will remain on the existing lanes and utilize the intersection at Budd Road to access Clinton Street. Approximately 375 ft. of Budd Road will be reconstructed due to the Clinton Street reconstruction requiring the intersection with Budd Road to be lowered approximately 2 ft. An additional 100 ft. of Budd Road will be resurfaced. The existing portions of Clinton Street from the intersection with US 41 NBL extending approximately 500 ft. north will be removed and create a single lane southbound on US 41. The existing bridge will be removed.

Alternate No. 5 will be constructed using the existing alignments for Clinton Street and US 41 NBL, however US 41 SBL will be reconstructed on a new alignment. Clinton Street will be reconstructed starting approximately 650 ft. south of the intersection of US 41 NBL and Clinton Street. The existing roadway will be lowered approximately 19 ft. to match the grade of the existing US 41 NBL and a new intersection will be constructed with a ramp lane for northbound Clinton Street to merge onto US 41 NBL. A right turn from US 41 SBL to Clinton Street southbound will be included at the new intersection. Approximately 2350 ft. of US 41 SBL will be reconstructed on a similar alignment to US 41 NBL and use a similar median width as the section of US 41 to the west. Based on the existing curve radius, the portion of roadway will be reconstructed to meet 45 mph design speed. The reconstructed portion of US 41 SBL will be built to an 8.0% superelevation. A left turn lane will be constructed for the southbound traffic to access Clinton Street southbound. Approximately 375 ft. of Budd Road will be reconstructed due to the Clinton Street reconstruction requiring the intersection with Budd Road to be lowered approximately 2 ft. An additional 100 ft. of Budd Road will be resurfaced. The remaining portions of Clinton Street north of the intersection with US 41 NBL will be removed for approximately 1050 ft. and the remaining portions of the US 41 SBL removed for approximately 1100 ft. Only the existing bituminous pavement is expected to be removed and the embankment will remain. Approximately 150 ft. of the intersection with Evans Avenue will be reconstructed with the new

section of US 41 SBL. The existing bridge will be removed. If the 45 mph design speed is not utilized for US 41, a Level One Design Exception will be required.

Alternate No. 6 will be constructed on the existing Clinton Street alignment. Approximately 50 ft. of pavement milling and resurfacing will be required at the end of each concrete approach slab. The existing concrete approach slabs will be removed and replaced to match the proposed clear roadway of the bridge deck. The bridge deck clear roadway will be slightly increased, however will not meet the minimum standards and require a Level One Design Exception.

Alternate No. 7 will be constructed on the existing Clinton Street alignment. Approximately 290 ft. of pavement reconstruction will be required off each end of the bridge deck. The existing crest vertical curve length will be reduced in order to provide an approximate 2.5 ft. grade raise. The crest curve will meet the requirements of the IDM Geometric tables. The existing concrete approach slabs will be removed and replaced matching the clear roadway of the bridge deck. The bridge deck clear roadway will be slightly increase, however will not meet the minimum standards and require a Level One Design Exception. The vertical clearance will be increased to 16 ft. over US 41, no improvements are anticipated for any of the remaining streets.

Alternate No. 8 will be constructed using the existing alignments for Clinton Street, US 41, Budd Road and Evans Avenue. Clinton Street will be reconstructed starting approximately 650 ft. south of the intersection of US 41 NBL and Clinton Street. The existing roadway will be lowered approximately 19 ft. to match the grade of the existing US 41 NBL and a new intersection will be constructed. A right turn from US 41 NBL to Clinton Street southbound will be included at the new intersection along with a right turn from Clinton Street northbound to US 41 NBL. Approximately 400 ft. of US 41 NBL right lane and 500 ft. of US 41 SBL left shoulder will be reconstructed as part of this alternate. Based on the existing curve radius, the portion of US 41 SBL will be reconstructed to meet 45 mph design speed. A left turn lane will be constructed for the southbound traffic to access Clinton Street southbound via a new J-Turn. The radius will meet the turning movement for the Indiana Design Vehicle. Approximately 375 ft. of Budd Road will be reconstructed due to the Clinton Street reconstruction requiring the intersection with Budd Road to be lowered approximately 2 ft. An additional 100 ft. of Budd Road will be resurfaced. The remaining portions of Clinton Street north of the intersection with US 41 NBL will be removed for approximately 500 ft. Only the existing bituminous pavement is expected to be removed and the embankment will remain. The existing bridge will be removed. If the 45 mph design speed is not utilized for US 41, a Level One Design Exception will be required. A Level One Design Exception will be needed for shoulder width on US 41 NBL.

Alternate No. 9 will be constructed using the existing alignments for US 41, Budd Road and Evans Avenue. Clinton Street will be reconstructed starting approximately 650 ft. south of the intersection of US 41 NBL and Clinton Street. The existing roadway will be lowered approximately 19 ft. to match the grade of the existing US 41 NBL and a new intersection will be constructed. A right turn from US 41 NBL to Clinton Street southbound will be included at the new intersection along with a right slip lane from Clinton Street northbound to US 41 NBL. The ramp for northbound Clinton Street onto US 41 NBL will not be stop controlled and include a merging lane. Approximately 1400 ft. of Clinton Street will be reconstructed and an additional 100 ft. milled at resurfaced at the north end of the project. A US 41 exit ramp to Clinton Street southbound will be constructed on a new alignment and intersect at the US 41 NBL intersection. Portions of the embankment, including the existing pavement, for Clinton Street north of US 41 NBL will be removed and reconstructed for the southbound Clinton Street exit. The southbound ramp for Clinton Street will be stop controlled. Approximately 200 ft. of the US 41 SBL ramp will be resurfaced due incidental construction involved with the lowering of the ramp lane to Clinton Street. Approximately 900 ft. of the US 41 NBL will be milled and resurfaced as part of this alternate. Approximately 375 ft. of Budd Road will be reconstructed due to the Clinton Street reconstruction requiring the intersection with Budd Road to be lowered approximately 2 ft. An additional 100 ft. of Budd Road will be resurfaced. The existing bridge will be removed. If the 45 mph design speed is not utilized for US 41, a Level One Design Exception will be required.

Alternate No. 10 will be constructed using the existing alignments for Clinton Street, US 41, and Budd Road. Clinton Street will be reconstructed starting approximately 600 ft. south of the intersection of US 41 NBL and Clinton Street. The existing roadway will be lowered approximately 8 ft. to match the new grade for US 41 NBL and a new intersection will be constructed with a signal. Approximately 1350 ft. of Clinton Street will be reconstructed and an additional 400 ft. milled and resurfaced. The new intersection will include a right and left turn for US 41 NBL onto Clinton Street/US 41 NBL. A new lane will be constructed for US 41 to carry traffic from northbound Clinton Street to US 41 SBL. A portion of the US 41 Southbound ramp, approximately 600 ft., will be reconstructed and the remaining portions of the ramp will be milled and resurfaced. Approximately 600 ft. of US 41 NBL is anticipated to be reconstructed and an additional 100 ft. resurfaced to the south. The 600 ft. of reconstruction will include a new southbound lane to connect Clinton Street to US 41 SBL from the intersection. A new signal will be installed at the intersection of Clinton Street and US 41 NBL. Approximately 375 ft. of Budd Road will be reconstructed due to the Clinton Street reconstruction requiring the intersection with Budd Road to be lowered approximately 2 ft. An additional 100 ft. of Budd Road will be resurfaced. Approximately 400 ft. of Evans Avenue will be reconstructed and realigned with Northwood Drive. A new signal will be installed at the intersection of US 41 and Evans Avenue. The existing bridge will be removed. If the 45 mph design speed is not utilized for US 41, a Level One Design Exception will be required.

Alternate No. 11 will be constructed using the existing alignments for Clinton Street, US 41 SBL and Budd Road. Evans Avenue will require a realignment. Clinton Street will be reconstructed starting approximately 600 ft. south of the intersection of US 41 NBL and Clinton Street. The existing roadway will be lowered approximately 8 ft. to match the new grade for US 41 NBL and a new intersection will be constructed with a signal. Approximately 1300 ft. of Clinton Street will be reconstructed and an additional 150 ft. milled and resurfaced. The new intersection will include a right and left turn for US 41 NBL onto Clinton Street/US 41 NBL and also include a through movement to Evans Avenue. A new lane will be constructed for US 41 to carry traffic from northbound Clinton Street to southbound US 41. A portion of the US 41 Southbound ramp, approximately 600 ft., will be reconstructed. Approximately 600 ft. of US 41 NBL is anticipated to be reconstructed and an additional 100 ft. resurfaced to the south. The 600 ft. of reconstruction will include a new southbound lane to connect Clinton Street to US 41 SBL from the intersection. A new signal will be installed at the intersection of Clinton Street and US 41 NBL. Approximately 375 ft. of Budd Road will be reconstructed due to the Clinton Street reconstruction requiring the intersection with Budd Road to be lowered approximately 2 ft. An additional 100 ft. of Budd Road will be resurfaced. Approximately 1300 ft. of Evans Avenue will be reconstructed to align with the new intersection at US 41. A 30 mph design speed will be required for the northern most curve on Evans Avenue. The existing bridge will be removed. If the 45 mph design speed is not utilized for US 41, a Level One Design Exception will be required.

**Hydraulics:**

All of the alternates will utilize road side ditches to collect drainage and outlet the water into nearby ditches. Cross pipes may be required under Clinton Street north of US 41 to convey flow to the east.

**Recommendation:**

The recommendation for this report would be to build Alternate No. 8 which provides a solution to the bridge removal and provides an improved traffic pattern at Evans Avenue. Alternate No. 8 is not the lowest cost option, however meets the purpose and need of the project. The major change would be Clinton Street southbound traffic would be required to use a J-Turn to access Clinton Street. Northbound Clinton Street would utilize a stop condition and turn directly onto US 41 NBL. This alternate also includes improvements to Budd Road. Survey would be required for this project for the reconstruction of Clinton Street, US 41 and Budd Road. A Level One Design Exceptions is anticipated for shoulder width on northbound US 41. No additional Level One Design Exceptions will be required if interchange is posted for a 45 mph

speed limit. Additional right-of-way is anticipated at the intersection of US 41 and Clinton Street. Since the overall scope of this alternative is to lower Clinton Street, no utility relocations are anticipated.

**9. TRAFFIC MAINTENANCE DURING CONSTRUCTION:**

Based on the recommended scope of work, the recommended alternative for maintenance of traffic would be a full closure of Clinton Street and Budd Road during construction and route traffic to a local detour utilizing Hasselburger Avenue and US 41. Hasselburger Avenue is located approximately 1.8 miles south of the existing bridge. The detour length is approximately 4.0 miles in length, with a net increase in travel distance of 2.2 miles. US 41 traffic would be maintained with one lane of traffic in each direction. Phased construction was not evaluated or not cost effective for this project due to the amount of temporary shoring required to reconstruct Clinton Street under traffic.

**10. COST ESTIMATE (2020 dollars):**

Alternate No. 8 is the preferred alternate, as this provides an alternative that meets the overall scope of the project. Alternate 8 provides the proper geometric for all sections of the proposed roadway. The costs for the different alternates are provided above under the alternative discussions. The main difference in the road cost are based on the amount of roadway reconstruction required. It is assumed that Alternate No. 3 thru 5 and 7 through 11 will include full depth pavement and shoulder reconstruction. Alternate No. 2 and 6 will only include pavement resurfacing, however Alternate No. 6 and 7 will require bridge rehabilitation.

<b>Total Recommended Alternate</b>	
<b>Alternate No. 8 Construction Cost</b>	<b>\$1,576,000</b>
Right-of-Way (Land Acquisition)	\$30,000
Utility Relocation	\$0
<b>Total Project Cost</b>	<b>\$1,606,000</b>

**11. ENVIRONMENTAL ISSUES:**

Based on the selected Alternative, environmental permits will be required for this project. No waterway permits (Section 401 Water Quality Certification (WQC) or a Section 404 Permit for Discharge of Dredged or Fill Material) are required for construction. A Rule 5 permit is anticipated if the area of soil disturbance is greater than one acre. The area of impact will be determined once the preferred alternate is selected and the project limits are finalized.

The USFWS NWI mapping did not identify any potential wetlands in the project vicinity. To ensure that no wetlands will be impacted, it is recommended that a field investigation be conducted to evaluate the project site. Due to the lack of streams and apparent wetlands in the project area, it is unlikely that a WOUSR should be prepared as no permits are anticipated. Coordination with the INDOT Ecology and Waterway Permitting Section would confirm the presence of any jurisdictional waters. Additional coordination with the USACE and the IDEM would also be required.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps did not identify any floodplains in the project area. This project will have no expected impact on any floodplains. Coordination to confirm this finding with the IDNR and INDOT Ecology and Waterway Permitting Section should be initiated.

There are two potentially historic (above-ground) building located south of the US 41 interchange. The first is a (1940s) Colonial Revival house (Survey Number 167-551-05016),



which is on Old US 41, and rated as Notable in the SHAARD database and in the Register. A contributing resource, a (1920s) Bungalow house (Survey Number 167-454-05017) is further to the south on 87<sup>th</sup> Avenue and within the project area; it is listed in the SHAARD database and in the Register. Eligibility of either house for listing on the NRHP has not been completed. Coordination with INDOT CRO and the IN SHPO should be initiated.

The project area will need to be evaluated by a Qualified Professional meeting the Secretary of Interior's Professional Qualification Standards for compliance with Section 106 for above ground resources. If permanent right-of-way is required, an assessment of the area by a Professional Archaeologist will be necessary to identify and evaluate impacts to below ground resources as part of the Section 106 compliance.

No publicly owned parks and recreational areas or wildlife and waterfowl refuges considered as Section 4(f) properties were identified within the project limits; however, two potentially historic properties are within the project area. Section 4(f) of the US Department of Transportation Act of 1966 prohibits the use of public parks, recreational facilities, wildlife refuges or historic sites for federally funded transportation facilities unless there is no feasible and prudent alternative to such use. Depending upon the property boundaries of the Colonial Revival house in relation to the proposed project footprint, a Section 4(f) Evaluation may be needed as part of the environmental documentation for this house. Due to the location of the Bungalow house nearly 0.5 mile southwest of the bridge, no Section 4(f) use of property is expected.

A desktop investigation of the project area was completed. No hazardous material (hazmat) of concern were identified within a 0.5-mile radius of the project area. A four inch natural gas pipeline runs approximately 350 feet east of and parallel to Clinton Street/US 41. It is owned by the Terre Haute Gas Company and extends through the project area. Coordination with INDOT Utilities Section should be undertaken during the environmental and design phases. A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. Additional investigation to confirm the presence or absence of bats will be necessary. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will need to be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

## **12. SURVEY REQUIREMENTS:**

No survey has been performed for this project. Based on the recommended alternative, the survey along Clinton Street should start approximately 700 feet south of existing bridge and extend approximately 700 feet north of the existing bridge. Budd Road should be surveyed for approximately 600 ft. west of Clinton Street and include the intersection with US 41. US 41 NBL and SBL should be surveyed from Budd Road extending 1900 ft. to the east.

## **13. RIGHT-OF-WAY IMPACT (R/W):**

Based on the existing plans, the R/W limits along Clinton Street and US 41 varied in width. US 41 Northbound Lanes R/W limits varied from 38 ft. to 87 ft. along the south and eastside of US 41. Clinton Street varied from 38 ft. to 67 ft. along the eastside and 45 ft. to 55 ft. along the west side of Clinton Street. Based on the discussion with INDOT R/W, the existing R/W limits shown on the plans will be held for this project. Based on the selected alternative, new R/W may be required for the intersection reconstruction.

## **14. RAILROAD IMPACTS:**

There are no railroads within the project limits. There is a railroad located approximately 0.75 miles east of US 41 and crosses under US 41 approximately 4.4 miles north of the project limits, therefore no impacts are anticipated.

**15. UTILITY IMPACTS:**

Based on the site visit, most of the utilities appear to be located near the existing R/W limits or are located beyond the toe of slope for the roadway embankment. An existing high power electric line does cross over US 41 and Clinton Street and may cause issues with cranes or excavators depending on the selected alternate. The voltage on the existing electrical line is 230 kV and requires a minimum 20 feet of horizontal and vertical clearance during construction. Widening Clinton Street to meet current shoulder requirements may place additional fill on the underground fiber and sanitary lines located near the toe of slope, however, the roadway is anticipated to be lowered. Additional discussions with the existing utilities will take place during the design phase. No utility reimbursement is anticipated.

**16. RELATED PROJECTS, CONSISTENCY:**

The referenced project is scheduled for letting in January of 2022 per the SPMS schedule provided by INDOT. Based on coordination with the INDOT Crawfordsville District, there were currently no projects scheduled for construction near this project during the same time frame.

**17. COORDINATION AND MEETINGS:**

A field check meeting was held at the project site on February 6, 2019 with Richard Gilyeat, Chris Wheeler, Don Thorton, Tim Watson and Trevor Hassler of the INDOT Crawfordsville District. All items discussed at the field check meeting are discussed in the field check meeting minutes provided in the Appendix D. Additional meetings during the design phase shall be coordinated through the designer and Richard Gilyeat of INDOT.

**18. CONCURRENCE:**

The Project Manager, Consultants Services Manager and System Asset Manager shall be consulted if deviation from the proposal is determined to be necessary during a later phase of project development. The person initiating the change shall send a memo to the project manager for concurrence. The memo shall include justification for the change and the estimated cost difference.

This document prepared by:



\_\_\_\_\_  
 Tony Lukac, P.E.  
 Senior Bridge Engineer  
 Beam, Longest & Neff, LLC

DATE: 4/16/2020

Reviewed by:

*Michael Eubank*

\_\_\_\_\_  
 Mike Eubank  
 INDOT Crawfordsville District  
 Scoping Engineer  
 Recommend: Approval

DATE: 6/15/2020

Chris Wheeler, P.E.

\_\_\_\_\_  
 Chris Wheeler  
 INDOT Crawfordsville District  
 Bridge Asset Manager  
 Recommend: \_\_\_\_\_

DATE: 5/15/2020

*Scott J. Chandler*

\_\_\_\_\_  
 Scott Chandler  
 INDOT Crawfordsville District  
 System Asset Manager  
 Recommend: \_\_\_\_\_

DATE: 6-15-2020

\_\_\_\_\_  
 Richard Gilyeat  
 INDOT Crawfordsville District  
 Project Manager  
 Recommend: \_\_\_\_\_

DATE: \_\_\_\_\_

**APPENDIX B:**

\*Accident data was provided by INDOT for the intersections within proposed project limits. The traffic accidents were studied for 3 years, 2016 thru 2018.

Accident	Claim No.	Date	Location - Intersections	Type	Injury
1	902700385	5/8/2016	US 41NB & Evans Ave	Failure to Yield Right of Way	
2	902765999	8/26/2016	US 41NB & Evans Ave	Failure to Yield Right of Way	1
3	902774959	9/10/2016	Clinton St. at Northwood Dr.	Ran off Road	1
4	902778399	9/13/2016	US 41NB & Evans Ave	Failure to Yield Right of Way	
5	902809320	11/3/2016	Clinton Street at Budd Road	Driver Distracted - Rear End	
6	902831024	12/6/2016	Clinton St. at Northwood Dr.	Left of center	
7	902839038	12/16/2016	US 41 at Budd Road	Improper Turning	
8	902879384	2/24/2017	Clinton St. at Northwood Dr.	Failure to Yield Right of Way	1
9	902883112	2/28/2017	US 41NB & Evans Ave	Failure to Yield Right of Way	
10	902931069	5/24/2017	US 41NB & Evans Ave	Failure to Yield Right of Way	
11	902937451	6/2/2017	US 41NB & Evans Ave	Failure to Yield Right of Way	
12	902940499	6/5/2017	Clinton Street at Budd Road	Driver Distracted - Rear End	
13	902985004	8/24/2017	US 41NB & Evans Ave	Failure to Yield Right of Way	
14	902997235	9/14/2017	US 41NB & Evans Ave	Disregarding Signal	
15	903013113	10/10/2017	Clinton Street at Budd Road	Following too closely - Rear End	
16	903106362	2/24/2018	US 41NB & Evans Ave	Failure to Yield Right of Way	
17	903122981	3/26/2018	US 41NB & Evans Ave	Failure to Yield Right of Way	1
18	903124975	3/30/2018	US 41NB & Evans Ave	Failure to Yield Right of Way	1
19	903152712	5/20/2018	US 41NB & Evans Ave	Failure to Yield Right of Way	
20	903197141	8/6/2018	US 41 at Budd Road	Failure to Yield Right of Way	
21	903210917	8/29/2018	US 41NB & Evans Ave	Failure to Yield Right of Way	
22	903215426	9/5/2018	Clinton St. at Northwood Dr.	Failure to Yield Right of Way	
23	903225573	9/23/2018	US 41NB & Evans Ave	Failure to Yield Right of Way	1
Total					6

**ACCIDENT DATA**





September 26, 2016

Mr. Richard Gilyeat  
 Indiana Department of Transportation  
 Crawfordsville District  
 41 West 300 North  
 Crawfordsville, IN 47933

Re: Traffic Count Data  
 Project No. 1500146  
 Des. No. 1500146  
 Contract No. B-37781  
 Bridge File: 041-84-0322-ANBL  
 Old US 41 over US 41 NB  
 Vigo County

Dear Mr. Gilyeat:

We have completed the traffic counts for the referenced project. Please find below the information calculated from the data collected:

AADT (2016): 5,026 vpd  
 AADT (2018): 5,086 vpd  
 AADT Projected (2038): 5,733 vpd  
 Directional Distribution: 50%  
 % Trucks: 11% AADT  
                   2% DHV  
 Growth Rate: 0.6%

If you have any question or require additional information, please contact us.

Very truly yours,

BEAM, LONGEST AND NEFF, L.L.C.

A handwritten signature in black ink, appearing to read 'Tony Lukac', is written over a faint, light-colored signature line.

Tony Lukac, P.E.

APL/al  
 xc: File # 160061

## TRAFFIC DATA- CLINTON STREET COUNTS



Indiana Department of Transportation



Traffic Count Database System (TCDS)

Disclaimer: The data is provided pursuant to the Indiana Open Records Act. It represents accurate reproductions of the records on file with the Indiana Department of Transportation; however, [more](#)

List View All DIRs

Record 16476 of 27469 Goto Record go

Location ID	840355	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	No
LRS ID	200000041000001	LRS Loc Pt.	120.8232
SF Group	U2_SWG	Route Type	US Route
AF Group	U3_A	Route	41
GF Group	U2_SWG	Active	Yes
Class Dist Grp		Category	
Seas Class Grp			
WIM Group			
QC Group	JUR2SHORT		
Fnct'l Class	Minor Arterial	Milepost	
Located On	US 41 0.50 MI N OF CLINTON ST		
Loc On Alias	US 41		

More Detail

**STATION DATA**

Directions: 2-WAY NEG POS

**AADT**

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2019	8,247 <sup>3</sup>		9	60	7,856 (95%)	390 (5%)	Grown from 2018
2018	8,198 <sup>3</sup>		9	60	7,809 (95%)	388 (5%)	Grown from 2017
2017	8,165 <sup>3</sup>		9	60	7,778 (95%)	386 (5%)	Grown from 2016
2016	8,092	761	9	60	7,708 (95%)	383 (5%)	
2015	8,390 <sup>3</sup>		10	60	7,850 (94%)	539 (6%)	Grown from 2014

1-5 of 12

**Travel Demand Model**

Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV

**VOLUME COUNT**

Date	Int	Total
Wed 3/16/2016	60	8,444
Tue 3/15/2016	60	8,474
Wed 4/10/2013	60	8,492
Tue 4/9/2013	60	8,715
Tue 7/7/2009	60	8,544
Mon 7/6/2009	60	8,851

**VOLUME TREND**

Year	Annual Growth
2019	1%
2018	0%
2017	1%
2016	-4%
2015	2%
2014	1%
2013	0%
2009	-2%
2003	2%
2000	-1%

1-10 of 11

**SPEED**

Date	Int	Pace	85th	Total
Wed 3/16/2016	60	55 - 65	62	8,444

**CLASSIFICATION**

Date	Int	Total
Wed 3/16/2016	60	8,444

## TRAFFIC DATA- US 41 COUNTS NORTH OF INTERSECTION



Indiana Department of Transportation



Traffic Count Database System (TCDS)

Disclaimer: The data is provided pursuant to the Indiana Open Records Act. It represents accurate reproductions of the records on file with the Indiana Department of Transportation; however... more

List View All DIRs

Record	16475	of 27469	Goto Record	go
Location ID	840354	MPO ID		
Type	SPOT	HPMS ID	284_041_20.143	
On NHS	No	On HPMS	Yes	
LRS ID	20000000410000001	LRS Loc Pt.	118.8893	
SF Group	U2_SWG	Route Type	US Route	
AF Group	U2_A	Route	41	
GF Group	U2_SWG	Active	Yes	
Class Dist Grp		Category		
Seas Class Grp				
WIM Group				
QC Group	JUR2SHORT			
Funct'l Class	Other Principal Arterial (OPA)	Milepost		
Located On	US 41 4.68 MI N OF SR 63 LT			
Loc On Alias	US 41			

STATION DATA

Directions: 2-WAY NEG POS 1 2 1 2

Year	AADT	DHV-30	K %	D %	PA	BC	Src
2019	5,833 <sup>3</sup>		10	63	5,526 (95%)	306 (5%)	Grown from 2018
2018	5,798 <sup>3</sup>		10	63	5,493 (95%)	304 (5%)	Grown from 2017
2017	5,775 <sup>3</sup>		10	63	5,471 (95%)	303 (5%)	Grown from 2016
2016	5,723	564	10	63	5,422 (95%)	300 (5%)	
2015	5,677 <sup>3</sup>		9	68	5,265 (93%)	411 (7%)	Grown from 2014

Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV
------------	------------	--------	--------	--------	--------	--------	--------	--------	--------

Date	Int	Total
Wed 3/16/2016	60	6,027
Tue 3/15/2016	60	5,940
Wed 4/10/2013	60	5,780
Tue 4/9/2013	60	5,865
Wed 7/8/2009	60	5,709
Tue 7/7/2009	60	5,831

Year	Annual Growth
2019	1%
2018	0%
2017	1%
2016	1%
2015	2%
2014	1%
2013	0%
2009	-4%
2006	-4%
2003	4%

Date	Int	Pace	85th	Total
Wed 3/16/2016	60	55 - 65	67	6,027
Tue 3/15/2016	60	55 - 65	66	5,940

Date	Int	Total
Wed 3/16/2016	60	6,027
Tue 3/15/2016	60	5,940

# TRAFFIC DATA- US 41 COUNTS SOUTH OF INTERSECTION



Indiana Department of Transportation  
Crawfordsville District  
Traffic Section

US-41 at Budd Rd.  
North Terre Haute  
7th January 2019

File Name : 19-001  
Site Code : 00000000  
Start Date : 1/7/2019  
Page No : 3

Groups Printed: Cars - Trucks

Start Time	Northbound US-41 Eastbound				Southbound US-41 Westbound				Northbound Budd Rd. Northbound				Southbound Quinn Ave. Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
01:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
01:15 AM	0	0	1	1	0	1	0	1	0	1	0	1	0	0	0	0	3
01:30 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
01:45 AM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	2	4	6	0	1	0	1	0	2	0	2	0	1	0	1	10
02:00 AM	1	2	1	4	0	1	0	1	0	0	0	0	0	0	0	0	5
02:15 AM	0	4	0	4	0	3	0	3	0	0	0	0	0	0	0	0	7
02:30 AM	0	7	0	7	0	2	0	2	1	0	0	1	0	0	0	0	10
02:45 AM	0	5	0	5	0	1	0	1	0	1	0	1	0	0	0	0	7
Total	1	18	1	20	0	7	0	7	1	1	0	2	0	0	0	0	29
03:00 AM	0	4	0	4	0	3	0	3	0	0	0	0	0	0	0	0	7
03:15 AM	0	2	0	2	0	5	0	5	1	0	0	1	0	0	0	0	8
03:30 AM	0	3	0	3	0	3	0	3	0	0	0	0	0	0	0	0	6
03:45 AM	0	1	1	2	0	4	0	4	0	1	0	1	0	0	0	0	7
Total	0	10	1	11	0	15	0	15	1	1	0	2	0	0	0	0	28
04:00 AM	0	2	0	2	0	5	0	5	0	0	0	0	0	1	0	1	8
04:15 AM	0	4	0	4	0	8	0	8	1	0	0	1	0	0	0	0	13
04:30 AM	0	5	1	6	0	11	0	11	1	0	0	1	0	0	0	0	18
04:45 AM	0	1	0	1	0	16	0	16	3	0	0	3	0	0	0	0	20
Total	0	12	1	13	0	40	0	40	5	0	0	5	0	1	0	1	59
Grand Total	35	2134	295	2464	11	2358	13	2382	284	44	6	334	11	33	43	87	5267
Apprch %	1.4	86.6	12.0		0.5	99.0	0.5		85.0	13.2	1.8		12.6	37.9	49.4		
Total %	0.7	40.5	5.6	46.8	0.2	44.8	0.2	45.2	5.4	0.8	0.1	6.3	0.2	0.6	0.8	1.7	

Indiana Department of Transportation  
Crawfordsville District  
Traffic Section

US-41 at Budd Rd.  
North Terre Haute  
7th January 2019

File Name : 19-001  
Site Code : 00000000  
Start Date : 1/7/2019  
Page No : 3

Groups Printed: Trucks

Start Time	Northbound US-41 Eastbound				Southbound US-41 Westbound				Northbound Budd Rd. Northbound				Southbound Quinn Ave. Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
Grand Total	2	125	0	127	1	140	4	145	1	0	2	3	2	2	1	5	280
Apprch %	1.6	98.4	0.0		0.7	96.6	2.8		33.3	0.0	66.7		40.0	40.0	20.0		
Total %	0.7	44.6	0.0	45.4	0.4	50.0	1.4	51.8	0.4	0.0	0.7	1.1	0.7	0.7	0.4	1.8	

**TRAFFIC DATA- TURNING MOVEMENTS**





Alternative 2: Remove Existing Bridge. Remove North Segment of Clinton Street. Reroute All US 41/Clinton Street Traffic to Along Budd Road  
 Preliminary Construction Cost Estimate: \$517,000

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION  ALTERNATE NO. 2		HORIZONTAL SCALE	BRIDGE FILE
			1" = 150'	041-84-04322-ANBL
DESIGNED: APL _____ DRAWN: APL _____ CHECKED: TSW _____ CHECKED: TSW _____	ALTERNATE NO. 2		VERTICAL SCALE	DESIGNATION
			NO SCALE	1500146
			DRAWING NO.	SHEETS
				C1 of C10
			CONTRACT	PROJECT
			R-37781	1500146





Alternative 3: Replace Existing Bridge with At-Grade, 4-Leg Intersection. Convert North Segment of Clinton Street to One-Way Southbound. Preliminary Construction Cost Estimate: \$3,342,000

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: APL _____	DRAWN: APL _____	
CHECKED: TSW _____	CHECKED: TSW _____	

INDIANA  
DEPARTMENT OF TRANSPORTATION

ALTERNATE NO. 3

HORIZONTAL SCALE 1" = 150'	BRIDGE FILE 041-84-04322-ANBL
VERTICAL SCALE NO SCALE	DESIGNATION 1500146
DRAWING NO. X of X	SHEETS C2 of C10
CONTRACT R-37781	PROJECT 1500146





Alternative 4: Replace Existing Bridge with At-Grade, 3-Leg Intersection. Remove North Segment of Clinton Street. Reroute US 41 SBL to Clinton Street Along Budd Road  
 Preliminary Construction Cost Estimate: \$1,185,000

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: APL _____	DRAWN: APL _____	
CHECKED: TSW _____	CHECKED: TSW _____	

INDIANA  
DEPARTMENT OF TRANSPORTATION

ALTERNATE NO. 4

HORIZONTAL SCALE 1" = 150'	BRIDGE FILE 041-84-04322-ANBL
VERTICAL SCALE NO SCALE	DESIGNATION 1500146
DRAWING NO.	SHEETS
	C3 of C10
CONTRACT R-37781	PROJECT 1500146





Alternative 5: Replace Existing Bridge. Realign US 41 Southbound Lanes Toward the East. Construct At-Grade Intersection at Clinton Street. Reconstruct Evans Avenue Intersection Preliminary Construction Cost Estimate: \$2,765,000

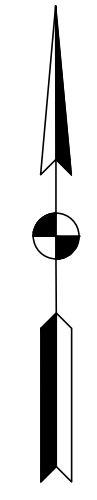
RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: APL _____	DRAWN: APL _____	
CHECKED: TSW _____	CHECKED: TSW _____	

INDIANA  
DEPARTMENT OF TRANSPORTATION

ALTERNATE NO. 5

HORIZONTAL SCALE 1" = 150'	BRIDGE FILE 041-84-04322-ANBL
VERTICAL SCALE NO SCALE	DESIGNATION 1500146
DRAWING NO.	SHEETS
CONTRACT R-37781	C4 of C10 PROJECT 1500146





Alternative 6: Bridge Deck Replacement  
 Preliminary Construction Cost Estimate: \$915,000

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: APL _____	DRAWN: APL _____	
CHECKED: TSW _____	CHECKED: TSW _____	

INDIANA  
 DEPARTMENT OF TRANSPORTATION

ALTERNATE NO. 6

HORIZONTAL SCALE 1" = 150'	BRIDGE FILE 041-84-04322-ANBL
VERTICAL SCALE NO SCALE	DESIGNATION 1500146
DRAWING NO.	SHEETS
	C5 of C10
CONTRACT R-37781	PROJECT 1500146





Alternative 7: Bridge Deck Replacement, Raise Superstructure to Provide 16 Feet of Vertical Clearance.  
 Preliminary Construction Cost Estimate: \$1,625,000

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: APL _____	DRAWN: APL _____	
CHECKED: TSW _____	CHECKED: TSW _____	

INDIANA  
DEPARTMENT OF TRANSPORTATION

ALTERNATE NO. 7

HORIZONTAL SCALE 1" = 150'	BRIDGE FILE 041-84-04322-ANBL
VERTICAL SCALE NO SCALE	DESIGNATION 1500146
DRAWING NO.	SHEETS
	C6 of C10
CONTRACT R-37781	PROJECT 1500146





Preferred Alternative  
 Alternative 8: Replace Existing Bridge with At-Grade, 3-Leg Intersection. Remove North Segment of Clinton Street. Construct J-Turn for US 41 SBL Access To Clinton Street  
 Preliminary Construction Cost Estimate:  
 \$1,490,000

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE
			1" = 150'	041-84-04322-ANBL
DESIGNED: APL	DRAWN: APL	ALTERNATE NO. 8	VERTICAL SCALE	DESIGNATION
			NO SCALE	1500146
CHECKED: TSW	CHECKED: TSW		DRAWING NO.	SHEETS
				C7 of C10
			CONTRACT	PROJECT
			R-37781	1500146





Alternative 9: Replace Existing Bridge with At-Grade, 4-Leg Intersection. Replace North Segment of Clinton Street with a One-Way Exit Ramp from US 41 SBL. Construct Ramp from NB Clinton Street onto US 41 NBL  
 Preliminary Construction Cost Estimate: \$2,491,000

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: APL _____	DRAWN: APL _____	
CHECKED: TSW _____	CHECKED: TSW _____	

INDIANA  
DEPARTMENT OF TRANSPORTATION

ALTERNATE NO. 9

HORIZONTAL SCALE 1" = 150'	BRIDGE FILE 041-84-04322-ANBL
VERTICAL SCALE NO SCALE	DESIGNATION 1500146
DRAWING NO.	SHEETS
	C8 of C10
CONTRACT R-37781	PROJECT 1500146





Alternative 10: Replace Existing Bridge with At-Grade, 3-Leg Intersection. Reroute US 41 NBL onto NB Clinton Street and Remove US 41 NBL Curve. Construct Signalized Intersection at US 41 and Evans Avenue  
 Preliminary Construction Cost Estimate: \$4,261,000

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: APL _____	DRAWN: APL _____	
CHECKED: TSW _____	CHECKED: TSW _____	

INDIANA  
DEPARTMENT OF TRANSPORTATION

ALTERNATE NO. 10

HORIZONTAL SCALE 1" = 150'	BRIDGE FILE 041-84-04322-ANBL
VERTICAL SCALE NO SCALE	DESIGNATION 1500146
DRAWING NO.	SHEETS
CONTRACT R-37781	C9 of C10 PROJECT 1500146





Alternative 11: Replace Existing Bridge with At-Grade, 4-Leg, Signalized Intersection. Reroute US 41 NBL onto NB Clinton Street. Reroute Evans Avenue Southward to Signalized Intersection at Clinton Street Preliminary Construction Cost Estimate: \$4,317,000

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: APL _____	DRAWN: APL _____	
CHECKED: TSW _____	CHECKED: TSW _____	

INDIANA DEPARTMENT OF TRANSPORTATION	
ALTERNATE NO. 11	

HORIZONTAL SCALE 1" = 150'	BRIDGE FILE 041-84-04322-ANBL
VERTICAL SCALE NO SCALE	DESIGNATION 1500146
DRAWING NO.	SHEETS
CONTRACT R-37781	C10 of C10 PROJECT 1500146



**APPENDIX D:**

8320 CRAIG STREET | INDIANAPOLIS, IN 46250  
 317.849.5832 | F. 317.841.4281 | 800.382.5206 | WWW.B-L-N.COM

A TRADITION OF EXCELLENCE SINCE 1945

February 14, 2019

**ENGINEERING ASSESSMENT FIELD CHECK MEETING MINUTES**

Meeting Date: February 6, 2019  
 Work Type: Bridge Rehabilitation/Elimination  
 Route: Old US 41  
 Des. No. 1500146  
 PE Project No. 1500146  
 Bridge File: 041-84-04322-ANBL  
 Over: US 41 NBL  
 Location: 6.13 mi north of middle junction of SR 63 in Vigo County (RP 120+23)

Attended By: Richard Gilyeat, INDOT Crawfordsville District Project Manager  
 Chris Wheeler, INDOT Crawfordsville District Bridge Asset Manager  
 Don Thornton, INDOT Crawfordsville District Area Engineer  
 Tim Watson, INDOT Crawfordsville District Traffic Engineer  
 Trevor Hassler, INDOT Crawfordsville District Construction Project Engineer  
 Mike McCool, Beam, Longest and Neff, L.L.C (BLN)  
 Tony Lukac, BLN

A Field Check Meeting, as part of the Engineering Assessment Report, was held on February 6, 2019 for the referenced project. A list of all attendees is listed above. The structure is being evaluated for a bridge deck replacement or a total removal and intersection reconfiguration. Any construction is anticipated to be performed under a full road closure and detour. The following is a brief summary of comments made at the field check:

1. Mr. Lukac briefly went over the project contract information and schedule. This project is being designed under a two phase contract, currently BLN is under contract to develop the Engineering Assessment Report. Since this project was put on hold, the original schedule was no longer valid. Mr. Gilyeat provided an updated schedule with an RFC date of 5/5/2021 and 7/14/2021 Letting. Mr. Thornton indicated this project would be better suited for a letting date closer to the end of the year and construction in the spring of 2022. Mr. McCool stated that BLN would assemble a new schedule for Mr. Gilyeat, all parties agreed, the updated schedule is attached to these minutes. Mr. Gilyeat also indicated this project will be bundled with one other project which is currently further along in the design process.
2. Mr. Lukac also stated that traffic counts were also part of the project, which BLN had performed 2 years prior. BLN asked if the counts may be used and just adjusted to the current year. All parties agreed. Mr. Watson stated INDOT had recently completed some counts and turning movement counts at Clinton Avenue and Budd Road. Mr. Watson provided BLN with a copy of the counts and also provided an electronic copy. BLN will include the traffic count information in the Engineering Assessment Report. Mr. Watson also requested a copy of the traffic counts completed by BLN which BLN will provide to INDOT.
3. Mr. Lukac briefly discussed the options to be evaluated in the Engineering Assessment Report. BLN will investigate a superstructure and a deck replacement. These alternates will include cost





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A TRADITION OF EXCELLENCE SINCE 1945

to increase the vertical clearance of Old US 41 to 16 ft. BLN will also investigate removal of the existing bridge. INDOT requested BLN to investigate the cost to lower Clinton Avenue back down to the grade of US 41 and reconstruct the intersection. Mr. Gilyeat also requested an alternate to include a merging lane from Clinton Avenue instead of a stop controlled intersection. BLN will investigate different alternatives for the intersection and provide cost.

4. During the site visit, it was identified that the existing superstructure had multiple beams with collision damage. INDOT personnel indicated they would see if any information was available at the district and provide the information to BLN. Mr. Watson also indicated there was a number of accidents that occurred at the intersection of Evans Avenue and US 41 just north of the existing bridge. BLN requested accident data from INDOT after the field check meeting to be included in the Engineering Assessment Report.
5. Mr. Lukac led a brief discussion on Utilities. The main concern is the high voltage electrical lines that cross above the existing bridge. Mr. Lukac indicated that BLN would investigate the voltage in the lines and determine the clearance requirements for overhead equipment. Additional utilities identified during the field check where a sanitary sewer, cable, phone, fiber optics and gas lines running parallel to Clinton Avenue. A complete list of utilities will be provided in the report.
6. Mr. Lukac led a brief discussion on the environmental concerns. Based on preliminary investigation, no wetlands are anticipated to be impacted. The only permit that may be required would be a Rule 5 permit depending on the selected alternative.
7. Mr. Lukac discussed any right-of-way(R/W) concerns. The existing project resides within INDOT's existing right-of-way and no additional R/W is anticipated.

Additional items noted at the field check are as follows. Clinton Avenue is posted for a 40-mph speed limit, with the profile in a vertical crest curve over the bridge and the alignment in tangent section. US 41 was posted for 55 mph and the vertical clearance of Clinton avenue is posted at 13.5 ft. The land use adjacent to the existing structure is agricultural in all one quadrant and residential homes in the other three quadrants.

This is our understanding of the comments made at the field check. If you have any additional comments or revisions, please contact us.

Very truly yours,

BEAM, LONGEST AND NEFF, L.L.C.

Tony Lukac, P.E.  
 BLN Project Manager

APL/al  
 Enclosure

xc: All Attendees  
 All Invitees  
 Larry Robbins, Vigo County Engineer  
 File #160061

**APPENDIX G:****BEAM, LONGEST & NEFF, L.L.C.**

Page \_\_\_\_\_ of \_\_\_\_\_

Job: Old US 41 over US 41  
 Item: Structure Cost Study

DES: APL DATE: 4/7/20  
 CK: TSW DATE: 4/8/20

**ALTERNATE 2****ROAD COSTS**

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	CONSTRUCTION ENGINEERING (3%)	LSUM	1.0	\$11,200.00	\$11,200.00
110-01001	MOBILIZATION AND DEMOBILIZATION (5%)	LSUM	1.0	\$18,700.00	\$18,700.00
201-52370	CLEARING RIGHT OF WAY (3%)	LSUM	1.0	\$11,200.00	\$11,200.00
202-02240	PAVEMENT REMOVE	SYS	178.0	\$38.00	\$6,764.00
202-02279	CURB AND GUTTER REMOVE	LFT	840.0	\$35.00	\$29,400.00
202-61300	PRESENT STRUCTURE REMOVE	LSUM	1.0	\$165,000.00	\$165,000.00
203-02000	EXCAVATION, COMMON	CYS	1050.0	\$22.00	\$23,100.00
203-02070	BORROW	CYS	0.0	\$17.00	\$0.00
205-12108	STORM WATER MANAGEMENT BUDGET	LSUM	1.0	\$10,000.00	\$10,000.00
205-12111	SWQCP PREP, LEVEL 2	LSUM	1.0	\$10,000.00	\$10,000.00
207-09935	SUBGRADE TREATMENT, TYPE IC	SYS	200.0	\$25.00	\$5,000.00
306-08043	MILLING, TRANSITION	SYS	570.0	\$8.00	\$4,560.00
306-08599	MILLING ASPHALT, 0.5"	SYS	3150.0	\$3.50	\$11,025.00
401-07328	QC/QA-HMA 3 70 SURFACE	TON	306.0	\$95.00	\$29,070.00
401-07398	QC/QA-HMA 3 70 INTERMEDIATE	TON	0.0	\$85.00	\$0.00
401-07408	QC/QA-HMA 3 64 BASE	TON	0.0	\$75.00	\$0.00
401-10258	JOINT ADHESIVE SURFACE	TON	1438.0	\$1.00	\$1,438.00
401-10259	JOINT ADHESIVE INTERMEDIATE	LFT	0.0	\$1.00	\$0.00
401-11785	LIQUID ASPHALT SEALANT	LFT	0.0	\$0.50	\$0.00
406-05520	ASPHALT FOR TACK COAT	TON	1.1	\$600.00	\$660.00
601-01522	GUARDRAIL TRANSITION, TGB	EACH	0.0	\$2,500.00	\$0.00
601-94889	GUARDRAIL END TREATMENT, OS	EACH	0.0	\$3,000.00	\$0.00
601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	LFT	0.0	\$25.00	\$0.00
610-07488	HMA FOR APPROACHES	TON	182.0	\$160.00	\$29,120.00
615-06490	RIGHT OF WAY MARKER	EACH	0.0	\$200.00	\$0.00
615-06505	MONUMENT, B	EACH	2.0	\$850.00	\$1,700.00
621-01004	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	EACH	2.0	\$550.00	\$1,100.00
621-06560	MULCHED SEEDING, U	SYS	2600.0	\$1.00	\$2,600.00
621-06575	SODDING, NURSERY	SYS	1278.0	\$5.50	\$7,029.00
628-09401	FIELD OFFICE, B	MONTH	4.0	\$2,000.00	\$8,000.00
715-05048	PIPE, TYPE 4, 6 IN	LFT	0.0	\$10.00	\$0.00
715-05171	PIPE, TYPE 3, 18 INCH	LFT	0.0	\$60.00	\$0.00
715-46010	PIPE END SECTION, 18 INCH	EACH	0.0	\$775.00	\$0.00
715-05177	PIPE, TYPE 3, CIRCULAR, 36 IN	LFT	0.0	\$80.00	\$0.00
715-46040	PIPE END SECTION, 36 IN	EACH	0.0	\$1,700.00	\$0.00
718-52810	AGGREGATE FOR UNDERDRAINS	CYS	0.0	\$55.00	\$0.00
801-06775	MAINTANING TRAFFIC	LSUM	1.0	\$20,000.00	\$20,000.00
808-06713	LINE, PAINT, SOLID, YELLOW, 4 IN	LFT	2876.0	\$1.25	\$3,595.00
808-06714	LINE, PAINT, SOLID, WHITE, 4 IN	LFT	2876.0	\$1.25	\$3,595.00

Subtotal =	\$413,856.00
Add 25% Contingency	\$103,464.00
<b>Total =</b>	<b>\$517,320.00</b>
<b>USE</b>	<b>\$517,000.00</b>



**BEAM, LONGEST & NEFF, L.L.C.**

Page \_\_\_\_\_ of \_\_\_\_\_

Job: Old US 41 over US 41  
 Item: Structure Cost Study

DES: APL DATE: 4/7/20  
 CK: TSW DATE: 3/10/20

**ALTERNATE 3****ROAD COSTS**

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	CONSTRUCTION ENGINEERING (3%)	LSUM	1.0	\$72,300.00	\$72,300.00
110-01001	MOBILIZATION AND DEMOBILIZATION (5%)	LSUM	1.0	\$120,500.00	\$120,500.00
201-52370	CLEARING RIGHT OF WAY (3%)	LSUM	1.0	\$72,300.00	\$72,300.00
202-02240	PAVEMENT REMOVE	SYS	178.0	\$38.00	\$6,764.00
202-02279	CURB AND GUTTER REMOVE	LFT	840.0	\$35.00	\$29,400.00
202-51300	PRESENT STRUCTURE REMOVE	LSUM	1.0	\$165,000.00	\$165,000.00
203-02000	EXCAVATION, COMMON	CYS	34968.0	\$22.00	\$769,296.00
203-02070	BORROW	CYS	0.0	\$17.00	\$0.00
205-12108	STORM WATER MANAGEMENT BUDGET	LSUM	1.0	\$25,000.00	\$25,000.00
205-12111	SWQCP PREP, LEVEL 2	LSUM	1.0	\$30,000.00	\$30,000.00
207-09935	SUBGRADE TREATMENT, TYPE IC	SYS	16124.1	\$25.00	\$403,102.50
306-08043	MILLING, TRANSITION	SYS	1348.9	\$8.00	\$10,791.20
306-08599	MILLING ASPHALT, 0.5"	SYS	0.0	\$3.50	\$0.00
401-07328	QC/QA-HMA 3 70 SURFACE	TON	1279.5	\$95.00	\$121,552.50
401-07398	QC/QA-HMA 3 70 INTERMEDIATE	TON	2136.1	\$85.00	\$181,568.50
401-07408	QC/QA-HMA 3 64 BASE	TON	5596.3	\$75.00	\$419,722.50
401-10258	JOINT ADHESIVE SURFACE	LFT	9541.5	\$1.00	\$9,541.50
401-10259	JOINT ADHESIVE INTERMEDIATE	LFT	6189.1	\$1.00	\$6,189.10
401-11785	LIQUID ASPHALT SEALANT	LFT	15114.5	\$0.50	\$7,557.25
406-05520	ASPHALT FOR TACK COAT	TON	12.7	\$600.00	\$7,620.00
601-01522	GUARDRAIL TRANSITION, TGB	EACH	0.0	\$2,500.00	\$0.00
601-94689	GUARDRAIL END TREATMENT, OS	EACH	0.0	\$3,000.00	\$0.00
601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	LFT	0.0	\$25.00	\$0.00
610-07488	HMA FOR APPROACHES	TON	0.0	\$160.00	\$0.00
615-06490	RIGHT OF WAY MARKER	EACH	0.0	\$200.00	\$0.00
615-06505	MONUMENT, B	EACH	6.0	\$850.00	\$5,100.00
621-01004	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	EACH	2.0	\$550.00	\$1,100.00
621-06560	MULCHED SEEDING, U	SYS	8800.0	\$1.00	\$8,800.00
621-06575	SODDING, NURSERY	SYS	2889.0	\$5.50	\$15,889.50
628-09401	FIELD OFFICE, B	MONTH	8.0	\$2,000.00	\$16,000.00
715-05048	PIPE, TYPE 4, 6 IN	LFT	1229.0	\$10.00	\$12,290.00
715-05171	PIPE, TYPE 3, 18 INCH	LFT	0.0	\$60.00	\$0.00
715-46010	PIPE END SECTION, 18 INCH	EACH	0.0	\$775.00	\$0.00
715-05177	PIPE, TYPE 3, CIRCULAR, 36 IN	LFT	128.0	\$80.00	\$10,240.00
715-46040	PIPE END SECTION, 36 IN	EACH	4.0	\$1,700.00	\$6,800.00
718-52610	AGGREGATE FOR UNDERDRAINS	CYS	109.2	\$55.00	\$6,006.00
801-06775	MAINTANING TRAFFIC	LSUM	1.0	\$50,000.00	\$50,000.00
801-52818	TEMPORARY CROSSOVER, TYPE A	LSUM	1.0	\$50,000.00	\$50,000.00
808-06713	LINE, PAINT, SOLID, YELLOW, 4 IN	LFT	13174.2	\$1.25	\$16,467.75
808-06714	LINE, PAINT, SOLID, WHITE, 4 IN	LFT	13174.2	\$1.25	\$16,467.75

Subtotal = \$2,673,366.05  
 Add 25% Contingency \$668,341.51

Total = \$3,341,707.56

**USE \$3,342,000.00**

**BEAM, LONGEST & NEFF, L.L.C.**

Page \_\_\_\_\_ of \_\_\_\_\_

**Job:** Old US 41 over US 41  
**Item:** Structure Cost Study

**DES:** APL    **DATE:** 4/7/20  
**CK:** TSW    **DATE:** 4/8/20

**ALTERNATE 4**

**ROAD COSTS**

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	CONSTRUCTION ENGINEERING (3%)	LSUM	1.0	\$25,700.00	\$25,700.00
110-01001	MOBILIZATION AND DEMOBILIZATION (5%)	LSUM	1.0	\$42,700.00	\$42,700.00
201-52370	CLEARING RIGHT OF WAY (3%)	LSUM	1.0	\$25,700.00	\$25,700.00
202-02240	PAVEMENT REMOVE	SYS	178.0	\$38.00	\$6,764.00
202-02279	CURB AND GUTTER REMOVE	LFT	840.0	\$35.00	\$29,400.00
202-51300	PRESENT STRUCTURE REMOVE	LSUM	1.0	\$165,000.00	\$165,000.00
203-02000	EXCAVATION, COMMON	CYS	6652.0	\$22.00	\$146,344.00
203-02070	BORROW	CYS	0.0	\$17.00	\$0.00
205-12108	STORM WATER MANAGEMENT BUDGET	LSUM	1.0	\$20,000.00	\$20,000.00
205-12111	SWQCP PREP, LEVEL 2	LSUM	1.0	\$20,000.00	\$20,000.00
207-09935	SUBGRADE TREATMENT, TYPE IC	SYS	5201.6	\$25.00	\$130,040.00
306-08043	MILLING, TRANSITION	SYS	1037.7	\$8.00	\$8,301.60
306-08599	MILLING ASPHALT, 0.5"	SYS	0.0	\$3.50	\$0.00
401-07328	QC/QA-HMA 3 70 SURFACE	TON	470.7	\$95.00	\$44,716.50
401-07398	QC/QA-HMA 3 70 INTERMEDIATE	TON	770.1	\$85.00	\$65,458.50
401-07408	QC/QA-HMA 3 64 BASE	TON	1411.9	\$75.00	\$105,892.50
401-10258	JOINT ADHESIVE SURFACE	LFT	2692.0	\$1.00	\$2,692.00
401-10259	JOINT ADHESIVE INTERMEDIATE	LFT	1026.6	\$1.00	\$1,026.60
401-11785	LIQUID ASPHALT SEALANT	LFT	2692.0	\$0.50	\$1,346.00
406-05520	ASPHALT FOR TACK COAT	TON	3.7	\$600.00	\$2,220.00
601-01522	GUARDRAIL TRANSITION, TGB	EACH	0.0	\$2,500.00	\$0.00
601-94689	GUARDRAIL END TREATMENT, OS	EACH	0.0	\$3,000.00	\$0.00
601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	LFT	0.0	\$25.00	\$0.00
610-07488	HMA FOR APPROACHES	TON	0.0	\$160.00	\$0.00
615-06490	RIGHT OF WAY MARKER	EACH	0.0	\$200.00	\$0.00
615-06505	MONUMENT, B	EACH	4.0	\$850.00	\$3,400.00
621-01004	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	EACH	2.0	\$550.00	\$1,100.00
621-06560	MULCHED SEEDING, U	SYS	4390.0	\$1.00	\$4,390.00
621-06575	SODDING, NURSERY	SYS	4323.0	\$5.50	\$23,776.50
628-09401	FIELD OFFICE, B	MONTH	5.0	\$2,000.00	\$10,000.00
715-05048	PIPE, TYPE 4, 6 IN	LFT	0.0	\$10.00	\$0.00
715-05171	PIPE, TYPE 3, 18 INCH	LFT	0.0	\$60.00	\$0.00
715-46010	PIPE END SECTION, 18 INCH	EACH	0.0	\$775.00	\$0.00
715-05177	PIPE, TYPE 3, CIRCULAR, 36 IN	LFT	0.0	\$80.00	\$0.00
715-46040	PIPE END SECTION, 36 IN	EACH	0.0	\$1,700.00	\$0.00
718-52610	AGGREGATE FOR UNDERDRAINS	CYS	0.0	\$55.00	\$0.00
801-06775	MAINTANING TRAFFIC	LSUM	1.0	\$50,000.00	\$50,000.00
808-06713	LINE, PAINT, SOLID, YELLOW, 4 IN	LFT	4699.2	\$1.25	\$5,874.00
808-06714	LINE, PAINT, SOLID, WHITE, 4 IN	LFT	4699.2	\$1.25	\$5,874.00

Subtotal = \$947,716.20  
 Add 25% Contingency \$236,929.05

Total = \$1,184,645.25

**USE \$1,185,000.00**



**BEAM, LONGEST & NEFF, L.L.C.**

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**Job:** Old US 41 over US 41  
**Item:** Structure Cost Study

**DES:** APL **DATE:** 4/7/20  
**CK:** TSW **DATE:** 4/8/20

**ALTERNATE 5**

**ROAD COSTS**

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	CONSTRUCTION ENGINEERING (3%)	LSUM	1.0	\$59,200.00	\$59,200.00
110-01001	MOBILIZATION AND DEMOBILIZATION (5%)	LSUM	1.0	\$98,600.00	\$98,600.00
201-52370	CLEARING RIGHT OF WAY (3%)	LSUM	1.0	\$59,200.00	\$59,200.00
202-02240	PAVEMENT REMOVE (Appr. Slabs)	SYS	178.0	\$38.00	\$6,764.00
202-02279	CURB AND GUTTER REMOVE	LFT	840.0	\$35.00	\$29,400.00
202-51300	PRESENT STRUCTURE REMOVE	LSUM	1.0	\$165,000.00	\$165,000.00
203-02000	EXCAVATION, COMMON	CYS	8329.0	\$22.00	\$183,238.00
203-02070	BORROW	CYS	0.0	\$17.00	\$0.00
205-12108	STORM WATER MANAGEMENT BUDGET	LSUM	1.0	\$45,000.00	\$45,000.00
205-12111	SWQCP PREP, LEVEL 2	LSUM	1.0	\$60,000.00	\$60,000.00
207-09935	SUBGRADE TREATMENT, TYPE IC	SYS	16891.7	\$25.00	\$422,292.50
306-08043	MILLING, TRANSITION	SYS	3594.4	\$8.00	\$28,755.20
306-08599	MILLING ASPHALT, 0.5"	SYS	0.0	\$3.50	\$0.00
401-07328	QC/QA-HMA 3 70 SURFACE	TON	1534.5	\$95.00	\$145,777.50
401-07398	QC/QA-HMA 3 70 INTERMEDIATE	TON	2233.3	\$85.00	\$189,830.50
401-07408	QC/QA-HMA 3 64 BASE	TON	6127.9	\$75.00	\$459,592.50
401-10258	JOINT ADHESIVE SURFACE	LFT	10075.0	\$1.00	\$10,075.00
401-10259	JOINT ADHESIVE INTERMEDIATE	LFT	7592.6	\$1.00	\$7,592.60
401-11785	LIQUID ASPHALT SEALANT	LFT	10734.0	\$0.50	\$5,367.00
406-05520	ASPHALT FOR TACK COAT	TON	14.3	\$600.00	\$8,580.00
601-01522	GUARDRAIL TRANSITION, TGB	EACH	0.0	\$2,500.00	\$0.00
601-94689	GUARDRAIL END TREATMENT, OS	EACH	0.0	\$3,000.00	\$0.00
601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	LFT	0.0	\$25.00	\$0.00
610-07488	HMA FOR APPROACHES	TON	0.0	\$160.00	\$0.00
615-06490	RIGHT OF WAY MARKER	EACH	6.0	\$200.00	\$1,200.00
615-06505	MONUMENT, B	EACH	12.0	\$850.00	\$10,200.00
621-01004	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	EACH	2.0	\$550.00	\$1,100.00
621-06560	MULCHED SEEDING, U	SYS	19460.0	\$1.00	\$19,460.00
621-06575	SODDING, NURSERY	SYS	4323.0	\$5.50	\$23,776.50
628-09401	FIELD OFFICE, B	MONTH	12.0	\$2,000.00	\$24,000.00
715-05048	PIPE, TYPE 4, 6 IN	LFT	2238.0	\$10.00	\$22,380.00
715-05171	PIPE, TYPE 3, 18 INCH	LFT	0.0	\$60.00	\$0.00
715-46010	PIPE END SECTION, 18 INCH	EACH	0.0	\$775.00	\$0.00
715-05177	PIPE, TYPE 3, CIRCULAR, 36 IN	LFT	64.0	\$80.00	\$5,120.00
715-46040	PIPE END SECTION, 36 IN	EACH	2.0	\$1,700.00	\$3,400.00
718-52610	AGGREGATE FOR UNDERDRAINS	CYS	198.9	\$55.00	\$10,939.50
801-06775	MAINTANING TRAFFIC	LSUM	1.0	\$50,000.00	\$50,000.00
808-06713	LINE, PAINT, SOLID, YELLOW, 4 IN	LFT	12799.2	\$1.25	\$15,999.00
808-06714	LINE, PAINT, SOLID, WHITE, 4 IN	LFT	12799.2	\$1.25	\$15,999.00

Subtotal = \$2,187,838.80  
 Add 25% Contingency \$546,959.70

Total = \$2,734,798.50

**USE \$2,735,000.00**

**BEAM, LONGEST & NEFF, L.L.C.**

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Job: Old US 41 over US 41  
 Item: Structure Cost Study

DES: APL DATE: 4/7/20  
 CK: TSW DATE: 3/10/20

**ALTERNATE 6****ROAD COSTS**

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	CONSTRUCTION ENGINEERING (3%)	LSUM	1.0	\$2,500.00	\$2,500.00
110-01001	MOBILIZATION AND DEMOBILIZATION (5%)	LSUM	1.0	\$4,200.00	\$4,200.00
201-52370	CLEARING RIGHT OF WAY (3%)	LSUM	1.0	\$2,500.00	\$2,500.00
202-02240	PAVEMENT REMOVE	SYS	178.0	\$38.00	\$6,764.00
202-02279	CURB AND GUTTER REMOVE	LFT	0.0	\$35.00	\$0.00
202-51300	PRESENT STRUCTURE REMOVE	LSUM	0.0	\$165,000.00	\$0.00
203-02000	EXCAVATION, COMMON	CYS	0.0	\$22.00	\$0.00
203-02070	BORROW	CYS	0.0	\$17.00	\$0.00
205-12108	STORM WATER MANAGEMENT BUDGET	LSUM	1.0	\$10,000.00	\$10,000.00
205-12111	SWQCP PREP, LEVEL 2	LSUM	1.0	\$10,000.00	\$10,000.00
207-09935	SUBGRADE TREATMENT, TYPE IC	SYS	0.0	\$25.00	\$0.00
306-08043	MILLING, TRANSITION	SYS	266.7	\$8.00	\$2,133.60
306-08599	MILLING ASPHALT, 0.5"	SYS	0.0	\$3.50	\$0.00
401-07328	QC/QA-HMA 3 70 SURFACE	TON	22.0	\$170.00	\$3,740.00
401-07398	QC/QA-HMA 3 70 INTERMEDIATE	TON	0.0	\$85.00	\$0.00
401-07408	QC/QA-HMA 3 64 BASE	TON	0.0	\$75.00	\$0.00
401-10258	JOINT ADHESIVE SURFACE	LFT	100.0	\$1.00	\$100.00
401-10259	JOINT ADHESIVE INTERMEDIATE	LFT	0.0	\$1.00	\$0.00
401-11785	LIQUID ASPHALT SEALANT	LFT	100.0	\$0.50	\$50.00
406-05520	ASPHALT FOR TACK COAT	TON	0.1	\$600.00	\$60.00
601-01522	GUARDRAIL TRANSITION, TGB	EACH	4.0	\$2,500.00	\$10,000.00
601-94689	GUARDRAIL END TREATMENT, OS	EACH	4.0	\$3,000.00	\$12,000.00
601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	LFT	400.0	\$25.00	\$10,000.00
610-07488	HMA FOR APPROACHES	TON	0.0	\$160.00	\$0.00
615-06490	RIGHT OF WAY MARKER	EACH	0.0	\$200.00	\$0.00
615-06505	MONUMENT, B	EACH	2.0	\$850.00	\$1,700.00
621-01004	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	EACH	1.0	\$550.00	\$550.00
621-06560	MULCHED SEEDING, U	SYS	710.0	\$1.00	\$710.00
621-06575	SODDING, NURSERY	SYS	0.0	\$5.50	\$0.00
628-09401	FIELD OFFICE, B	MONTH	4.0	\$2,000.00	\$8,000.00
715-05048	PIPE, TYPE 4, 6 IN	LFT	0.0	\$10.00	\$0.00
715-05171	PIPE, TYPE 3, 18 INCH	LFT	0.0	\$60.00	\$0.00
715-46010	PIPE END SECTION, 18 INCH	EACH	0.0	\$775.00	\$0.00
715-05177	PIPE, TYPE 3, CIRCULAR, 36 IN	LFT	0.0	\$80.00	\$0.00
715-46040	PIPE END SECTION, 36 IN	EACH	0.0	\$1,700.00	\$0.00
718-52610	AGGREGATE FOR UNDERDRAINS	CYS	0.0	\$55.00	\$0.00
801-06775	MAINTANING TRAFFIC	LSUM	1.0	\$5,000.00	\$5,000.00
808-06713	LINE, PAINT, SOLID, YELLOW, 4 IN	LFT	800.0	\$1.25	\$1,000.00
808-06714	LINE, PAINT, SOLID, WHITE, 4 IN	LFT	800.0	\$1.25	\$1,000.00

Subtotal = \$92,007.60  
 Add 25% Contingency \$23,001.90

Total = \$115,009.50

**USE \$115,000.00**



**BEAM, LONGEST & NEFF, L.L.C.**

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**Job:** Old US 41 over US 41  
**Item:** Structure Cost Study

**DES:** APL    **DATE:** 4/7/20  
**CK:** TSW    **DATE:** 3/10/20

**Bridge Costs - Alt. No. 6**

Bridge Deck Replacement with Semi-Integral Bents

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	Construction Engineering (3%)	Isum	1.0	\$17,300.00	\$17,300.00
110-01001	Mobilization and Demobilization (5%)	Isum	1.0	\$28,900.00	\$28,900.00
201-52370	Clearing Right of Way(3%)	Isum	1.0	\$17,300.00	\$17,300.00
202-51328	Present Structure Remove, Portions	Isum	1.0	\$105,500.00	\$105,500.00
206-51230	Excavation, Foundation, Unclassified	cys	33.0	\$65.00	\$2,145.00
211-06467	Aggregate for End Bent Backfill	cys	33.0	\$50.00	\$1,650.00
302-07455	Dense Graded Subbase	cys	40.0	\$100.00	\$4,000.00
609-06259	Reinforced Conc. Bridge Approach, 12"	sys	240.0	\$135.00	\$32,400.00
702-12076	Grates, Basins, Fittings	Each	4.0	\$1,300.00	\$5,200.00
702-51005	Concrete, A, Substructure	cys	0.0	\$1,200.00	\$0.00
702-51015	Concrete, B, Footing	cys	0.0	\$900.00	\$0.00
703-06028	Reinforcing Steel	lbs	0.0	\$1.00	\$0.00
703-06029	Reinforcing Steel, Epoxy Coated	lbs	109065.0	\$1.10	\$119,971.50
704-51002	Concrete, C, Superstructure	cys	236.1	\$1,000.00	\$236,100.00
706-11620	Concrete Bridge Railing Transition, TFC	each	4.0	\$2,200.00	\$8,800.00
706-09960	Railing, Concrete, FC	lft	444.8	\$70.00	\$31,136.00
709-51821	Surface Seal	Isum	1.0	\$11,600.00	\$11,600.00
711-96801	Shear Connector, 7/8" Stud	Each	4000.0	\$4.50	\$18,000.00

Subtotal =	\$640,002.50
Add'l 25% Contingency	\$160,000.63
<b>Total =</b>	<b>\$800,003.13</b>
<b>USE</b>	<b>\$800,000.00</b>

**BEAM, LONGEST & NEFF, L.L.C.**

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Job: Old US 41 over US 41  
 Item: Structure Cost Study

DES: APL DATE: 4/7/20  
 CK: TSW DATE: 3/10/20

**ALTERNATE 7****ROAD COSTS**

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	CONSTRUCTION ENGINEERING (3%)	LSUM	1.0	\$11,000.00	\$11,000.00
110-01001	MOBILIZATION AND DEMOBILIZATION (5%)	LSUM	1.0	\$18,200.00	\$18,200.00
201-52370	CLEARING RIGHT OF WAY (3%)	LSUM	1.0	\$11,000.00	\$11,000.00
202-02240	PAVEMENT REMOVE	SYS	178.0	\$38.00	\$6,764.00
202-02279	CURB AND GUTTER REMOVE	LFT	840.0	\$35.00	\$29,400.00
202-51300	PRESENT STRUCTURE REMOVE	LSUM	0.0	\$165,000.00	\$0.00
203-02000	EXCAVATION, COMMON	CYS	576.0	\$22.00	\$12,672.00
203-02070	BORROW	CYS	2955.0	\$17.00	\$50,235.00
205-12108	STORM WATER MANAGEMENT BUDGET	LSUM	1.0	\$20,000.00	\$20,000.00
205-12111	SWQCP PREP, LEVEL 2	LSUM	1.0	\$20,000.00	\$20,000.00
207-09935	SUBGRADE TREATMENT, TYPE IC	SYS	2220.2	\$25.00	\$55,505.00
306-08043	MILLING, TRANSITION	SYS	266.7	\$8.00	\$2,133.60
306-08599	MILLING ASPHALT, 0.5"	SYS	0.0	\$3.50	\$0.00
401-07328	QC/QA-HMA 3 70 SURFACE	TON	186.1	\$95.00	\$17,679.50
401-07398	QC/QA-HMA 3 70 INTERMEDIATE	TON	328.3	\$85.00	\$27,905.50
401-07408	QC/QA-HMA 3 64 BASE	TON	601.8	\$75.00	\$45,135.00
401-10258	JOINT ADHESIVE SURFACE	LFT	619.0	\$1.00	\$619.00
401-10259	JOINT ADHESIVE INTERMEDIATE	LFT	519.0	\$1.00	\$519.00
401-11785	LIQUID ASPHALT SEALANT	LFT	1657.0	\$0.50	\$828.50
406-05520	ASPHALT FOR TACK COAT	TON	1.6	\$600.00	\$960.00
601-01522	GUARDRAIL TRANSITION, TGB	EACH	4.0	\$2,500.00	\$10,000.00
601-94689	GUARDRAIL END TREATMENT, OS	EACH	4.0	\$3,000.00	\$12,000.00
601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	LFT	400.0	\$25.00	\$10,000.00
610-07488	HMA FOR APPROACHES	TON	0.0	\$160.00	\$0.00
615-06490	RIGHT OF WAY MARKER	EACH	4.0	\$200.00	\$800.00
615-06505	MONUMENT, B	EACH	2.0	\$850.00	\$1,700.00
621-01004	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	EACH	2.0	\$550.00	\$1,100.00
621-06560	MULCHED SEEDING, U	SYS	6418.0	\$1.00	\$6,418.00
621-06575	SODDING, NURSERY	SYS	0.0	\$5.50	\$0.00
628-09401	FIELD OFFICE, B	MONTH	6.0	\$2,000.00	\$12,000.00
715-05048	PIPE, TYPE 4, 6 IN	LFT	0.0	\$10.00	\$0.00
715-05171	PIPE, TYPE 3, 18 INCH	LFT	0.0	\$60.00	\$0.00
715-46010	PIPE END SECTION, 18 INCH	EACH	0.0	\$775.00	\$0.00
715-05177	PIPE, TYPE 3, CIRCULAR, 36 IN	LFT	0.0	\$80.00	\$0.00
715-46040	PIPE END SECTION, 36 IN	EACH	0.0	\$1,700.00	\$0.00
718-52610	AGGREGATE FOR UNDERDRAINS	CYS	0.0	\$55.00	\$0.00
801-06775	MAINTANING TRAFFIC	LSUM	1.0	\$15,000.00	\$15,000.00
808-06713	LINE, PAINT, SOLID, YELLOW, 4 IN	LFT	1800.0	\$1.25	\$2,250.00
808-06714	LINE, PAINT, SOLID, WHITE, 4 IN	LFT	1800.0	\$1.25	\$2,250.00

Subtotal = \$404,074.10  
 Add 25% Contingency \$101,018.53

Total = \$505,092.63

**USE \$505,000.00**



**BEAM, LONGEST & NEFF, L.L.C.**

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**Job:** Old US 41 over US 41  
**Item:** Structure Cost Study

**DES:** APL      **DATE:** 4/7/20  
**CK:** TSW      **DATE:** 3/10/20

**Bridge Costs - Alt. No. 7**

Bridge Deck Replacement with Semi-Integral Bents &amp; Grade Raise 2.5 ft.

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	Construction Engineering (3%)	Isum	1.0	\$23,200.00	\$23,200.00
110-01001	Mobilization and Demobilization (5%)	Isum	1.0	\$38,600.00	\$38,600.00
201-52370	Clearing Right of Way(3%)	Isum	1.0	\$23,200.00	\$23,200.00
202-51328	Present Structure Remove, Portions	Isum	1.0	\$105,500.00	\$105,500.00
206-51230	Excavation, Foundation, Unclassified	cys	33.0	\$65.00	\$2,145.00
211-06467	Aggregate for End Bent Backfill	cys	60.0	\$50.00	\$3,000.00
302-07455	Dense Graded Subbase	cys	40.0	\$100.00	\$4,000.00
609-06259	Reinforced Conc. Bridge Approach, 12"	sys	240.0	\$135.00	\$32,400.00
702-12076	Grates, Basins, Fittings	Each	4.0	\$1,300.00	\$5,200.00
702-51005	Concrete, A, Substructure	cys	9.0	\$1,200.00	\$10,800.00
702-51015	Concrete, B, Footing	cys	0.0	\$900.00	\$0.00
703-06028	Reinforcing Steel	lbs	1575.0	\$1.00	\$1,575.00
703-06029	Reinforcing Steel, Epoxy Coated	lbs	116870.0	\$1.10	\$128,557.00
704-51002	Concrete, C, Superstructure	cys	258.4	\$1,000.00	\$258,400.00
706-11620	Concrete Bridge Railing Transition, TFC	each	4.0	\$2,200.00	\$8,800.00
706-09960	Railing, Concrete, FC	lft	444.8	\$70.00	\$31,136.00
709-51821	Surface Seal	Isum	1.0	\$11,600.00	\$11,600.00
711-96801	Shear Connector, 7/8" Stud	Each	4000.0	\$4.50	\$18,000.00
711-95291	Jacking and Supporting	Isum	1.0	\$150,000.00	\$150,000.00

Subtotal =	\$856,113.00
Add'l 25% Contingency	\$214,028.25
<b>Total =</b>	<b>\$1,070,141.25</b>
<b>USE</b>	<b>\$1,070,000.00</b>

**BEAM, LONGEST & NEFF, L.L.C.**

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Job: Old US 41 over US 41  
 Item: Structure Cost Study

DES: APL DATE: 4/7/20  
 CK: TSW DATE: 4/9/20

**ALTERNATE 8****ROAD COSTS**

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	CONSTRUCTION ENGINEERING (3%)	LSUM	1.0	\$34,100.00	\$34,100.00
110-01001	MOBILIZATION AND DEMOBILIZATION (5%)	LSUM	1.0	\$56,800.00	\$56,800.00
201-52370	CLEARING RIGHT OF WAY (3%)	LSUM	1.0	\$34,100.00	\$34,100.00
202-02240	PAVEMENT REMOVE (Appr. Slabs)	SYS	178.0	\$38.00	\$6,764.00
202-02279	CURB AND GUTTER REMOVE	LFT	840.0	\$35.00	\$29,400.00
202-51300	PRESENT STRUCTURE REMOVE	LSUM	1.0	\$165,000.00	\$165,000.00
203-02000	EXCAVATION, COMMON	CYS	6885.6	\$22.00	\$151,483.20
203-02070	BORROW	CYS	0.0	\$17.00	\$0.00
205-12108	STORM WATER MANAGEMENT BUDGET	LSUM	1.0	\$45,000.00	\$45,000.00
205-12111	SWQCP PREP, LEVEL 2	LSUM	1.0	\$60,000.00	\$60,000.00
207-09935	SUBGRADE TREATMENT, TYPE IC	SYS	7692.3	\$25.00	\$192,307.50
306-08043	MILLING, TRANSITION	SYS	1577.7	\$8.00	\$12,621.60
306-08599	MILLING ASPHALT, 0.5"	SYS	0.0	\$3.50	\$0.00
401-07328	QC/QA-HMA 3 70 SURFACE	TON	696.3	\$95.00	\$66,148.50
401-07398	QC/QA-HMA 3 70 INTERMEDIATE	TON	1072.0	\$85.00	\$91,120.00
401-07408	QC/QA-HMA 3 64 BASE	TON	2471.1	\$75.00	\$185,332.50
401-10258	JOINT ADHESIVE SURFACE	LFT	4904.0	\$1.00	\$4,904.00
401-10259	JOINT ADHESIVE INTERMEDIATE	LFT	3136.6	\$1.00	\$3,136.60
401-11785	LIQUID ASPHALT SEALANT	LFT	4904.0	\$0.50	\$2,452.00
406-05520	ASPHALT FOR TACK COAT	TON	5.4	\$600.00	\$3,240.00
601-01522	GUARDRAIL TRANSITION, TGB	EACH	0.0	\$2,500.00	\$0.00
601-94689	GUARDRAIL END TREATMENT, OS	EACH	0.0	\$3,000.00	\$0.00
601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	LFT	0.0	\$25.00	\$0.00
610-07488	HMA FOR APPROACHES	TON	0.0	\$160.00	\$0.00
615-06490	RIGHT OF WAY MARKER	EACH	6.0	\$200.00	\$1,200.00
615-06505	MONUMENT, B	EACH	6.0	\$850.00	\$5,100.00
621-01004	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	EACH	2.0	\$550.00	\$1,100.00
621-06560	MULCHED SEEDING, U	SYS	6486.0	\$1.00	\$6,486.00
621-06575	SODDING, NURSERY	SYS	2889.0	\$5.50	\$15,889.50
628-09401	FIELD OFFICE, B	MONTH	8.0	\$2,000.00	\$16,000.00
715-05048	PIPE, TYPE 4, 6 IN	LFT	0.0	\$10.00	\$0.00
715-05171	PIPE, TYPE 3, 18 INCH	LFT	0.0	\$60.00	\$0.00
715-46010	PIPE END SECTION, 18 INCH	EACH	0.0	\$775.00	\$0.00
715-05177	PIPE, TYPE 3, CIRCULAR, 36 IN	LFT	0.0	\$80.00	\$0.00
715-46040	PIPE END SECTION, 36 IN	EACH	0.0	\$1,700.00	\$0.00
718-52610	AGGREGATE FOR UNDERDRAINS	CYS	0.0	\$55.00	\$0.00
801-06775	MAINTANING TRAFFIC	LSUM	1.0	\$50,000.00	\$50,000.00
808-06713	LINE, PAINT, SOLID, YELLOW, 4 IN	LFT	8447.4	\$1.25	\$10,559.25
808-06714	LINE, PAINT, SOLID, WHITE, 4 IN	LFT	8447.4	\$1.25	\$10,559.25

Subtotal = \$1,260,803.90  
 Add 25% Contingency \$315,200.98

Total = \$1,576,004.88

**USE \$1,576,000.00**



**BEAM, LONGEST & NEFF, L.L.C.**

Page \_\_\_\_\_ of \_\_\_\_\_

Job: Old US 41 over US 41  
 Item: Structure Cost Study

DES: APL    DATE: 4/7/20  
 CK: TSW    DATE: 4/9/20

**ALTERNATE 9**

**ROAD COSTS**

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	CONSTRUCTION ENGINEERING (3%)	LSUM	1.0	\$53,300.00	\$53,300.00
110-01001	MOBILIZATION AND DEMOBILIZATION (5%)	LSUM	1.0	\$88,700.00	\$88,700.00
201-52370	CLEARING RIGHT OF WAY (3%)	LSUM	1.0	\$53,300.00	\$53,300.00
202-02240	PAVEMENT REMOVE (Appr. Slabs)	SYS	178.0	\$38.00	\$6,764.00
202-02279	CURB AND GUTTER REMOVE	LFT	840.0	\$35.00	\$29,400.00
202-51300	PRESENT STRUCTURE REMOVE	LSUM	1.0	\$165,000.00	\$165,000.00
203-02000	EXCAVATION, COMMON	CYS	22153.0	\$22.00	\$487,366.00
203-02070	BORROW	CYS	0.0	\$17.00	\$0.00
205-12108	STORM WATER MANAGEMENT BUDGET	LSUM	1.0	\$45,000.00	\$45,000.00
205-12111	SWQCP PREP, LEVEL 2	LSUM	1.0	\$60,000.00	\$60,000.00
207-09935	SUBGRADE TREATMENT, TYPE IC	SYS	10391.4	\$25.00	\$259,785.00
306-08043	MILLING, TRANSITION	SYS	3761.0	\$8.00	\$30,088.00
306-08599	MILLING ASPHALT, 0.5"	SYS	0.0	\$3.50	\$0.00
401-07328	QC/QA-HMA 3 70 SURFACE	TON	1073.2	\$95.00	\$101,954.00
401-07398	QC/QA-HMA 3 70 INTERMEDIATE	TON	1525.8	\$85.00	\$129,693.00
401-07408	QC/QA-HMA 3 64 BASE	TON	2797.4	\$75.00	\$209,805.00
401-10258	JOINT ADHESIVE SURFACE	LFT	7607.0	\$1.00	\$7,607.00
401-10259	JOINT ADHESIVE INTERMEDIATE	LFT	5024.6	\$1.00	\$5,024.60
401-11785	LIQUID ASPHALT SEALANT	LFT	7507.0	\$0.50	\$3,753.50
406-05520	ASPHALT FOR TACK COAT	TON	7.8	\$600.00	\$4,680.00
601-01522	GUARDRAIL TRANSITION, TGB	EACH	0.0	\$2,500.00	\$0.00
601-94689	GUARDRAIL END TREATMENT, OS	EACH	0.0	\$3,000.00	\$0.00
601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	LFT	0.0	\$25.00	\$0.00
610-07488	HMA FOR APPROACHES	TON	0.0	\$160.00	\$0.00
615-06490	RIGHT OF WAY MARKER	EACH	6.0	\$200.00	\$1,200.00
615-06505	MONUMENT, B	EACH	8.0	\$850.00	\$6,800.00
621-01004	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	EACH	2.0	\$550.00	\$1,100.00
621-06560	MULCHED SEEDING, U	SYS	9501.0	\$1.00	\$9,501.00
621-06575	SODDING, NURSERY	SYS	2889.0	\$5.50	\$15,889.50
628-09401	FIELD OFFICE, B	MONTH	10.0	\$2,000.00	\$20,000.00
715-05048	PIPE, TYPE 4, 6 IN	LFT	0.0	\$10.00	\$0.00
715-05171	PIPE, TYPE 3, 18 INCH	LFT	0.0	\$60.00	\$0.00
715-46010	PIPE END SECTION, 18 INCH	EACH	0.0	\$775.00	\$0.00
715-05177	PIPE, TYPE 3, CIRCULAR, 36 IN	LFT	64.0	\$80.00	\$5,120.00
715-46040	PIPE END SECTION, 36 IN	EACH	2.0	\$1,700.00	\$3,400.00
718-52610	AGGREGATE FOR UNDERDRAINS	CYS	0.0	\$55.00	\$0.00
801-06775	MAINTANING TRAFFIC	LSUM	1.0	\$50,000.00	\$50,000.00
802-02158	SIGN PANEL, REMOVE, RELOCATE	LSUM	1.0	\$25,000.00	\$25,000.00
802-11649	SIGN FOUNDATION	EACH	2.0	\$35,000.00	\$70,000.00
808-06713	LINE, PAINT, SOLID, YELLOW, 4 IN	LFT	7983.9	\$1.25	\$9,979.88
808-06714	LINE, PAINT, SOLID, WHITE, 4 IN	LFT	7983.9	\$1.25	\$9,979.88

Subtotal =	\$1,969,190.35
Add 25% Contingency	\$492,297.59
<b>Total =</b>	<b>\$2,461,487.94</b>

**BEAM, LONGEST & NEFF, L.L.C.**

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**Job:** Old US 41 over US 41  
**Item:** Structure Cost Study

**DES:** APL **DATE:** 4/7/20  
**CK:** TSW **DATE:** 4/9/20

**ALTERNATE 10**

**ROAD COSTS**

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	CONSTRUCTION ENGINEERING (3%)	LSUM	1.0	\$91,100.00	\$91,100.00
110-01001	MOBILIZATION AND DEMOBILIZATION (5%)	LSUM	1.0	\$151,800.00	\$151,800.00
201-52370	CLEARING RIGHT OF WAY (3%)	LSUM	1.0	\$91,100.00	\$91,100.00
202-02240	PAVEMENT REMOVE (Appr. Slabs)	SYS	178.0	\$38.00	\$6,764.00
202-02279	CURB AND GUTTER REMOVE	LFT	840.0	\$35.00	\$29,400.00
202-51300	PRESENT STRUCTURE REMOVE	LSUM	1.0	\$165,000.00	\$165,000.00
203-02000	EXCAVATION, COMMON	CYS	10209.0	\$22.00	\$224,598.00
203-02070	BORROW	CYS	2492.0	\$20.00	\$49,840.00
205-12108	STORM WATER MANAGEMENT BUDGET	LSUM	1.0	\$45,000.00	\$45,000.00
205-12111	SWQCP PREP, LEVEL 2	LSUM	1.0	\$60,000.00	\$60,000.00
207-09935	SUBGRADE TREATMENT, TYPE IC	SYS	20089.3	\$25.00	\$502,232.50
211-02050	B-BORROW	CYS	2492.0	\$45.00	\$112,140.00
211-09266	STRUCTURE BACKFILL, TYPE 3	CYS	191.0	\$45.00	\$8,595.00
306-08043	MILLING, TRANSITION	SYS	8114.3	\$8.00	\$64,914.40
306-08599	MILLING ASPHALT, 0.5"	SYS	0.0	\$3.50	\$0.00
401-07328	QC/QA-HMA 3 70 SURFACE	TON	2133.5	\$95.00	\$202,682.50
401-07398	QC/QA-HMA 3 70 INTERMEDIATE	TON	2530.6	\$85.00	\$215,101.00
401-07408	QC/QA-HMA 3 64 BASE	TON	6694.2	\$75.00	\$502,065.00
401-10258	JOINT ADHESIVE SURFACE	LFT	20771.9	\$1.00	\$20,771.90
401-10259	JOINT ADHESIVE INTERMEDIATE	LFT	15748.9	\$1.00	\$15,748.90
401-11785	LIQUID ASPHALT SEALANT	LFT	15956.9	\$0.50	\$7,978.45
406-05520	ASPHALT FOR TACK COAT	TON	16.4	\$600.00	\$9,840.00
601-01522	GUARDRAIL TRANSITION, TGB	EACH	0.0	\$2,500.00	\$0.00
601-94689	GUARDRAIL END TREATMENT, OS	EACH	2.0	\$3,000.00	\$6,000.00
601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	LFT	275.0	\$25.00	\$6,875.00
610-07488	HMA FOR APPROACHES	TON	0.0	\$160.00	\$0.00
615-06490	RIGHT OF WAY MARKER	EACH	6.0	\$200.00	\$1,200.00
615-06505	MONUMENT, B	EACH	12.0	\$850.00	\$10,200.00
621-01004	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	EACH	2.0	\$550.00	\$1,100.00
621-06560	MULCHED SEEDING, U	SYS	13156.0	\$1.00	\$13,156.00
621-06575	SODDING, NURSERY	SYS	4323.0	\$5.50	\$23,776.50
628-09401	FIELD OFFICE, B	MONTH	12.0	\$2,000.00	\$24,000.00
715-05048	PIPE, TYPE 4, 6 IN	LFT	600.0	\$10.00	\$6,000.00
715-05171	PIPE, TYPE 3, 18 INCH	LFT	0.0	\$60.00	\$0.00
715-46010	PIPE END SECTION, 18 INCH	EACH	0.0	\$775.00	\$0.00
715-05177	PIPE, TYPE 3, CIRCULAR, 36 IN	LFT	128.0	\$80.00	\$10,240.00
715-46040	PIPE END SECTION, 36 IN	EACH	4.0	\$1,700.00	\$6,800.00
718-52610	AGGREGATE FOR UNDERDRAINS	CYS	53.3	\$55.00	\$2,931.50
731-93945	FACE PANELS, CONCRETE	SFT	920.0	\$23.00	\$21,160.00
731-93946	WALL ERECTION	SFT	920.0	\$20.00	\$18,400.00
731-93947	LEVELING PAD, CONCRETE	LFT	115.0	\$50.00	\$5,750.00
805-01579	EQUIPMENT FOR SIGNALS	LSUM	2.0	\$250,000.00	\$500,000.00
801-06775	MAINTANING TRAFFIC	LSUM	1.0	\$50,000.00	\$50,000.00
801-52818	TEMPORARY CROSSOVER, TYPE A	LSUM	1.0	\$50,000.00	\$50,000.00
808-06713	LINE, PAINT, SOLID, YELLOW, 4 IN	LFT	13961.9	\$1.25	\$17,452.38
808-06714	LINE, PAINT, SOLID, WHITE, 4 IN	LFT	13961.9	\$1.25	\$17,452.38

Subtotal =	\$3,369,165.40
Add 25% Contingency	\$842,291.35
<b>Total =</b>	<b>\$4,211,456.75</b>
<b>USE</b>	<b>\$4,211,000.00</b>



**BEAM, LONGEST & NEFF, L.L.C.**

Page \_\_\_\_\_ of \_\_\_\_\_

**Job:** Old US 41 over US 41  
**Item:** Structure Cost Study

**DES:** APL    **DATE:** 4/7/20  
**CK:** TSW    **DATE:** 4/9/20

**ALTERNATE 11**

**ROAD COSTS**

Item Num.	Pay Item	UNIT	QUANTITY	UNIT PRICE	AMOUNT
105-06845	CONSTRUCTION ENGINEERING (3%)	LSUM	1.0	\$91,200.00	\$91,200.00
110-01001	MOBILIZATION AND DEMOBILIZATION (5%)	LSUM	1.0	\$152,000.00	\$152,000.00
201-52370	CLEARING RIGHT OF WAY (3%)	LSUM	1.0	\$91,200.00	\$91,200.00
202-02240	PAVEMENT REMOVE (Appr. Slabs)	SYS	178.0	\$38.00	\$6,764.00
202-02279	CURB AND GUTTER REMOVE	LFT	840.0	\$35.00	\$29,400.00
202-51300	PRESENT STRUCTURE REMOVE	LSUM	1.0	\$165,000.00	\$165,000.00
203-02000	EXCAVATION, COMMON	CYS	9551.0	\$22.00	\$210,122.00
203-02070	BORROW	CYS	8813.0	\$20.00	\$176,260.00
205-12108	STORM WATER MANAGEMENT BUDGET	LSUM	1.0	\$45,000.00	\$45,000.00
205-12111	SWQCP PREP, LEVEL 2	LSUM	1.0	\$60,000.00	\$60,000.00
207-09935	SUBGRADE TREATMENT, TYPE IC	SYS	23742.9	\$25.00	\$593,572.50
211-02050	B-BORROW	CYS	136.0	\$45.00	\$6,120.00
211-09266	STRUCTURE BACKFILL, TYPE 3	CYS	191.0	\$45.00	\$8,595.00
306-08043	MILLING, TRANSITION	SYS	6681.0	\$8.00	\$53,448.00
306-08599	MILLING ASPHALT, 0.5"	SYS	0.0	\$3.50	\$0.00
401-07328	QC/QA-HMA 3 70 SURFACE	TON	2285.5	\$95.00	\$217,122.50
401-07398	QC/QA-HMA 3 70 INTERMEDIATE	TON	3271.4	\$85.00	\$278,069.00
401-07408	QC/QA-HMA 3 64 BASE	TON	7685.1	\$75.00	\$576,382.50
401-10258	JOINT ADHESIVE SURFACE	LFT	23204.9	\$1.00	\$23,204.90
401-10259	JOINT ADHESIVE INTERMEDIATE	LFT	18481.9	\$1.00	\$18,481.90
401-11785	LIQUID ASPHALT SEALANT	LFT	18369.9	\$0.50	\$9,194.95
406-05520	ASPHALT FOR TACK COAT	TON	18.5	\$600.00	\$11,100.00
601-01522	GUARDRAIL TRANSITION, TGB	EACH	0.0	\$2,500.00	\$0.00
601-94689	GUARDRAIL END TREATMENT, OS	EACH	2.0	\$3,000.00	\$6,000.00
601-99105	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	LFT	275.0	\$25.00	\$6,875.00
610-07488	HMA FOR APPROACHES	TON	0.0	\$160.00	\$0.00
615-06490	RIGHT OF WAY MARKER	EACH	12.0	\$200.00	\$2,400.00
615-06505	MONUMENT, B	EACH	12.0	\$850.00	\$10,200.00
621-01004	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	EACH	2.0	\$550.00	\$1,100.00
621-06560	MULCHED SEEDING, U	SYS	17125.0	\$1.00	\$17,125.00
621-06575	SODDING, NURSERY	SYS	4323.0	\$5.50	\$23,776.50
628-09401	FIELD OFFICE, B	MONTH	12.0	\$2,000.00	\$24,000.00
715-05048	PIPE, TYPE 4, 6 IN	LFT	600.0	\$10.00	\$6,000.00
715-05171	PIPE, TYPE 3, 18 INCH	LFT	0.0	\$60.00	\$0.00
715-46010	PIPE END SECTION, 18 INCH	EACH	0.0	\$775.00	\$0.00
715-05177	PIPE, TYPE 3, CIRCULAR, 36 IN	LFT	128.0	\$80.00	\$10,240.00
715-46040	PIPE END SECTION, 36 IN	EACH	4.0	\$1,700.00	\$6,800.00
718-52610	AGGREGATE FOR UNDERDRAINS	CYS	53.3	\$55.00	\$2,931.50
731-93945	FACE PANELS, CONCRETE	SFT	920.0	\$23.00	\$21,160.00
731-93946	WALL ERECTION	SFT	920.0	\$20.00	\$18,400.00
731-93947	LEVELING PAD, CONCRETE	LFT	115.0	\$50.00	\$5,750.00
805-01579	EQUIPMENT FOR SIGNALS	LSUM	1.0	\$250,000.00	\$250,000.00
801-06775	MAINTANING TRAFFIC	LSUM	1.0	\$50,000.00	\$50,000.00
801-52818	TEMPORARY CROSSOVER, TYPE A	LSUM	1.0	\$50,000.00	\$50,000.00
808-06713	LINE, PAINT, SOLID, YELLOW, 4 IN	LFT	15283.9	\$1.25	\$19,104.88
808-06714	LINE, PAINT, SOLID, WHITE, 4 IN	LFT	15283.9	\$1.25	\$19,104.88

Subtotal =	\$3,373,205.00
Add 25% Contingency	\$843,301.25
<b>Total =</b>	<b>\$4,216,506.25</b>
<b>USE</b>	<b>\$4,217,000.00</b>

**APPENDIX H:**

<b>Index of Crash Frequency and Cost - Form F1</b>		Page 1/2
Location	Northbound US-41 at Evans Ave. (Terre Haute)	
GIS		
Post		
Analyst	George Kopcha	
Date		
<b>INPUT</b>		
Road Facility Type	Unsignalized Urban State-Local Intersection	
Major Road AADT (veh/day)	2890	
T-intersection Indicator (1 if present, 0 otherwise)	0	
Major Collector Indicator for Crossing Local Road (1 if present, 0 otherwise)	1	
First Year with Crash Data (yyyy)	2016	
Last Year with Crash Data (yyyy)	2018	
Number of Crashes (crash/period)		
Fatal and Incapacitating Injury Crashes	3	
Non-Incapacitating and Possible Injury Crashes	1	
Property Damage Only Crashes	10	
Route or Road Type	Unsignalized Urban State-Local Intersection	
Average Crash Costs (\$)		
Fatal and Incapacitating Injury Crashes	279300	
Non-Incapacitating and Possible Injury Crashes	31400	
Property Damage Only Crashes	6500	
Crash Cost Year (yyyy)	2013	
<b>OUTPUT</b>		
Expected Crash Frequency (crash/year)		
Fatal and Incapacitating Injury Crashes	0.009	
Non-Incapacitating and Possible Injury Crashes	0.04	
Property Damage Only Crashes	0.24	
All Crashes	0.29	
Index of Crash Frequency	<b>3.33</b>	
Index of Crash Cost	<b>1.88</b>	



**From:** [Barnard.Alicia](#)  
**To:** [Brian Shaw](#)  
**Cc:** [Rick Perry](#)  
**Subject:** RE: EXTERNAL -RE: Des. No. 1500146 Bridge Removal and Intersection Improvement on Old US 41 over US 41, Vigo County  
**Date:** Thursday, May 26, 2022 9:55:19 AM

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**EXTERNAL EMAIL**

**CAUTION:** This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Brian,  
We had no comments.  
Thank you,  
Alicia

**From:** Brian Shaw  
**Sent:** Thursday, May 12, 2022 1:48 PM  
**To:** [alicia.barnard@terrehaute.in.gov](mailto:alicia.barnard@terrehaute.in.gov)  
**Cc:** Rick Perry <[rperry@b-l-n.com](mailto:rperry@b-l-n.com)>  
**Subject:** Des. No. 1500146 Bridge Removal and Intersection Improvement on Old US 41 over US 41, Vigo County  
**Importance:** High

Alicia,  
Good afternoon; attached is a copy of the Early Coordination letter developed for Des. No. 1500146 Bridge Removal and Intersection Improvement on Old US 41 over US 41 in Vigo County. The project is located within an MS4 Boundary, and we are coordinating to get comments concerning the project as part of the environmental documentation.

Please review the attached information and provide any available information. If you have questions, please contact me at 317-806-3028

Thank you

**BRIAN SHAW**

**Environmental Services Department Manager**

o: 317.849.5832

c: 317.709.3440

[B-L-N.com](http://B-L-N.com)

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*A Tradition of Excellence Since 1945*