



**WELLS COUNTY
SOUTH CORRIDORS
ROUTE STUDY**

PREPARE FOR WELLS COUNTY

NOVEMBER 2018

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**WELLS COUNTY
ROUTE STUDY
TABLE OF CONTENTS**

INTRODUCTION & PURPOSE	1
CORRIDOR DESCRIPTION	1
SCOPE OF THE ROUTE STUDY	2
PREVIOUS STUDIES	6
EXISTING CONDITIONS SUMMARY	6
LAND USE INFORMATION	11
CRASH REPORT INFORMATION	11
ROADWAY - ANALYSIS OF THE ROUTES	12
BRIDGE ASSESSMENT	17
ENVIRONMENTAL RED FLAG INVESTIGATION -NIRCC	17
APPENDIX A - PROJECTS WITH FUNDING SOURCES	19
APPENDIX B - PRELIMINARY CONCEPTUAL PLANS	21
APPENDIX C - LETTERS OF SUPPORTS	37
APPENDIX D - ESTIMATED COSTS	43
APPENDIX E - PHOTOGRAPHS	45
APPENDIX F - RED FLAG INVESTIGATION REPORT (NIRCC)	51
APPENDIX G - UTILITY COORDINATION INVESTIGATION RED FLAG	68
APPENDIX H - RIGHT OF WAY ENGINEERING ANALYSIS	91
APPENDIX I - RIGHT OF WAY SERVICES	98
APPENDIX J - CORRIDOR MAP	103
APPENDIX K - FUNCTIONAL CLASSIFICATION MAPS	105
APPENDIX L - GEOMETRIC DESIGN CRITERIA	107
APPENDIX M - WELLS COUNTY TRAFFIC MAPS	112
APPENDIX N - CRASH DATA INFORMATION	114



INTRODUCTION & PURPOSE

Butler, Fairman & Seufert, Inc. (BF&S) is pleased to present to the Wells County this Route Study. This study is the product of a collaborative effort by County staff, Northeastern Indiana Regional Coordinating Council (NIRCC) local business, residents and BF&S design professionals.

Wells County highway corridors are the windows to the future. Along these major roads residents and visitors can enjoy the diversity of natural beauty, businesses, and activities that Wells County has to offer. The purpose of this report is intended to serve as a guide to improve safety and traffic mobility for vehicles accessing the City of Bluffton and Bluffton Industrial Park.

To address this challenge, Wells County must use data-driven strategies to prioritize limited funds and target roadway improvements in the places where they will have the most impact. This Route Study is part of those strategies

The Route Study improvement recommendations were based on a process that consisted on the County future developments, site conditions and cost analysis. The costs and conceptual layout included in this study are subject to refinement as more detailed information is compiled.

CORRIDOR DESCRIPTION

New alignment for connectivity for the extension of Adams Street and Hoosier Highway from County Road 200 South to County Road 300 South. This new road would serve as the southwest industrial connector road. The Bluffton Industrial Park is situated along the west boundary of the City of Bluffton and is positioned south of SR 124 and along the existing Norfolk & Southern Railroad. Substantial investment has been made by private and corporate investors in this area over the years. In 2013, the City of Bluffton improved Adams Street corridor between SR 124 and CR 200 South. This improvement resolved an immediate need but implied a vision for development within the County that has up to this date not been supported by action.



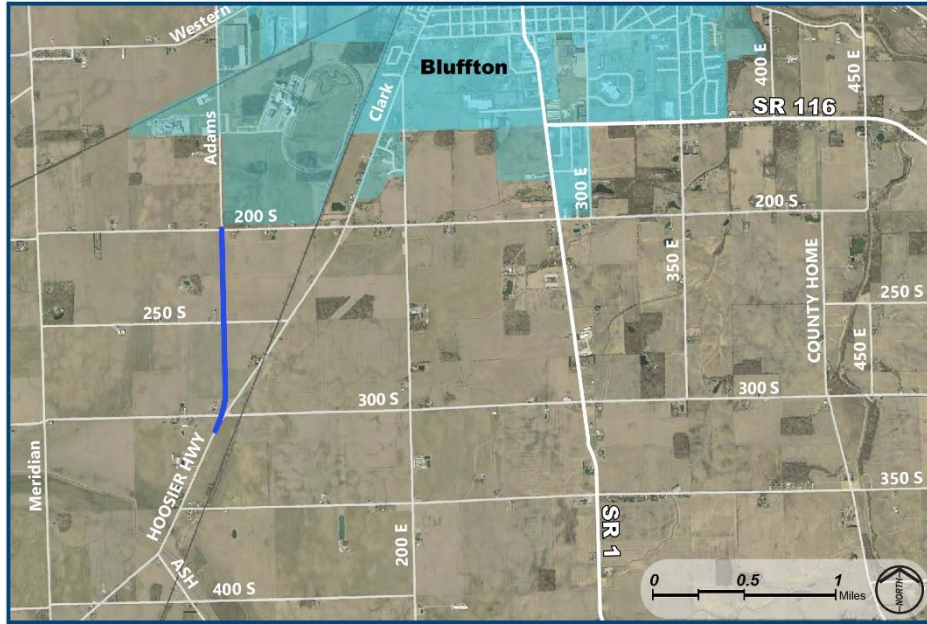
This study is part of a larger development plan to create a system of transportation corridors consistent with the functional classification plan and development needs of Wells County. Recent development planning meetings, housing shortage and growth plans have encouraged local leaders to take action on a forward direction for Wells County. In the future this will provide a roadway network that allow immediate opportunities for growth of the County and its partner cities and towns.

The study includes improvements of County Road 300 South from CR 200 East to County Road 450 East. This section would also include the Norfolk & Southern railroad crossing east of Hoosier Highway. This would serve as the new south truck route into Bluffton’s west industrial park. Three existing at grade crossings are proposed to be eliminated once all projects have completed. These crossing are located on CR 250 South gravel road crossing, CR 300 South east of Hoosier Highway and the Hoosier Highway south of CR 200 South. The County is also working on three separate Hoosier Highway improvement projects to the south that are complimentary to this plan in advance of this realignment work. The corridor area is located south of Bluffton, Indiana. The corridor limits are County Road South 100 East on the west side. County Road East 300 South on the south side, County Road South 450 East & County Home Road on the east side and County Road East 200 South on the north side. Additionally the study also includes intersection improvements for the intersection of County Home Road and CR 200 South and County Home Road and CR 300 South. All in Sections 18, 17, 16, 15, 19, 20, 21 & 22. Township 26 North, Range 12 East, Harrison Civil Township, Bluffton Indiana. The area consists mainly of farm land and residential.

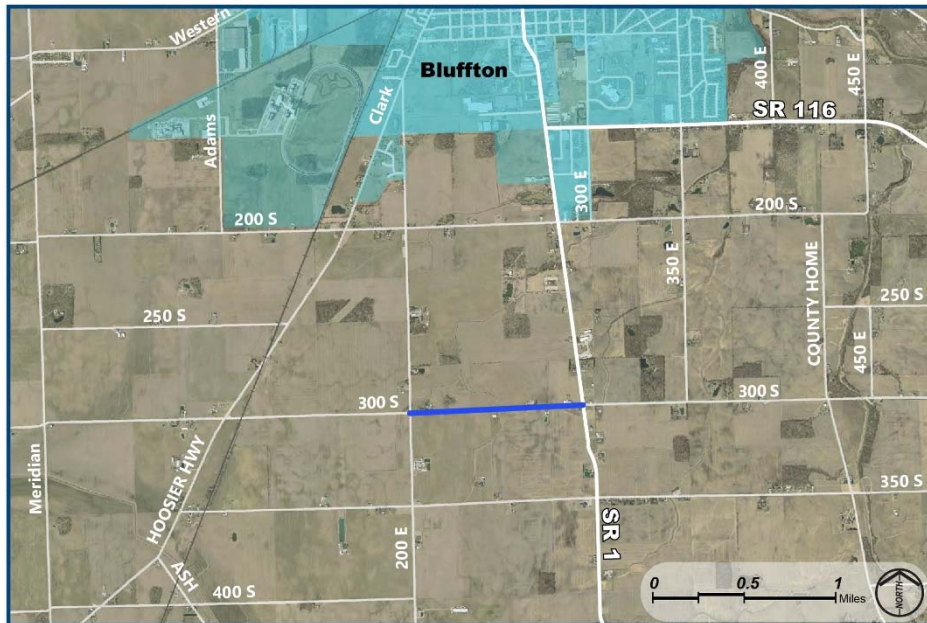
SCOPE OF THE ROUTE STUDY

The scope of the study consists of the following segments:

- **Hoosier Highway** between approximately 500 feet south of CR 300 South to the intersection of CR 200 South and CR 100 E (Adam Street)

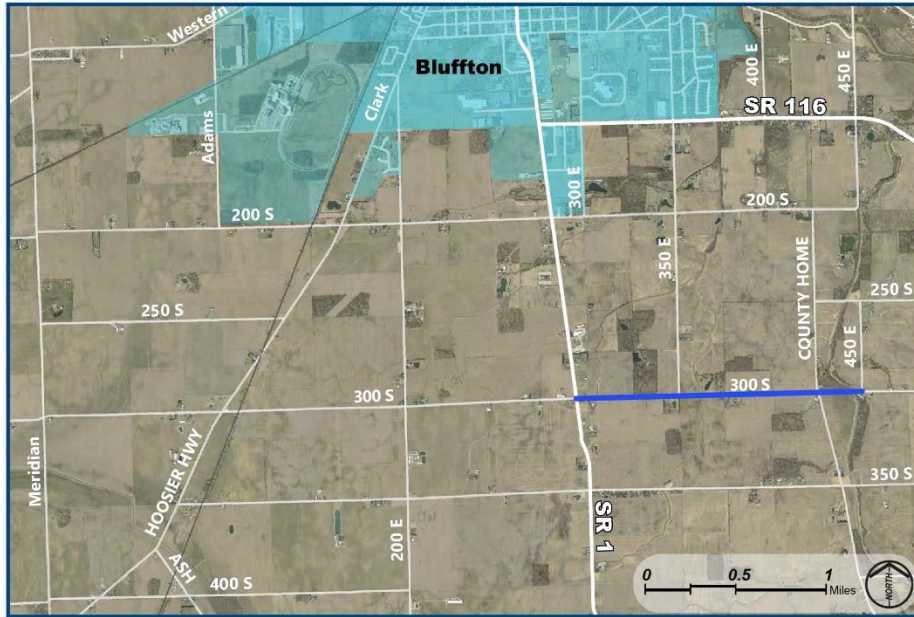


- CR 300 South from CR 200 East to SR 1

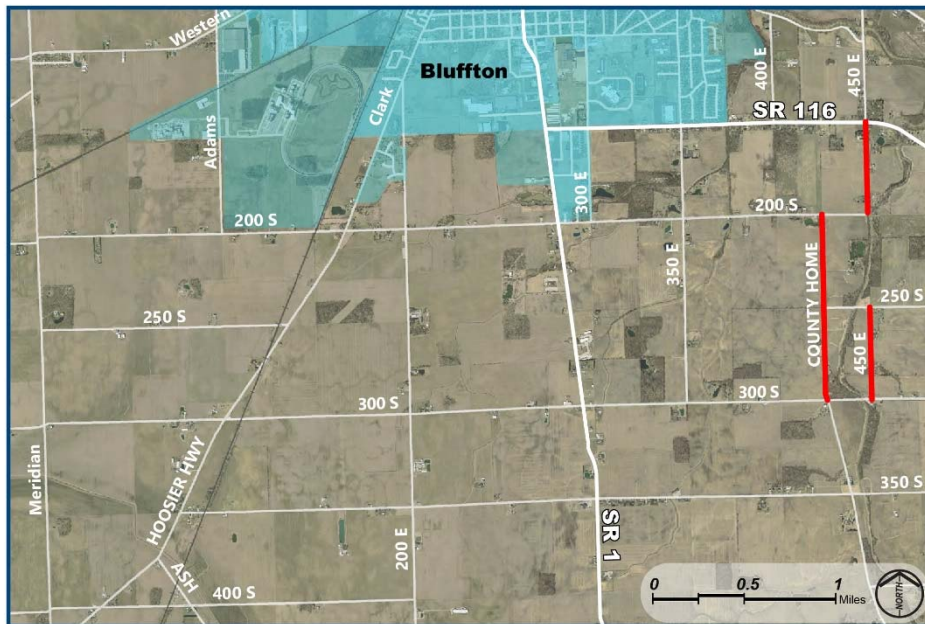




- **CR 300 South from SR 1 to CR 450 East**

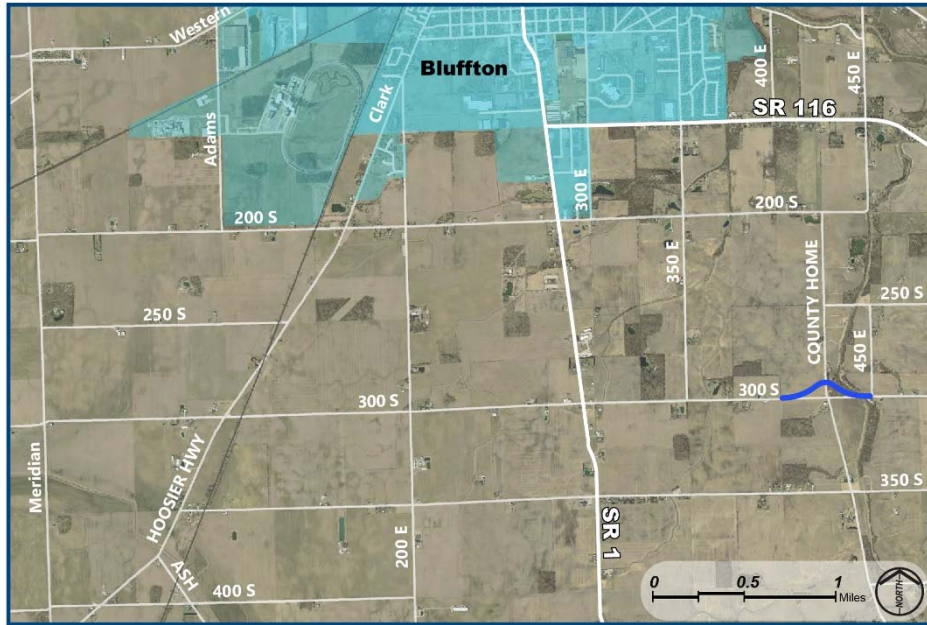


- **CR 450 East from CR 200 South to SR 116**

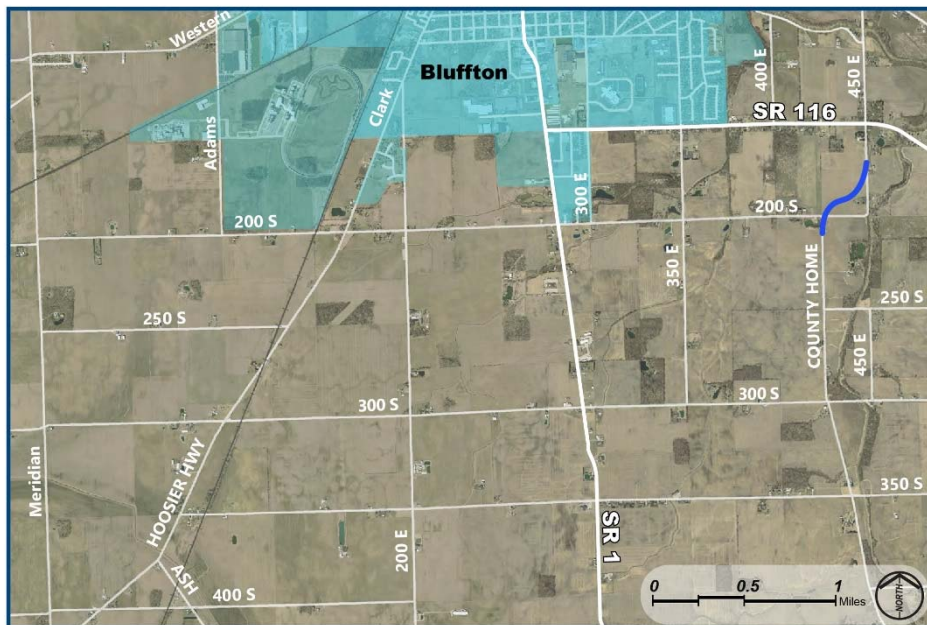




- CR 300 South curve correction at the intersection with County Home Road/CR 450 E



- County Home Road curve correction at the intersection with CR 200 South and CR 450 East.





The study will provide the Wells County a guidance document for developing improvements on the facilities referenced above. The study report development process will include: assessment of the current facilities and development of recommendations for new facilities, with proposed typical sections, alternate alignments, right of way and permit requirements, impacts to environmental, railroad crossings, utilities impacts and potential relocations, geotechnical requirements and associated costs.

The Study also focuses upon the proper utilization of the existing roads and upon necessary improvements along those roads considered the most important to the future traffic movement system. Except in areas adjacent to the county’s larger populations centers, Bluffton and Ossian.

The end result of the study is to provide an environment to redevelop as a high-quality and attractive corridor with provisions for future mixed-use land development with place-making. This will in part be accomplished by realigning the current Hoosier Highway and eliminating two railroad crossings.

PREVIOUS STUDIES

The Wells County has been the focus of several studies. In 1993 and 2000 two County Comprehensive Plans were completed for Wells County by Bonar Group. These studies created an early transportation plan. Then in 2010 Northeastern Indiana Regional Coordination Council completed a Transportation Plan. In 2016 NIRCC also completed a Transportation Summary Report and a Wells County Mobility Improvement Southern Corridor (Red Flag Investigation Report).

In recent years the County’s Functional Classification Map has been modified to include the Wells County Corridor and surrounding roadways have their designation change to address the needs and future growth plan for the County.

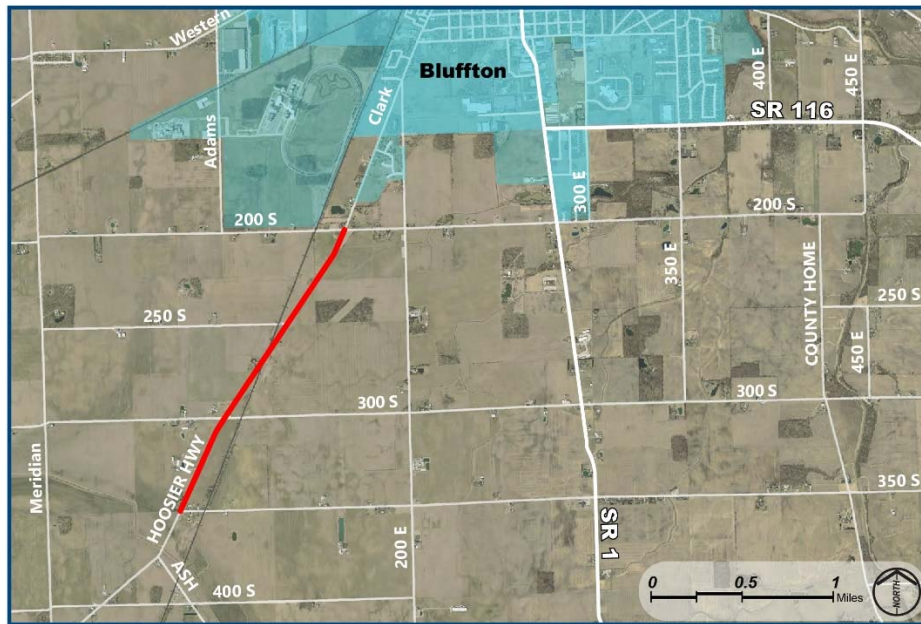
EXISTING CONDITIONS SUMMARY

The Hoosier Highway is classified as a Rural Major Collector and runs in a northeast and southwest direction and is one of the most heavily travelled of the County Roads



with an AADT of 2088 north of the railroad tracks and an AADT of 1480 north of CR 350 South. This road has an average of commercial truck of 3.2%.

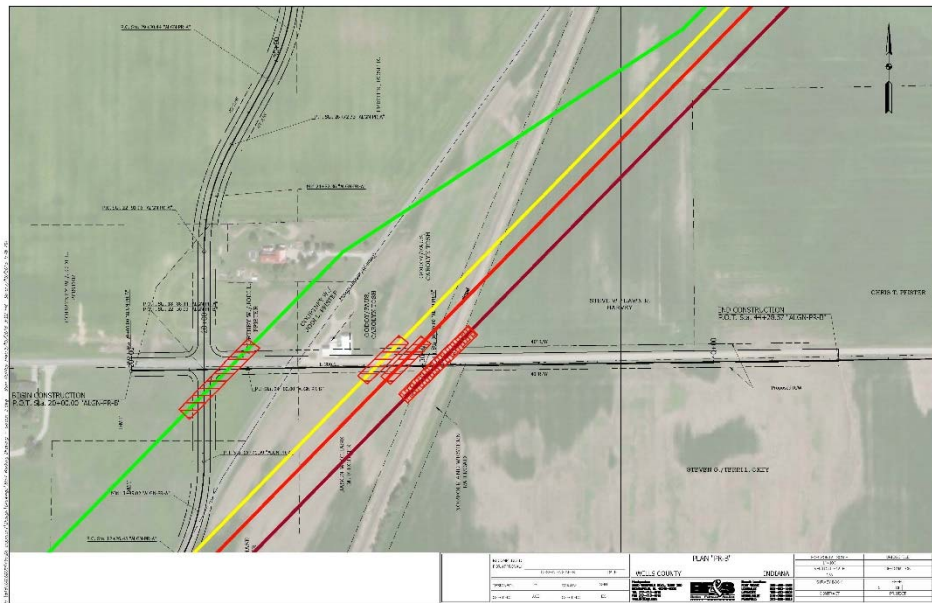
Hoosier Highway from CR 300 South to CR 200 South the road length is approximately 1.22 miles. The road consists of two 12 ft. travel lanes with no shoulders. There is a railroad crossing approximately 2000 ft. north of County Road 300 South. There are side ditches on both side of the road with no apparent outfall. The surrounding area is flat and the existing pavement is bituminous asphalt. The posted speed southbound just north of Travisville is posted 40 MPH. CR 200 South is 40 MPH north of the intersection with Hoosier Highway. The current Hoosier Highway route also requires traffic to cross the Norfolk & Southern Railroad at Hoosier Highway and at CR 200 South before turning back onto Adams Street and the Industrial corridor.



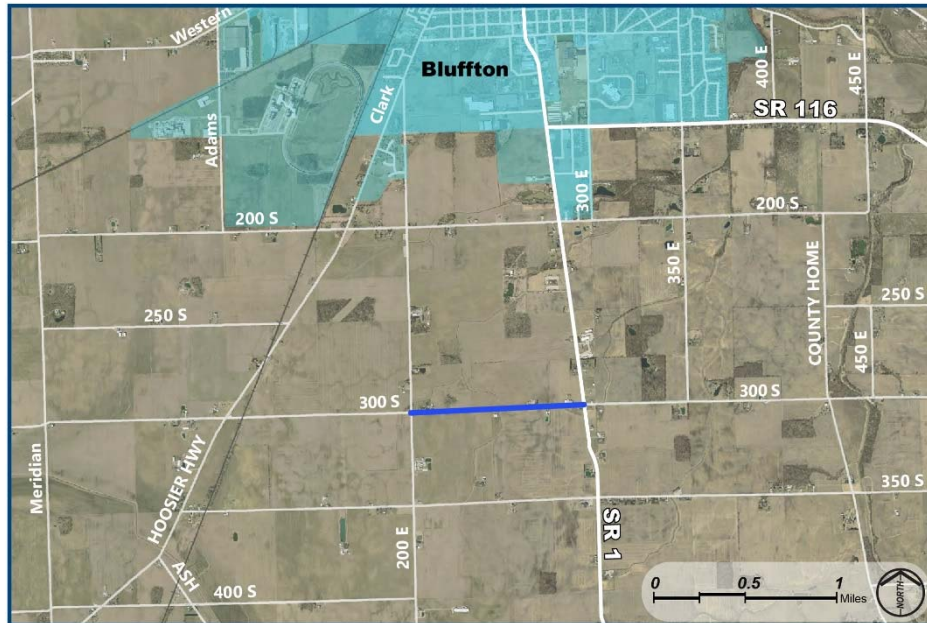
CR 300 South between Hoosier Highway and CR 200 East is classified as a Rural Major Collector that runs in an east and west direction with an AADT of 40 VPD east of Hoosier Highway. This 1 mile of gravel road consists of two 9 ft. travel lanes with no shoulders. The surrounding area is flat with side ditches on both side of the road with some culverts along this section of CR 300 South. There is a railroad crossing approximately 500 ft. east of Hoosier Highway. There is no posted speed on this section of CR 300 South.



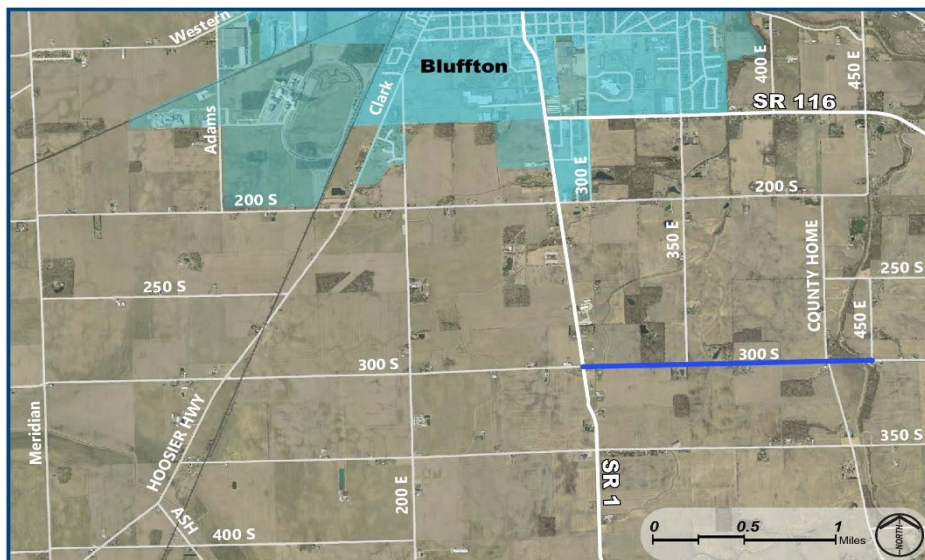
This section of CR 300 South crosses four Pandandle Eastern Pipe Line (PEPL). These four lines are large diameter high pressure natural gas transmission mainline. Preliminary investigations show that the widening of this section of CR 300 South will affect these pipe lines. The costs to protect these PEPL assets will be extremely expensive.



CR 300 South between CR 200 East and SR 1 is classified as a Rural Major Collector that runs in an east and west direction with an AADT of 40 VPD east of Hoosier Highway. There is no traffic count available on this section of CR 300 South. CR 300 South from CR 200 East to SR 1 is approximately 0.95 miles of gravel road. The road consists of two 9 ft. travel lanes with no shoulders. The surrounding area is flat with side ditches on both side of the road with some culverts along this section of CR 300 South. There is no posted speed on this section of CR 300 South.



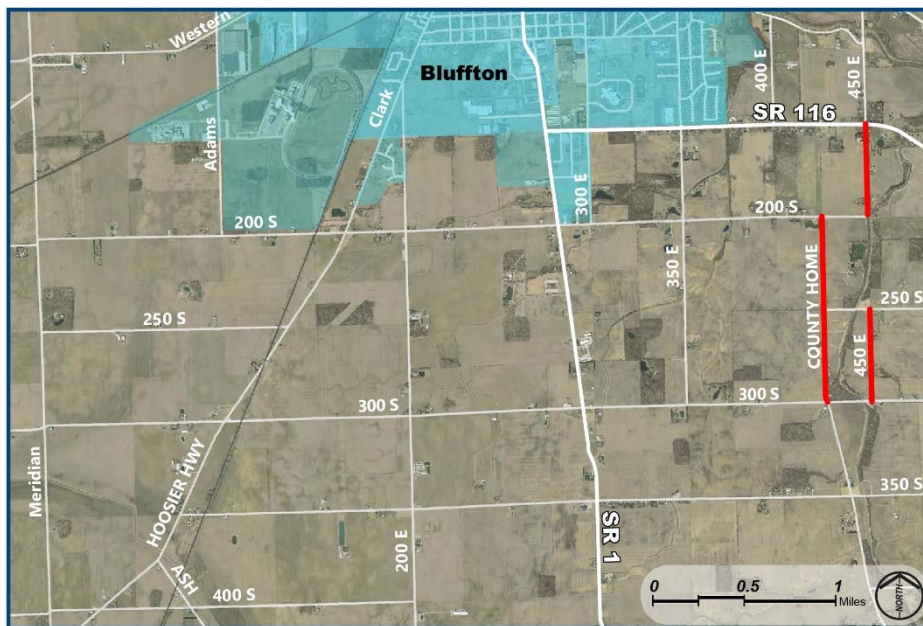
CR 300 South between SR 1 and CR 450 East is also classified as a Rural Major Collector that runs in an east and west direction only an AADT of 40 VPD east of Hoosier Highway is available. From SR 1 to CR 450 East the length is approximately 1.6 miles of paved roadway from SR 1 to CR 450 East. The road consists of two 9 ft. travel lanes with 1' shoulders. The surrounding area is flat with side ditches on both side of the road with some culverts along this section of CR 300 South. There is no posted speed on this section of CR 300 South.





County Home Road is classified as a Rural Minor Collector and runs in a north and south direction. AADT is not available for this road.

From CR 300 South to CR 200 South the length is approximately 1.0 miles. The road consists of two 9 ft. travel lanes with no shoulders. There are side ditches on both side of the road with no apparent outfall. The surrounding area is flat and the existing pavement is bituminous asphalt. There is no posted speed on this section of County Home Road. Current traffic from this region of the County travel a variety of rural county roads with a 2 and 4-way stops, offset intersections, and narrow right of way.

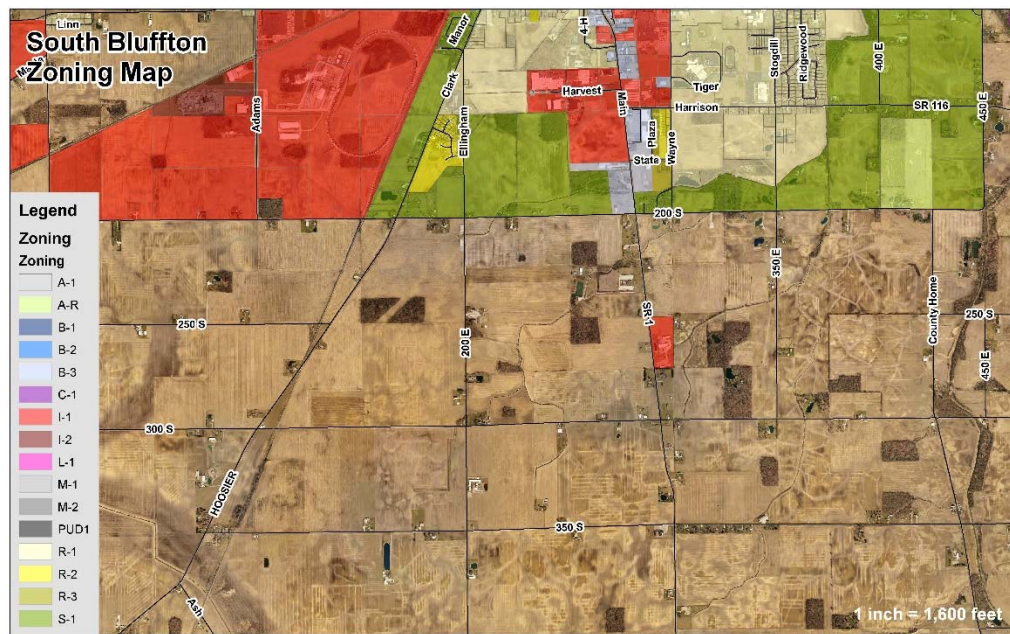


CR 450 East is classified as a Rural Minor Collector and runs in a north and south direction. The AADT between CR 200 South and SR 116 is 506 vehicle per day. From CR 200 South to SR 116 the length is approximately 0.5 miles. The road consists of two 9 ft. travel lanes with no shoulders. There are side ditches on both side of the road with no apparent outfall. The surrounding area is flat and the existing pavement is bituminous asphalt. There is no posted speed on this section of CR 450 East.



LAND USE INFORMATION

Currently the majority of the land within the study area consists of agriculture land and residential. Hoosier Highway from approximately CR 300 South to connect it with Adams Street at approximately CR 200 South, the area in question includes approximately 1,100 acres of predominate agricultural land now under tillage. Limiting the complete development of the entire area is an oil pipeline bisecting the western most portion of the area eliminating approximately 70 acres from development due to deed restrictions of building over or near the pipeline. Assuming the 1,100 acres needs 25% for rights-of-way, detention ponds and other infrastructure and the pipeline restrictions, leaves approximately 755 acres developable.



CRASH REPORT INFORMATION

Hoosier Highway historical crash data from September 23, 2008 to December 27, 2017 was obtained from Wells County. The crash report covers from CR 300 South to CR 200 South. After analyzing the crash data, it was determined that there were 14 accidents.



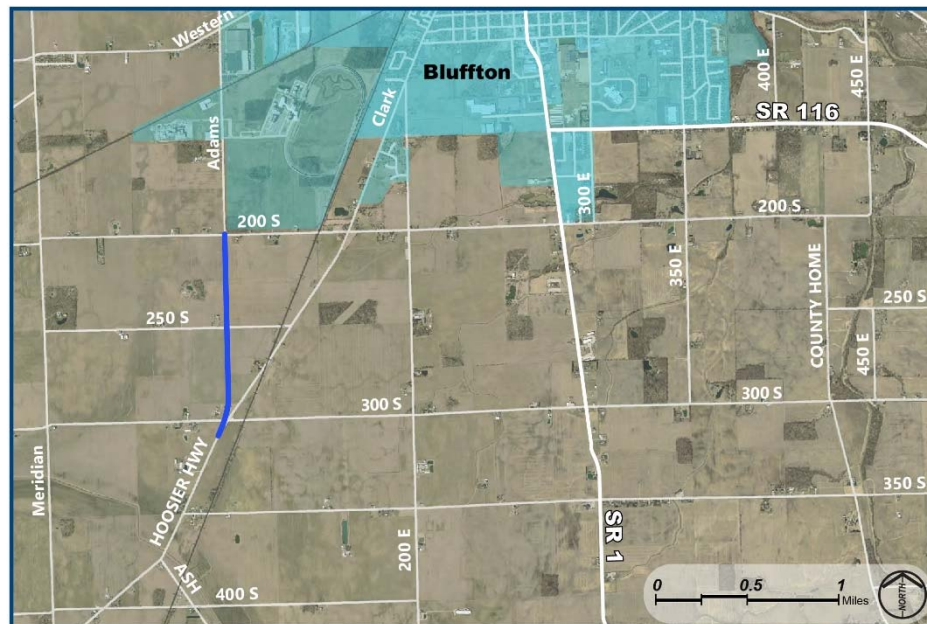
Within those 14 accidents there were no fatalities within this segment of Hoosier Highway in the past nine years. However there were a total of 5 injuries with 4 injuries in just one accident. Among the primary factors for the accidents were ran off the road, roadway surface conditions, speed and animal or object in the roadway.

ROADWAY - ANALYSIS OF THE ROUTES

The first option will be to construct Hoosier Highway on the new alignment. Hoosier Highway is classified as a Rural Major Collector with an AADT of 2088 north of the railroad tracks and an AADT of 1480 north of CR 350 South. Figure 53-4 of INDOT Design Manual will be used for the design. Based on the design table the design speed shall be 55 mph and the travel lane width shall be 12 ft. with a minimum usable shoulder width of 8 ft. The travel lane cross slope should be 2% and the shoulder cross slope will vary depending on the shoulder width and the type of surface.

The minimum desirable profile grade of 0.5% may be used and a maximum of 5.5% for a level condition.

The proposed alignment for Hoosier Highway will start approximately 1200 ft. south of CR 300 S and continue north to Adams Street (CR 200 S). The intersection of Hoosier Highway and CR 300 S will be shifted approximately 300 ft. to the west.





The proposed alignment will potentially include the reconstruction of CR 300 South to approximately 2000 ft. east of the existing Hoosier Highway. The following two railroad crossings: 477-195J (Hoosier Highway) and 477-196R (CR 250 South) will be eliminated. Three cul-de-Sacs will be added to the design to continue providing access to the existing properties before the existing crossings. The existing pavement from the cul-de-sacs to the railroad crossing will be removed.

The proposed improvements of Hoosier Highway realignment with Adams Street expands the existing Bluffton Industrial Park from the intersection of CR 200 South to CR 300 South. The portion of Norfolk & Southern Railroad will have 1 mile of uninterrupted track access for staging of rail cars south of CR 200 South.

The number of trains per day for each crossing is 31. Crossing 477-195J has an AADT of 2,085 VPD and the crossing has gates. For 477-196R the AADT is 56 VPD and the crossing has stop signs. This proposed alignment will also require major improvements to the safety equipment and crossing at 477-194C (CR 300 South). With the proposed plan the traffic utilizing this route will now never cross the railroad tracks and will remain west of the railroad which is where Wells County's connections to I-69 (SR 116, SR 218 and SR 124 via SR 5) are.

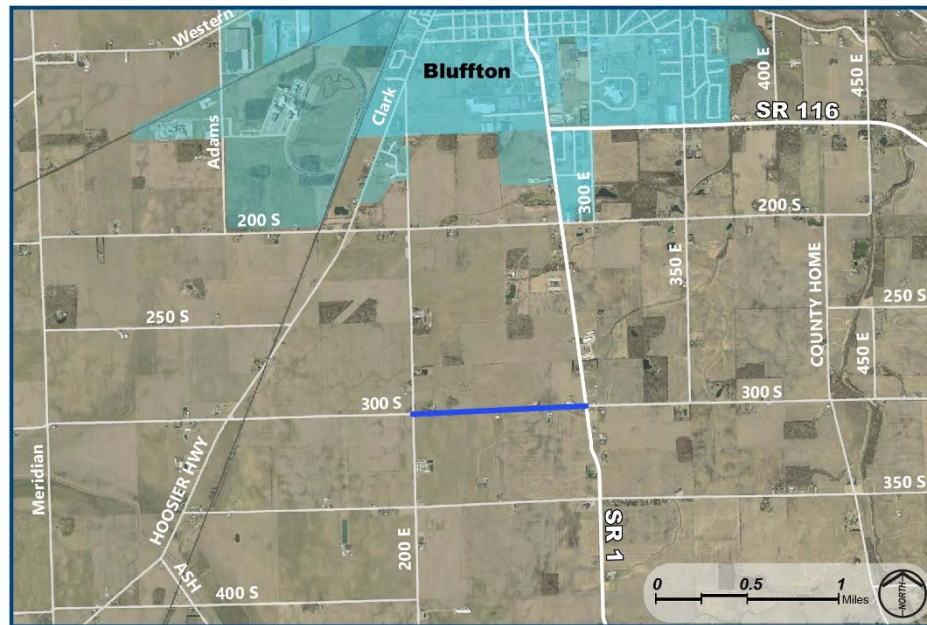
The existing ground is flat and any existing stream is as far as 0.7 miles. Consequently it is anticipated that drainage will be accomplished by roadway side ditches and equalizer structures with no outfall.

CR 300 South from CR 200 east to SR 1 reconstruction is classified as a Rural Major Collector that runs in an east and west direction with an AADT of 40 east of Hoosier Highway Figure 53-4 of INDOT Design Manual will be used for the design. Since this road does not have a posted speed, based on the design table the design speed shall be 35-55 mph and the travel lane width could be 10-12 ft. with a minimum usable shoulder width of 2 ft. The travel lane cross slope should be 2% and the shoulder cross slope will vary depending on the shoulder width and the type of surface. The minimum desirable profile grade of 0.5% may be used and a maximum of 7% for a level condition.

The existing ground is flat and there are several small structures crossing CR 300 S. It is anticipated that drainage will be accomplished by roadway side ditches and use of either



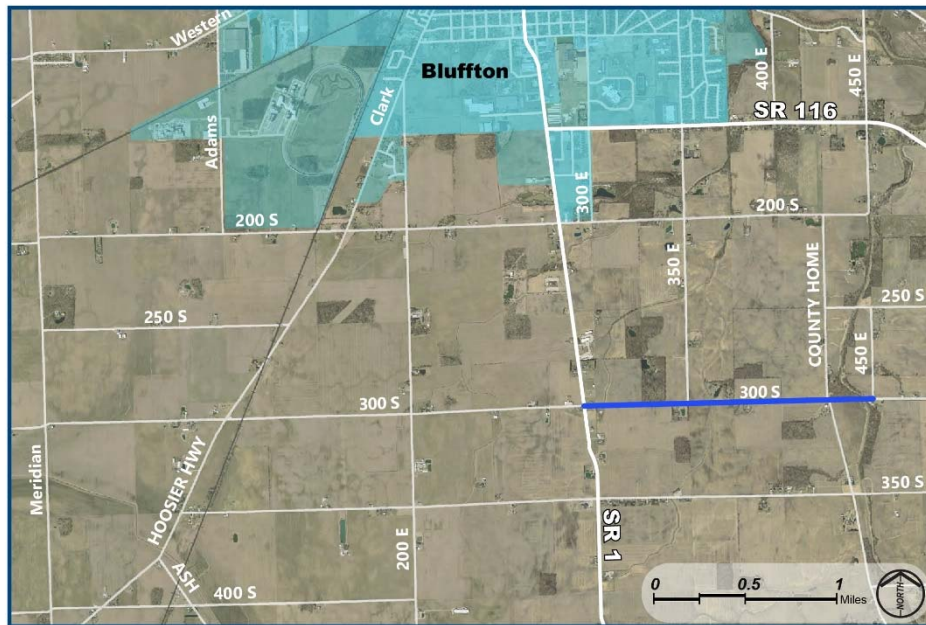
the existing or new drainage structures.



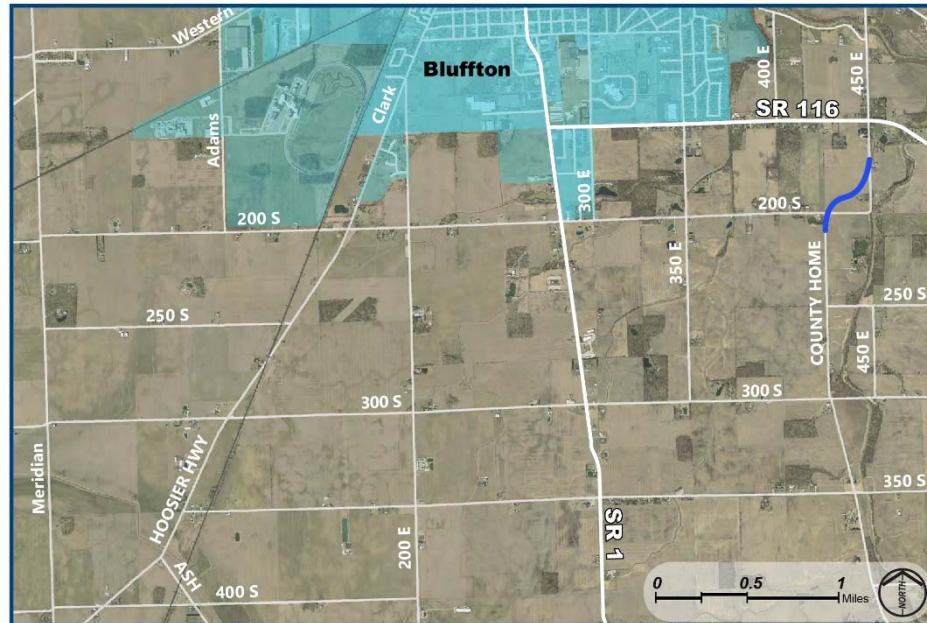
CR 300 South from SR 1 to CR 450 east is classified as a Rural Major Collector that runs in an east and west direction with an AADT of 66 VPD east of SR 1.

Figure 53-4 of INDOT Design Manual will be used for the design. Since this road does not have a posted speed, based on the design table the design speed shall be 35-55 mph and the travel lane width could be 10-12 ft. with a minimum usable shoulder width of 2 ft. The travel lane cross slope should be 2% and the shoulder cross slope will vary depending on the shoulder width and the type of surface. The minimum desirable profile grade of 0.5% may be used and a maximum of 7% for a level condition. However as now this will be a milling a resurfacing project.

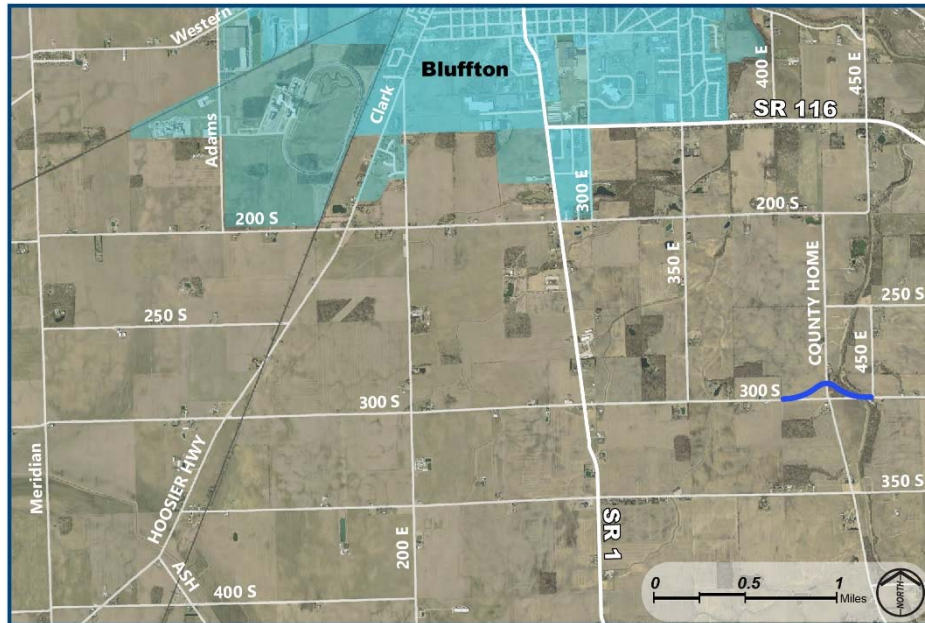
The existing ground is flat and there are several small structures crossing CR 300 S. It is anticipated that drainage will be accomplished by roadway side ditches and use of either the existing or new drainage structures.



County Home Road South & CR 200 South intersection improvements. The proposed alignment is intended to avoid the floodplain. County Home Road is classified as a Rural Minor Collector and runs in a north and south direction. AADT is not available for this road. There is no posted speed on this section of County Home Road. Figure 53-4 of INDOT Design Manual will be used for the design. Since this road does not have a posted speed, based on the design table the design speed shall be 35-55 mph and the travel lane width could be 10 or 12 ft. with a minimum usable shoulder width of 2 ft. The travel lane cross slope should be 2% and the shoulder cross slope will vary depending on the shoulder width and the type of surface. The minimum desirable profile grade of 0.5% may be used and a maximum of 7% for a level condition. The existing ground is flat and there are several small structures crossing CR 300 S. It is anticipated that drainage will be accomplished by roadway side ditches and use of either the existing or new drainage structures.



County Home Road/CR 450 E & CR 300 South intersection improvement. CR 300 South and County Home Road South are both classified as a Rural Minor Collector. County Home Road runs in a north and south direction. The AADT between CR 200 South and SR 116 is 506 VPD. Figure 53-4 of INDOT Design Manual will be used for the design. Since this road does not have a posted speed, based on the design table the design speed shall be 35-55 mph and the travel lane width of 11 ft. with a minimum usable shoulder width of 4 ft. The travel lane cross slope should be 2% and the shoulder cross slope will vary depending on the shoulder width and the type of surface. The minimum desirable profile grade of 0.5% may be used and a maximum of 7% for a level condition. The existing ground is flat and it is anticipated that drainage will be accomplished by roadway side ditches and the existing or new structures.



BRIDGE – ASSESSMENT

The standard geometrics for an overpass over railroad tracks are 23 feet of vertical clearance from the top of rail and 25 feet horizontal clearance each direction from the centerline of the tracks. This requires approximately 28 feet of vertical grade difference along the roadway and a bridge spanning approximately 65 feet. Several options were evaluated to traverse the railroad tracks along CR 300 South, including on existing alignment and shifting the roadway off existing alignment. There are also several gas pipelines to contend with which influenced the alternatives. The most feasible alternative is to construct an overpass structure on existing alignment and utilize MSE walls. The length of the walls would be approximately 85 feet and would be designed to prevent the fill from entering the railroad right-of-way. The bridge structure would be a single span structure with integral end bents and no joints. This structure would reduce future maintenance of the bridge and provide a design life of over 75 years.

ENVIRONMENTAL RED FLAG INVESTIGATION (NIRCC)

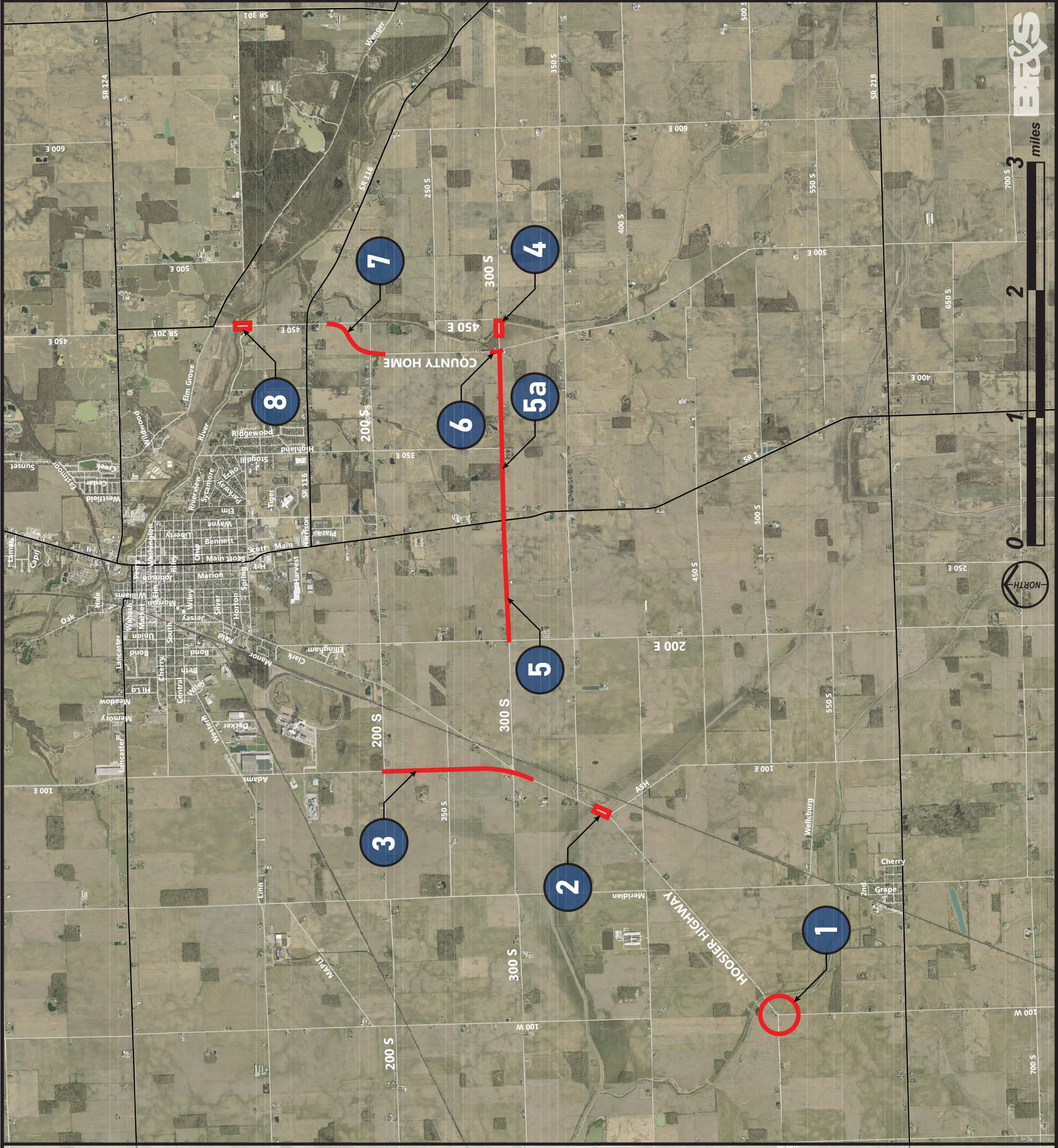
A Red Flag investigation (RFI) is an examination of an area around a project that is completed prior to preliminary engineering or designing. An RFI was going to be



conducted by Butler, Fairman & Seufert to determine where a project should best be located. However, since Northeastern Indiana Regional Coordinating Council (NIRCC) already completed a Red Flag Investigation Report for Wells County Mobility Improvement Southern Corridor, it was decided to use NIRCC's report with the route study.

APPENDIX A

PROJECTS WITH FUNDING SOURCES



1
Curve Correction
 CR 500S / CR100W & Hoosier Highway
 (CCMG) 2019

2
Bridge Replacement
 Bridge 99 and Ash Road
 (CCMG) 2020

3
Road Reconstruction
 Hoosier Highway & Adams Street
 (Local Trax) 2022

4
Bridge Replacement
 Bridge 90
 (CCMG) 2023-2025

5
Road Reconstruction
 300S from CR200E to State Rd. 1
 (CCMG/Local) 2022

5a
Road Reconstruction
 300S from State Rd. 1 to County Home Rd.
 (CCMG/Local) 2022

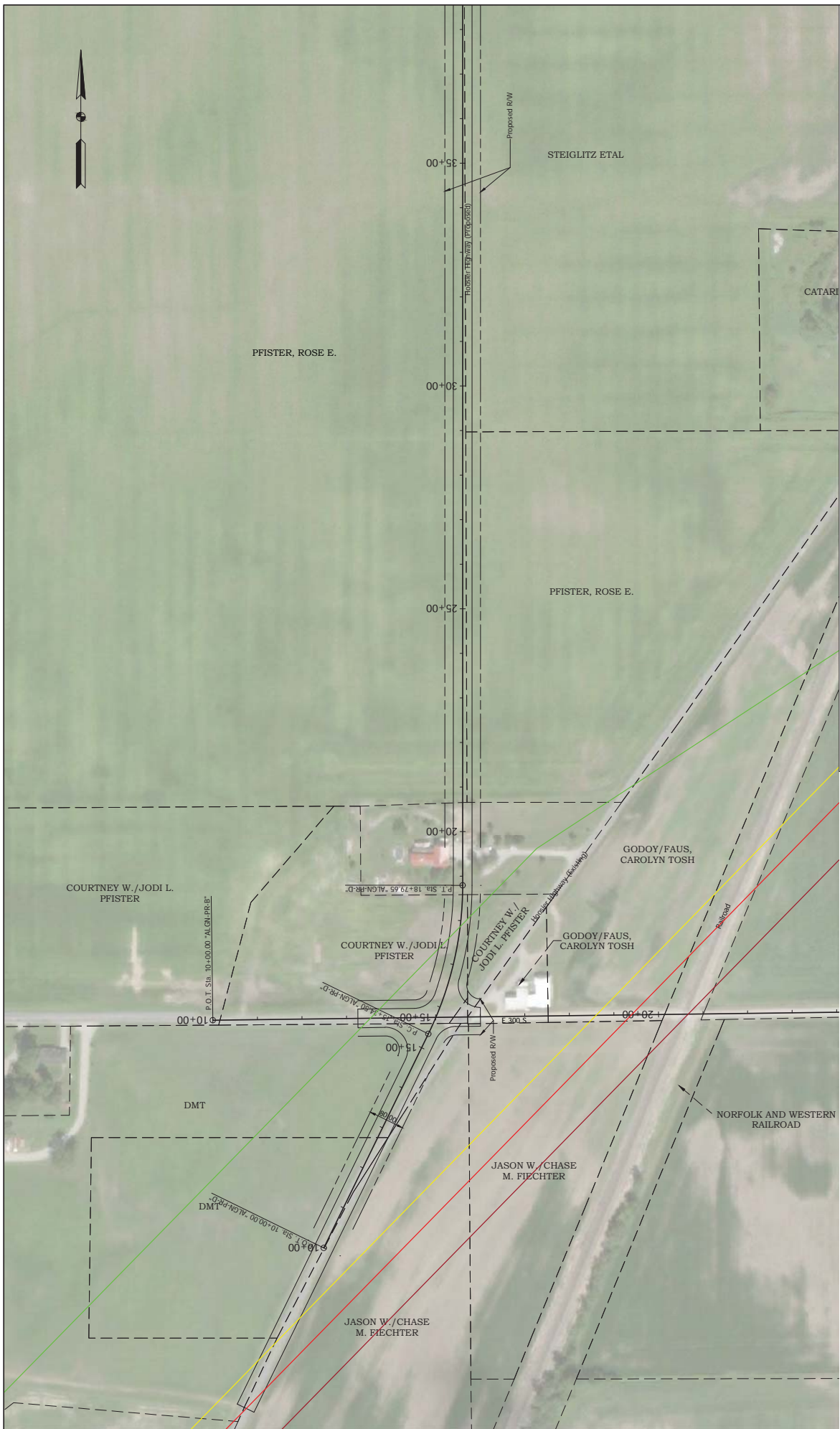
6
Intersection Improvement
 CR 300S & County Home Road / CR 450E
 (Federal Aid - TBD) 2024

7
Intersection Improvement
 County Home Rd & CR 200S
 (Federal Aid) -Estimated - 2024

8
Bridge Rehabilitation
 Bridge 304
 (Federal Aid-Cuml.) 2024

APPENDIX B

PRELIMINARY CONCEPTUAL
PLANS



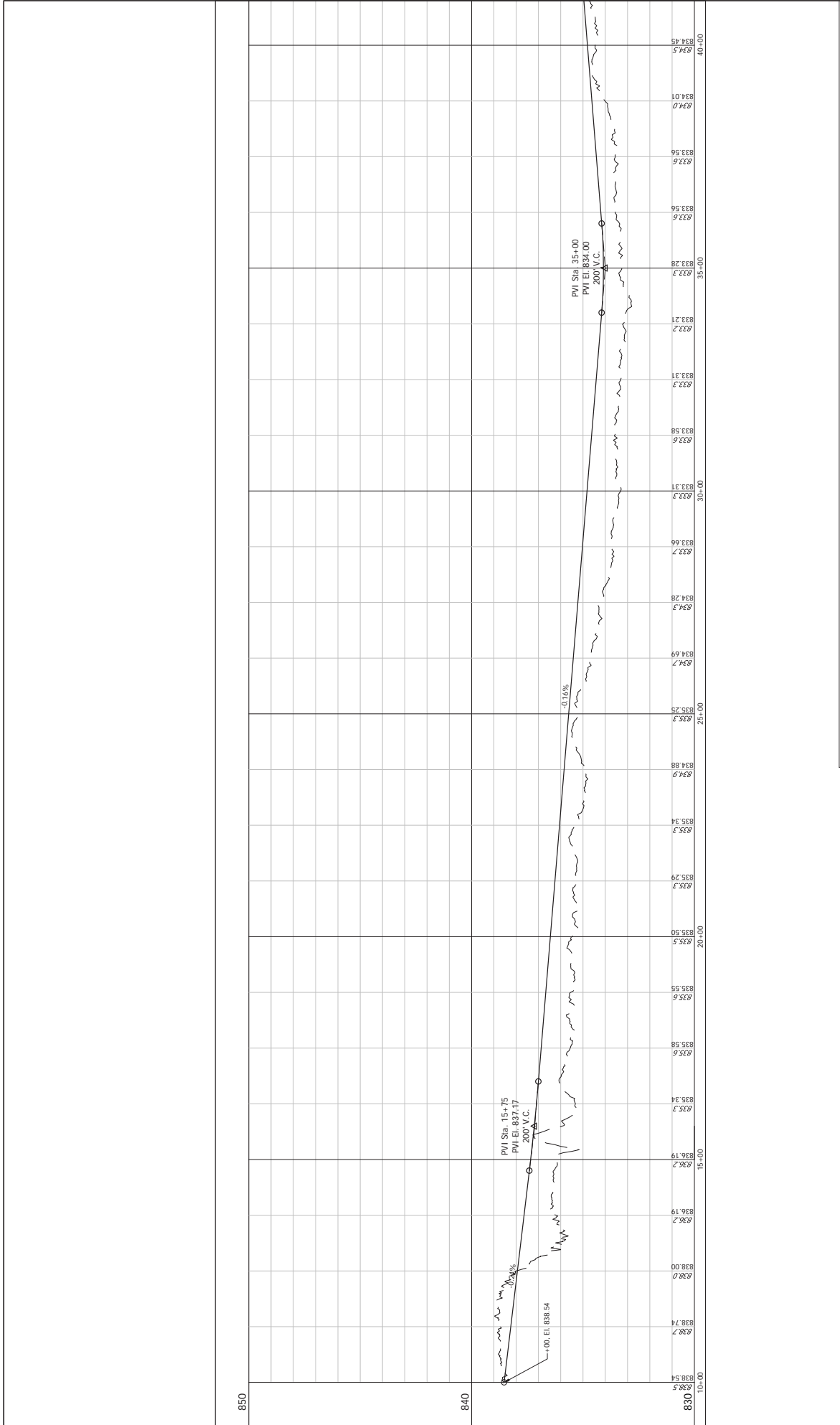
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WELLS COUNTY INDIANA	BRIDGE FILE DESIGNATION SHEET OF PROJECT
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CHECKED ACF	CHECKED ACF	EC

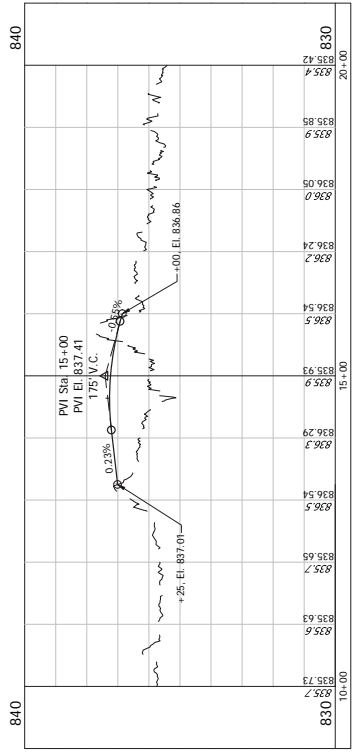
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WELLS COUNTY INDIANA	BRIDGE FILE DESIGNATION SHEET OF PROJECT
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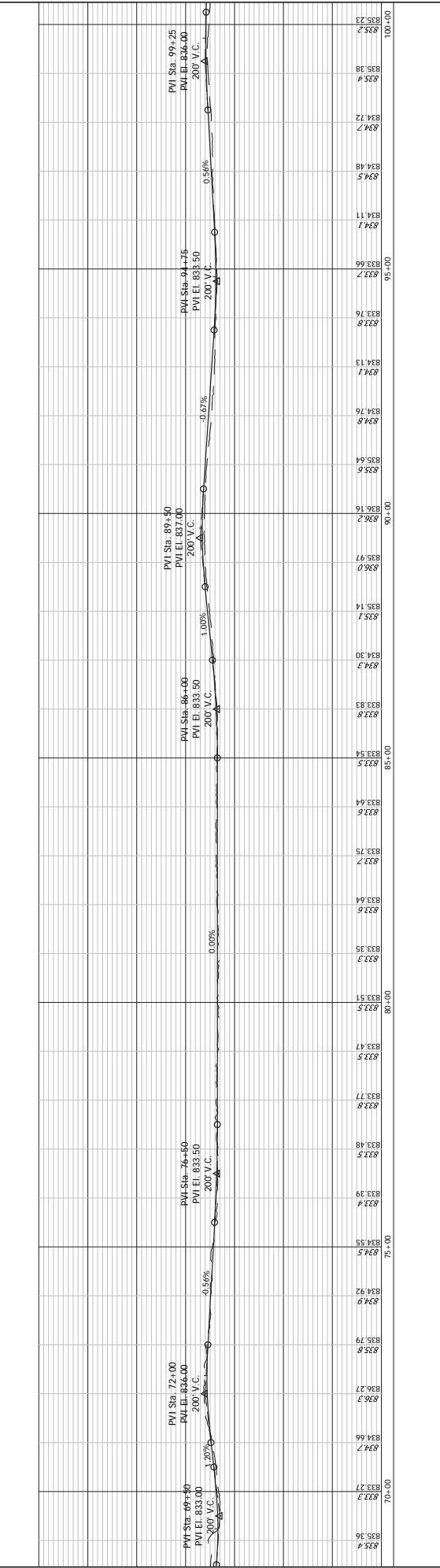
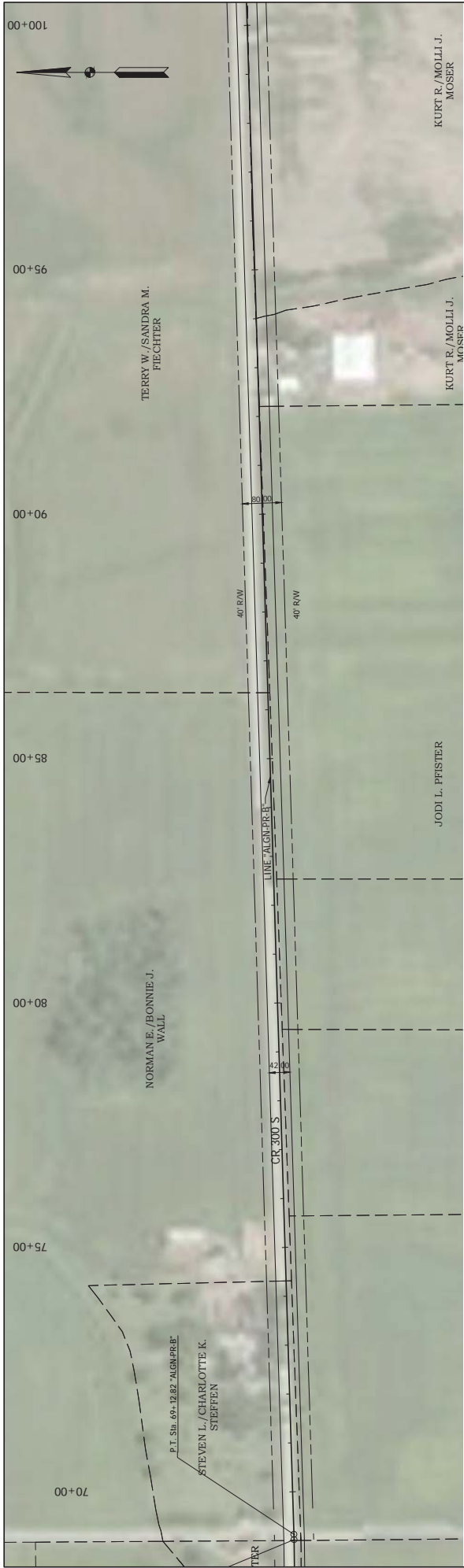


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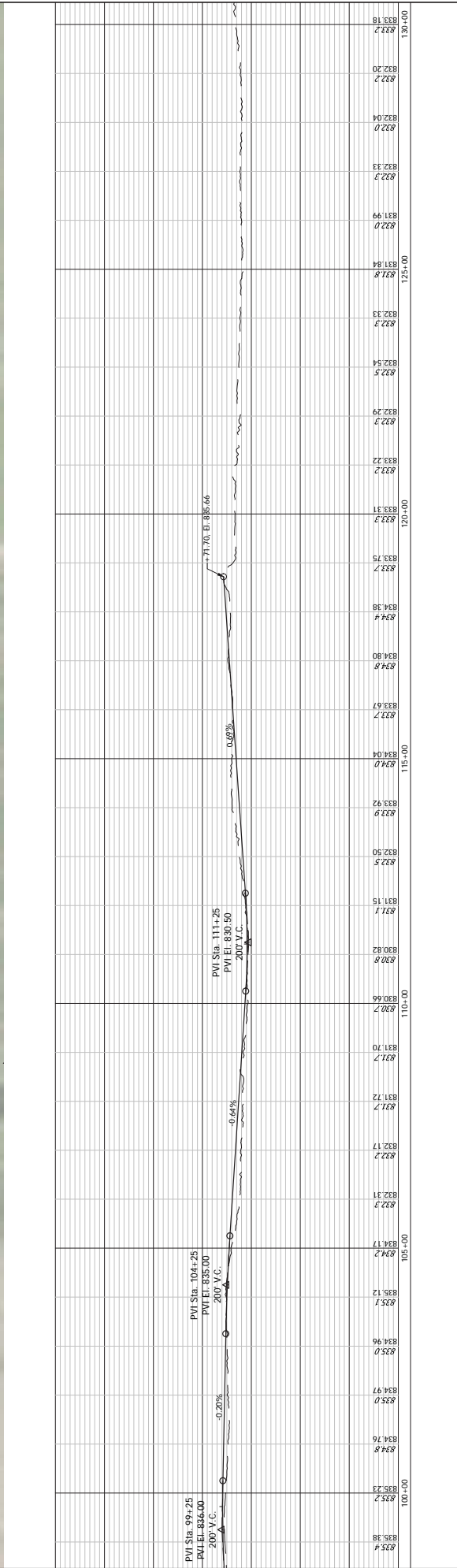
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 VERT. SCALE = 2



<p>WELLS COUNTY INDIANA COUNTY ENGINEER JOHN W. WELLS 200-498-1182 200-498-1183 200-498-1184 200-498-1185 200-498-1186 200-498-1187 200-498-1188 200-498-1189 200-498-1190 200-498-1191 200-498-1192 200-498-1193 200-498-1194 200-498-1195 200-498-1196 200-498-1197 200-498-1198 200-498-1199 200-498-1200</p>	HORIZONTAL SCALE 1" = 100' VERTICAL SCALE 1" = 20' SHEET BOOK CONTRACT	BRIDGE FILE DESIGNATION SHEET OF PROJECT
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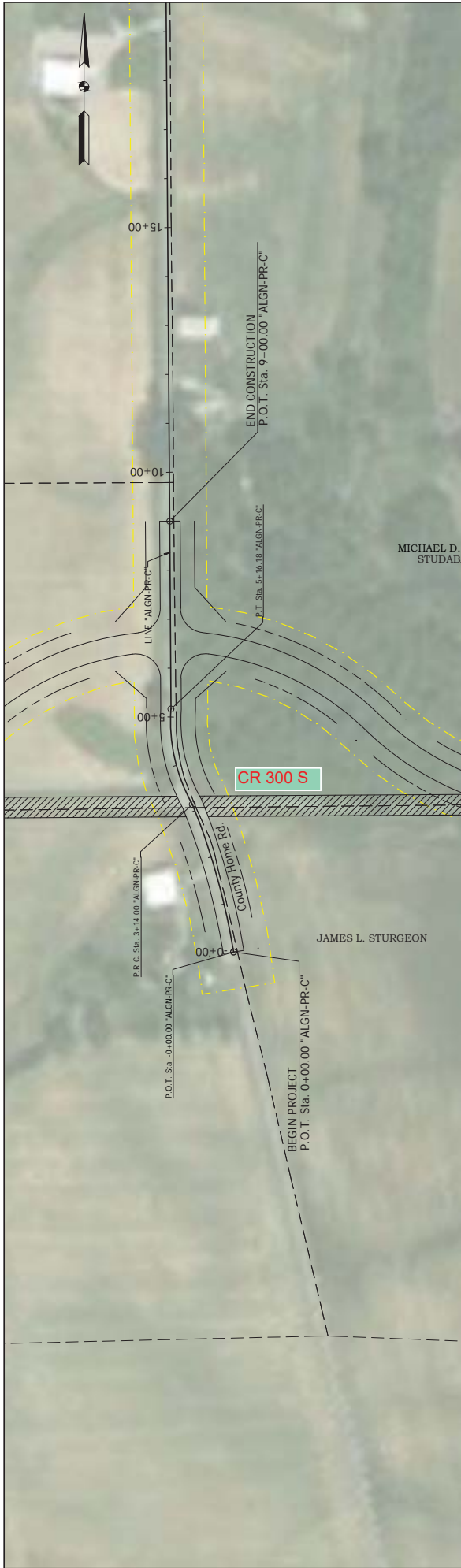


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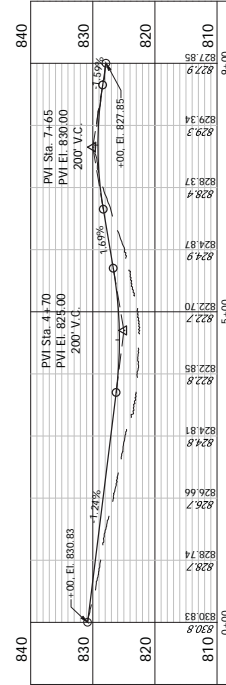


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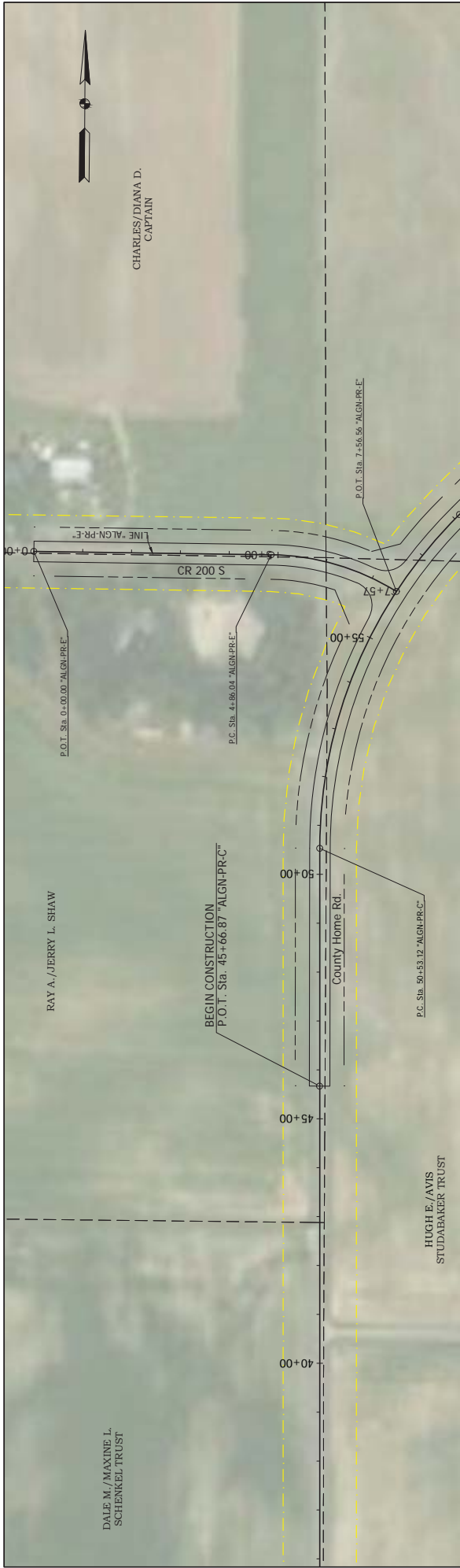
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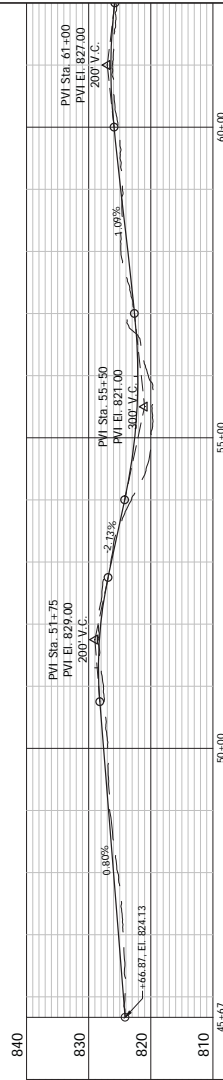
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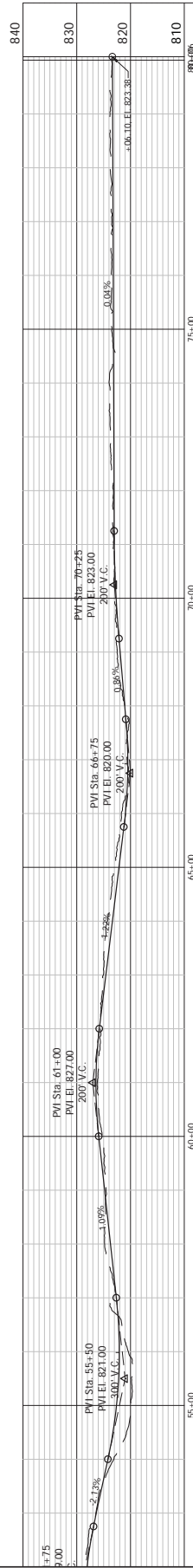
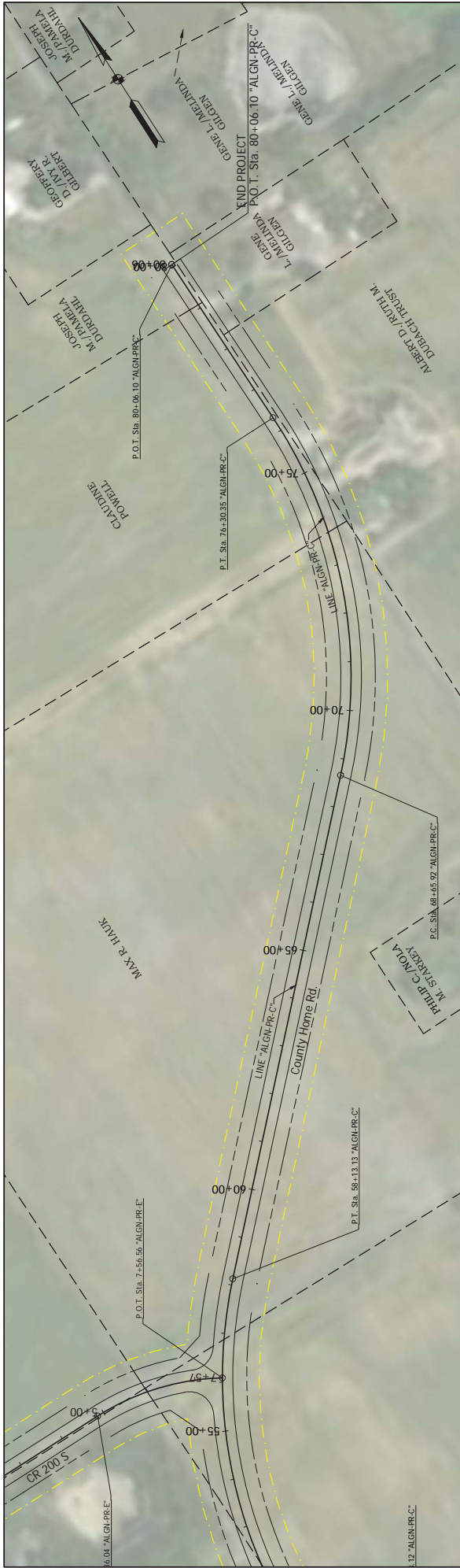
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RECOMMENDED FOR APPROVAL: _____ DESIGNER: EC CHECKED: AFZ	DESIGN ENGINEER: _____ DATE: _____ SHH EC AFZ CHECKED: _____ EC	WELLS COUNTY INDIANA PROJECT NO. 200-030-0182 CONTRACT NO. 200-030-0182 SHEET NO. 11 OF 11 DATE: 10/11/2018 DRAWN BY: JLS CHECKED BY: JLS PROJECT: _____		BRIDGE FILE: _____ HORIZONTAL SCALE: 1"=100' VERTICAL SCALE: _____ SHEET BOOK: _____ CONTRACT: _____
		PLAN AND PROFILE LINE "PR-C"		SHEET: _____ OF: _____ PROJECT: _____



RECOMMENDED FOR APPROVAL: _____ DESIGNER: EC CHECKED: ACE	DESIGN ENGINEER: _____ DATE: _____ SHH: _____ CHECKED: EC	PLANNING AND PROFILE LINE "PR-C"		BRIDGE FILE DESIGNATION: _____ SHEET: _____ PROJECT: _____	
		WELLS COUNTY INDIANA COUNTY ENGINEER: _____ COUNTY SEAL: _____ COUNTY PROJECT NO.: _____ COUNTY PROJECT NAME: _____ COUNTY PROJECT DATE: _____		HORIZONTAL SCALE: 1"=100' VERTICAL SCALE: _____ SHEET BOOK: _____ CONTRACT: _____	

APPENDIX C

LETTERS OF SUPPORT



Wells County Assessor
Richard R. Smith

102 W. Market • Suite 202
Bluffton, Indiana 46714-2050
Phone: 260-824-6476
Fax: 260-824-6518
E-mail: assessor@wellscounty.org

July 10, 2018

Commissioners of Wells County
c/o Nate Rumschlag
102 W Market Street
Bluffton, IN 46714

RE: Wells County Route Study by BF&S

I have been asked to give my opinion on potential real property assessment, in light of the potential route change of Hoosier Highway from approximately 300 S to connect it with Adams Street at approximately 200 S.

Limitations to my estimate include only having the approximate boundaries of the project, mind-set of the existing landowners and the willingness of the rezoning process to enable the type of development chosen for the location and the willingness of City/County officials to extend the necessary infrastructure to any development that may take place.

The area in question includes approximately 1,100 acres of predominate agricultural land now under tillage. The assessed value of the total estimated acreage is \$1,927,560. Limiting the complete development of the entire area is an oil pipeline bisecting the western most portion of the area eliminating approximately 70 acres from development due to deed restrictions of building over or near the pipeline.

Assuming the 1,100 acres needs 25% for rights-of-way, detention ponds and other infrastructure and the pipeline restrictions, leaves approximately 755 acres developable.

Current assessed value of agricultural land is \$1,610 per acre. These 755 acres would have an assessed value of \$1,215,600. If the entire area is developed as single-family residential housing, 3,775 lots of .2 acres would be available. At a conservative value per lot of \$17,000 per lot, the assessed value of the land would be \$64,175,000. If on those 3,775 lots homes valued at \$125,000 each were built, the improvements would add \$471,875,000 or a total assessed value of \$536,050,000.

If, on the other hand, an Industrial development were to be undertaken, there would be approximately 50 parcels of 15 acres each. The land value would be assessed at approximately \$22,650,000. If the development of improvements on those parcels would mirror current investments in Commercial and Industrial properties, improvements of approximately \$1,250,000 on each parcel would result in \$62,500,000 total assessed value of improvements or a total assessed value of \$85,150,000.

In summary, if the approximate 1,100 acres is developed as a housing development the increase in assessed value would be approximately \$534,122,440 (\$536,050,000-\$1,927,560). If the decision is to develop the area as a Commercial and Industrial development, the increase in assessed value would be approximately \$83,222,440 (\$85,150,000-\$1,927,560)

In my opinion and subject to the qualifiers indicated above, the development of approximately 1,100 acres of agricultural land into either residential homesites or commercial and industrial development will increase the Wells County gross assessed value from \$83,000,000 to \$85,000,000 upon completion of such a development.

I would be glad to answer any specific questions you might have concerning this estimate.

Sincerely,



Richard R. Smith, CPA

Level III, Indiana Assessor/Appraiser

Wells County Emergency Management Agency/LEPC

223 W. Washington St. Suite 101

Bluffton, IN 46714



Thursday June 23, 2018

Nate:

I would fully support this project as Emergency Management Director the roadway and its addition. With the proposed project this would reroute a large proportion of trucking of hazardous or Hazmat materials and widely used traffic and reroute outside of the city that already exist. Also when large events such as Bluffton Street Fair blocks the entire town. Emergency Management will assist with this project in ways that will improve the inner city limits traffic.

Director Emergency Management

Rick Velasquez

ema@wellscounty.org

Office 260-824-6433

Cell 260-820-0376



Norfolk Southern Corporation

Rick Crawford
Director Public Projects
Government Relations
Rick.Crawford@nscorp.com

August 10, 2018

Commissioner Joe McGuinness
Indiana Department of Transportation
100 N. Senate Avenue
Indianapolis, Indiana

Dear Commissioner McGuinness:

I am pleased to be writing you on behalf of Norfolk Southern Corporation (“Norfolk Southern”) in support of Wells County’s (“County”) Local TRAX grant application.

The County, in partnership with Norfolk Southern, proposes to improve safety and traffic mobility for commercial vehicles accessing the Bluffton Industrial Park. This will be accomplished by realigning the current Hoosier Highway and eliminating crossings identified as 477195J and 477196R. This project exhibits a unique and creative approach to enhancing both safety and economic development. Moreover, the project budget is substantially less than projects utilizing grade separations while still accomplishing the same goals of the Local Trax program.

Norfolk Southern supports this application as submitted on behalf of the residents of Wells County.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rick Crawford', written in a cursive style.

Rick Crawford

NAME: Michael Lautzenheiser, Jr.

ADDRESS: 223 W WASHINGTON ST

PHONE No. 260-824-6407

EMAILS: 615@wellscounty.org

* ~~Working with industry to figure~~
out the best option for semi
traffic is key.

* second exit for HARVEST Road
is a high priority + allows for more
development potential in the area.

* 200 S. needs to be improved to
a level similar to clustman RD
to allow for FUTURE GROWTH

* 300 S option should be phase 2
after 200 S. is improved. Development
potential / leads would be needed
prior to MAKING THAT INVESTMENT.

* WE NEED TO INTERGRATE WALKING/
BIKING INTO THIS PLAN AND
FIGURE OUT HOW TO CONNECT IT
INTO THE EXISTING TRAIL + SIDEWALK
NETWORKS. Possibly along SR1 to
this area.

* THIS SHOULD BE DONE INCREMENTALLY
AS NEEDS REQUIRE IT SO THAT WE
CAN BE PHYSICALLY RESPONSIBLE AND KNOW
that the investment will be repaid in new
tax revenue.

APPENDIX D

ESTIMATED

COSTS



WELLS COUNTY ROUTE STUDY PROJECT COSTS												
LOCATION	PRELIMINARY ENGINEERING (ASSUMED 12%)		RIGHT OF WAY		UTILITY		RAILROAD		CONSTRUCTION		TOTAL	
	ENGINEERING	COST	COST	COST	COST	COST	COST	COST	INSPECTION (ASSUMED 15%)	COST	FEDERAL FUNDS TO BE REQUESTED	LOCAL FUNDS
HOOSIER HIGHWAY (FROM +/- 500' SOUTH OF CR 300 S to CR 200 S)	\$455,556.72	\$526,500.00	\$1,707,094.00	\$0.00	\$3,796,306.00	\$569,445.90	\$7,054,902.62	\$5,643,922.10	\$1,410,980.52		80%	20%
CR 300 SOUTH (FROM CR 200 EAST TO SR 1)	\$372,665.40	\$151,200.00	\$0.00	\$0.00	\$3,105,545.00	\$465,831.75	\$4,095,242.15	\$3,276,193.72	\$819,048.43			
CR 300 SOUTH (FROM SR 1 TO CR 450 E)	\$212,360.28	\$132,240.00	\$0.00	\$0.00	\$1,769,669.00	\$265,450.35	\$2,379,719.63	\$1,903,775.70	\$475,943.93			
COUNTY HOME ROAD/CR 450 E & CR 300 SOUTH (Curve Correction)	\$72,892.80	\$96,900.00	\$0.00	\$0.00	\$607,440.00	\$91,116.00	\$868,348.80	\$694,679.04	\$173,669.76			
COUNTY HOME ROAD & CR 200 SOUTH (Curve Correction)	\$316,991.52	\$336,100.00	\$0.00	\$0.00	\$7,641,596.00	\$396,239.40	\$3,690,926.92	\$2,952,741.54	\$738,185.38			

APPENDIX E

PHOTOGRAPHS

Site Photographs



Photo 1: Hoosier Highway – Facing South



Photo 2: Hoosier Highway & CR 300 South – Facing North



Photo 3: CR 250 South – Railroad Crossing Facing West



Photo 4: Hoosier Highway Railroad Crossing Facing North



Photo 5: Hoosier Highway Future Extension to Adam Street Facing North



Photo 6: CR 200 South looking south from Hoosier Highway



Photo 7 CR 200 South & County Home Road Facing East



Photo 8: CR 200 South & CR 450 East Facing South



Photo 9: CR 300 South & County Home Road Facing East



Photo 10: CR 200 South Looking East from CR 350 East

APPENDIX F

**RED FLAG
INVESTIGATION
REPORT(NIRCC)**

Red Flag Investigation Report

Wells County Mobility Improvement

Southern Corridor

Wells County, Indiana

DRAFT



Northeastern Indiana Regional Coordinating Council

Wells County Mobility Improvements

The City of Bluffton is the largest urban area in Wells County with a population of approximately 9,900, representing 35% of the total County population. The Bluffton area also serves as a major economic and employment center. The primary north-south arterial in Wells County is State Road 1 which dissects the City of Bluffton and the surrounding area. Alternative north-south routes and viable east-west routes around the perimeter of the urban area are limited. The roadways are likely to be narrow and of a rural design. Wells County Commissioners are interested in developing a plan to improve mobility in and around the Bluffton area through a series of north-south and east-west road improvements that will comprise a perimeter roadway network serving the Bluffton Community and surrounding area.

The first phase of this process is evaluating alternative routes south of Bluffton to improve access to the industrial area along Adams Street/ County Road S 100 E from State Road 1. Currently, the most direct route is utilizing County Road E 200 S/Angel Street. The pavement width on County Road E 200 S is approximately 20 feet providing for two ten-foot travel lanes. The right of way is limited and utility poles are located extremely close to the roadway. Options should be explored to identify an alternative east-west route that improves mobility around and to western and eastern portions the developed area. This concept will also diminish the sole reliance on State Road 1 as the north-south corridor. In support of this planning process, The Northeastern Indiana Regional Coordinating Council conducted a Red Flag Investigation to identify real and potential environmental and cultural concerns in an area of interest for transportation improvements.

Wells County Red Flag Investigation

A Red Flag Investigation (RFI) is an examination of an area around a project that is completed prior to preliminary engineering or designing. A RFI can be conducted to determine where a project should best be located. The area examined in a RFI is a half mile in all directions from the project limits. The information gathered from a RFI is used to identify potential problems that may arise with environmental, constructability and engineering issues. The information from a RFI assists in the NEPA (the National Environmental Policy Act) environmental process during preliminary engineering. Depending on the information uncovered in the RFI, additional research may be needed.

A RFI will identify the following subjects:

- Infrastructure – schools, cemeteries, pipelines, etc.
- Water Resources – rivers and streams, floodplain, wetlands, etc.
- Mining/Mineral Exploration – petroleum fields & wells, mines
- Hazmat Concerns – Brownfield sites, tire waste sites, underground storage sites, etc.
- Historic Features – historic sites or districts, select bridges, etc.

The RFI will identify the before mentioned subjects on maps as well as list all features found. A detailed explanation of the items found will be included.

The RFI for Wells County is located south of the City of Bluffton. The project limits for this area being examined has the following boundaries, Adams St/S 100 E is the western limit, County Home Rd & S 450 E are the eastern limits, E 200 S is the northern limit, and E 300 S is the southern limit. This area is three and half miles east to west and one mile north to south. The project area is predominately farmland, along with residential metes and bound properties.

The RFI included a large area as opposed to a specific corridor to provide information for evaluating alternative corridors and potential alignments. This RFI was prepared to analyze the best location for roadway improvements on the south side of Bluffton to reach existing industrial areas on the west and east sides of Bluffton. The current roadways are rural designed with narrow lanes and no shoulders.

Wells County Roadway Characteristics

The following are roadway characteristics for Adams St (1/2 mile N/o E 200 S to E 200 S), Adams St proposed future alignment (E 200 S to E 300 S), E 200 S (Adams St to S 450 E), Hoosier Hwy (E 200 S to E 300 S), E 300 S (Hoosier Hwy to County Home Rd), County Home Rd (E 200 S to E 300 S), and S 450 E (SR 116 to E 200 S).

ADAMS STREET (EXISTING):

- N/S roadway classified as a (Urban) Minor Arterial
- The proposed extension from E 200 S to E 300 S would be classified as a (Rural) Major Collector
- Length - .50 miles (E 200 S to ½ mile n/o E 200 S)
- Two lanes
- Lane width – 12’
- AADT - 1453, 4/21/16
- Shoulder width – 7’

ADAMS STREET (PROPOSED):

- N/S roadway would be classified as a (Rural) Major Collector from E 200 S to E 300 S
- Length – 1.01 miles from E 200 S to E 300 S/Hoosier Hwy

E 200 S:

- This is a E/W roadway
- Classified as a (Urban) Minor Arterial from Adams St to SR 1
- Classified as a (Urban) Minor Collector from SR 1 to S 350 E
- Classified as a Local Road from S 350 E to S 450 E
- Length - 3.5 miles
 - Adams St to Hoosier Hwy - .67 miles
 - Hoosier Hwy to S 200 E - .33 miles
 - S 200 E to SR 1 - .82 miles
 - SR 1 to S 300 E/Wayne St - .18 miles
 - S 300 E/Wayne St to S 350 E - .50 miles
 - S 350 S to County Home Rd - .75 miles
 - County Home Rd to S 450 E - .25 miles
- AADT
 - Adams St to Hoosier Hwy - 1008, 4/21/16
 - SR 1 to S 350 E - 789, 4/4/17
 - S 350 E to County Home Rd – 515, 4/4/17
- Two lanes
- Lane width – 10’
- No shoulders
- One bridge – 920’ e/o S 300 E (Wayne St)
- Railroad Crossing – 850’ w/o Hoosier Highway

HOOSIER HWY:

- NE/SW roadway classified as a (Rural) Minor Collector
- Length - 1.22 miles
 - E 200 S to E 250 S - .60 miles
 - E 250 S to RR crossing - .24 miles
 - RR crossing to E 300 S - .38 miles
- AADT – 2114, 4/21/16 (n/o /RR crossing)
- Two lanes
- Lane width – 12’
- No shoulders
- Railroad Crossing – 1225’ s/o E 250 S

E 300 S:

- E/W roadway classified as a (Rural) Major Collector
- Length - 3.28 miles
 - Hoosier Hwy to RR crossing - .08 miles
 - RR crossing to S 200 E - .92 miles
 - S 200 E to SR 1 - .94 miles
 - SR 1 to S 350 E - .56 miles
 - S 350 E to County Home Rd - .77 miles
- AADT
 - e/o Hoosier Hwy - 40, 3/16/16
 - w/o SR 1 - 66, 4/4/17
- Two lanes
- Lane width – 9’
- No shoulders
- Railroad Crossing – 480’ e/o Hoosier Highway

COUNTY HOME ROAD:

- N/S roadway classified as a (Rural) Major Collector
- Length - 1.02 miles
 - E 300 S to E 250 S - .51 miles
 - E 250 S to E 200 S - .51 miles
- AADT – no data
- Two lanes
- Lane width – 9’
- No shoulders

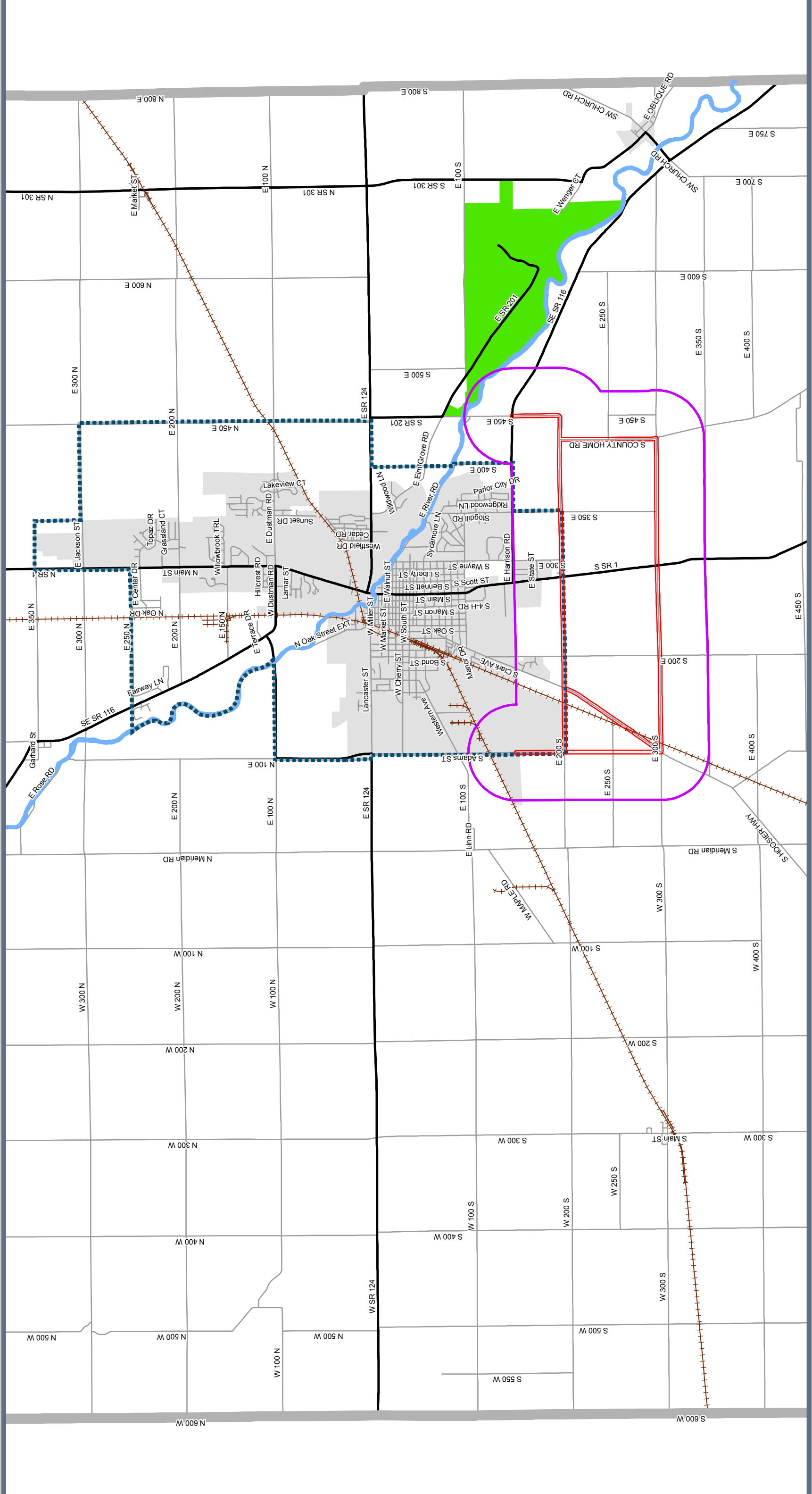
S 450 E:

- N/S roadway classified as a (Rural) Major Collector
- Length - .50 miles (E 200 S to SR 116)
- AADT – 506, 6/1/16
- Two lanes
- Lane width – 9’
- No shoulders

RAILROAD:

- 15 day trains
 - 10 night trains
-

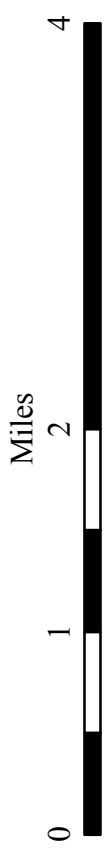
- *E 200 S is within the Urbanized Area from Adams St to S 350 E.*
- *Adams St n/o E 200 S is within the Urbanized Area.*



- Railroad
- Highway
- Local Road
- Water
- Half Mile Buffer
- Potential Project Area
- Urban Boundary
- City of Bluffton
- County Boundary
- Ouabache State Park



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



Produced by NIRCC



SR Red Flag Investigation - Project Location Map
 Corridor Evaluation, area south of Bluffton
 Wells County, Indiana
 February 2018

Wells County RFI Summary

Red Flag Investigation Items that could affect potential roadway improvements along Adams St (1/2 mile N/o E 200 S to E 200 S), Adams St proposed future alignment (E 200 S to E 300 S), E 200 S (Adams St to S 450 E), Hoosier Hwy (E 200 S to E 300 S), E 300 S (Hoosier Hwy to County Home Rd), County Home Rd (E 200 S to E 300 S), and S 450 E (SR 116 to E 200 S). The potential project area is estimated at 100' from centerline of each roadway.

THE FOLLOWING ITEMS WERE DETERMINED TO BE ADJACENT TO, NEAR, OR WITHIN THE POTENTIAL PROJECT AREA:

- 1 IDNR Managed Land/Park/Recreational Facility is within the half mile radius but not within the potential project areas. The Ouabache State Park intersects S 450 E north of SR 116 which is not identified as part of the current potential project area. However, if the potential project area were to extend north of its current limits, the park may be located within the potential project area.
- 2 Pipelines - Pipelines intersect the potential project area in 2 places and would affect a realignment of a potential project area if it were realigned.
- 2 Railroads - Railroads intersect the potential project area in 3 places.
- 7 Rivers or Streams - There are (9) places that these rivers or streams cross or intersect the potential project area.
 - 1 is considered Impaired
- 4 potential wetlands
- 5 Waterbody Areas
- Floodplain – yes
- 1 Dry Petroleum Well - Location needs further investigation
- 9 SHAARD sites (State Historic Architectural and Archaeological Research Database)
 - 9 County Survey sites - All “Contributing”

Wells County RFI Details

Red Flag Investigation Items that could affect potential roadway improvements along Adams St (1/2 mile N/o E 200 S to E 200 S), Adams St proposed future alignment (E 200 S to E 300 S), E 200 S (Adams St to S 450 E), Hoosier Hwy (E 200 S to E 300 S), E 300 S (Hoosier Hwy to County Home Rd), County Home Rd (E 200 S to E 300 S), and S 450 E (SR 116 to E 200 S). The potential project area is estimated at 60' from centerline of each roadway.

INFRASTRUCTURE

(5) Churches (Religious Facilities) are within the half mile buffer but not within the potential project areas.

(2) Cemeteries are within the half mile radius but not within the potential project areas.

(1) IDNR Managed Land/Park/Recreational Facility is within the half mile radius but not within the potential project areas. The Ouabache State Park intersects S 450 E north of SR 116 which is not identified as part of the current potential project area. However, if the potential project area were to extend north of its current limits, the park may be located within the potential project area.

(1) Existing Trail is located within the half mile buffer but not within the potential project areas.

(2) Pipelines are located within the half mile radius.

- Pipelines intersect the potential project area in 2 places and would affect a realignment of a potential project area if it were realigned.
 - This natural gas pipeline crosses E 300 S just east of its intersection with Hoosier Hwy.
 - This natural gas pipeline Crosses E 200 S just east of its intersection with Hoosier Hwy.
 - This natural gas pipeline also runs parallel to Hoosier Hwy and would affect the potential project area if Hoosier Hwy was realigned to the east at any point before intersecting with E 300 S.

(2) Railroads are located within the half mile radius.

- Railroads intersect the potential project area in 3 places.
 - The Norfolk and Western Railroad intersects E 200 S just west of Hoosier Hwy.
 - The Norfolk and Western Railroad intersects Hoosier Hwy between E 250 S and E 300 S.
 - The Norfolk and Western Railroad intersects E 300 S just east of Hoosier Hwy.

WATER RESOURCES

(Approximately 12) Rivers or Streams are within a half mile radius.

- (7) of these Rivers or Streams are located within the potential project areas in various locations. There are (9) places that these rivers or streams cross or intersect the potential project area.
 - E 200 S
 - DeLong Ditch (800' e/o S 200 E)
 - Crosbie Ditch (940' e/o S 300 E/Wayne St)
 - Popejoy Ditch (1400' e/o S 350 E)
 - Sixmile Creek (E 200 S @ S 450 E)
 - E 300 S
 - Ditch (260' w/o S 200 E)
 - Ditch (2500' e/o S 200 E)
 - Ditch (350' e/o SR 1)
 - Popejoy Ditch (700' e/o S 350 E)
 - County Home Rd
 - Ditch (130' n/o E 300 S)
 - S 450 E
 - Sixmile Creek (S 450 E @ E 200 S)
 - Sixmile Creek, and the floodplain associated with it, would also affect any alignment proposed east of County Home Rd to connect with S 450 E

(2) Rivers or Streams are considered impaired within the half mile radius.

- (1) of these Impaired Streams are within the potential project area.
 - The Sixmile Creek is considered an impaired stream and intersects the project area near the intersection of S 450 E and E 200 S. The Sixmile Creek may also affect any alignment proposed east of County Home Rd to connect with S 450 E.

(1) Outstanding River is within the half mile radius but is not near the potential project area.

(Wabash River)

(45) Potential Wetlands are within the half mile radius.

- There are approximately (4) Potential Wetlands within or near the potential project areas.
 - (3) near E 200 S and County Home Rd just west of County Home Rd.
 - (1) near County Home Rd south of SR 116.

(33) Waterbody Areas are within the half mile radius.

- (5) Waterbody Area may be affected by the potential project area.
 - (3) near E 200 S and County Home Rd just west of County Home Rd.
 - (1) near County Home Rd south of SR 116.
 - (1) near E 300 S west of SR 1.

Floodplain – There are two Floodplain areas within the half mile radius.

- The Floodplain associated with Sixmile Creek intersects the project area at several locations along County Home Rd and S 450 E and could affect potential projects. This flood plan runs north and south along the east side of these two corridors.
- There is a Floodplain located north of E 200 S associated with Bill's Creek but does not intersect with the potential project area.

HAZMAT

(1) UST (Underground Storage Tank) is within a half mile radius but not within the potential project area.

(1) NPDES Facility is within a half mile radius but not within the potential project area.

(1) Confined Feeding Operation is within a half mile radius but not within the potential project area.

MINING/MINERAL EXPLORATION

(1) Dry Petroleum Well is within a half mile radius. While it does not appear to be within the potential project area, it is close enough to investigate further for site verification.

- The Dry Petroleum Well is located on the south side of E 300 S approximately 2,500 feet east of Hoosier Hwy.

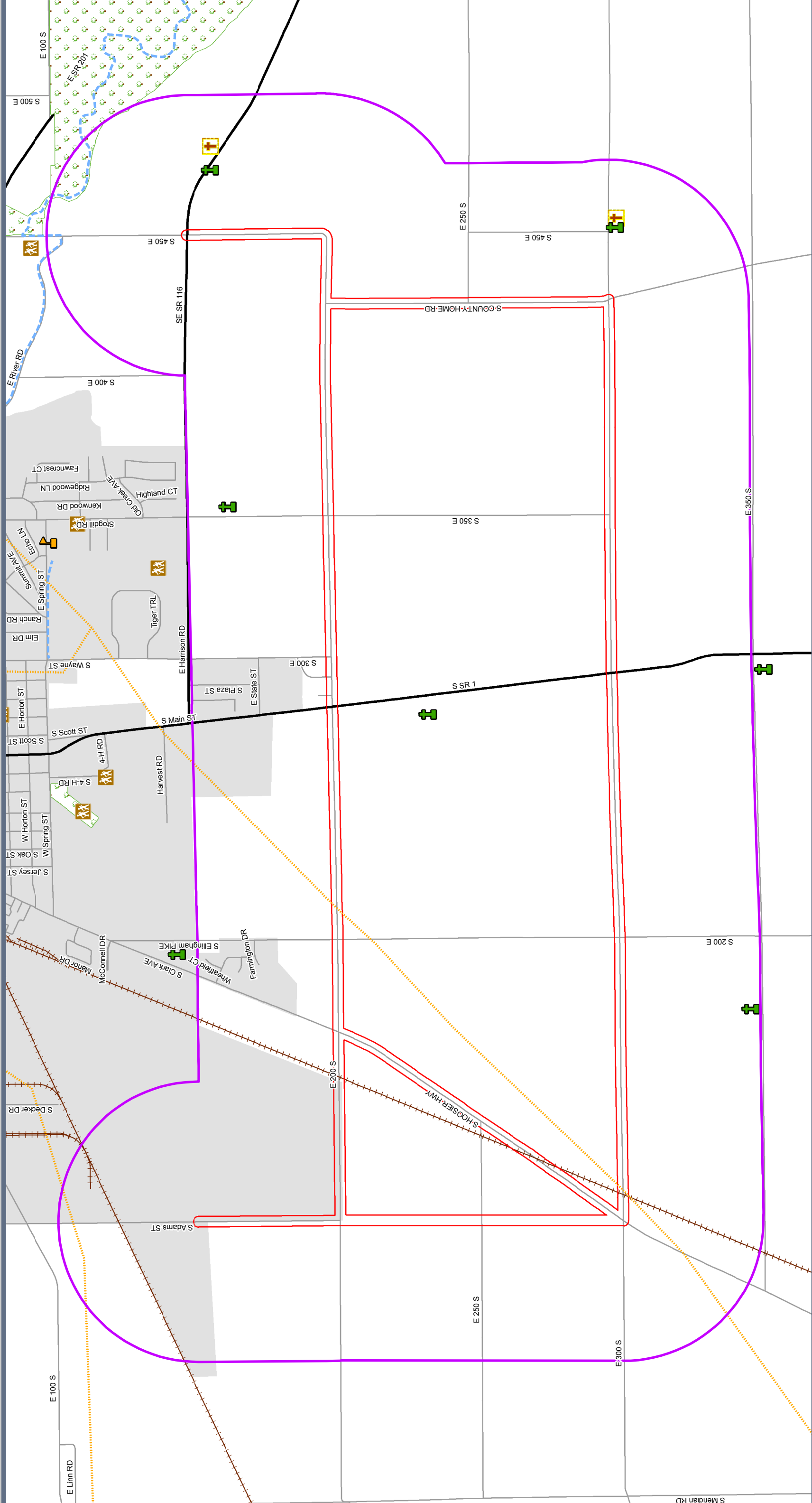
HISTORIC RESOURCES

(1) National/State Registered Historic Site/District is within the half mile radius but is not within the potential project area.

(2) Historic Bridges listed in the State Historic Architectural and Archaeological Research Database (SHAARD) database are located within the half mile radius but are not within the potential project area.

(29) Sites from the State Historic Architectural and Archaeological Research Database (SHAARD) database are located within the half mile radius.

- (9) County Survey Sites are located within the potential project area.
 - 179-056-20023, 1086 East CR 200 South, Contributing
 - 179-056-20022, 1670 East CR 200 South, Contributing
 - 179-056-20021, 2525 East CR 200 South, Contributing
 - 179-056-20019, 3010 East CR 200 South, Contributing
 - 179-056-20007, 4481 Southeast CR 150 South (SR 116), Contributing
 - 179-056-20029, 949 East CR 250 South, Contributing
 - 179-056-20032, 2059 East CR 300 South, Contributing
 - 179-056-20008, 1909 South CR 450 East, Contributing
 - 179-056-20030, 2290 South Hoosier Highway, Contributing



- Religious Facilities
- Museums
- Schools
- Hospitals
- Cemeteries
- Airports
- Recreational Facilities
- Parks
- Trails
- Pipelines
- Managed Lands
- Railroad
- Highway
- Local Road
- City of Bluffton
- Half Mile Buffer
- Project Area



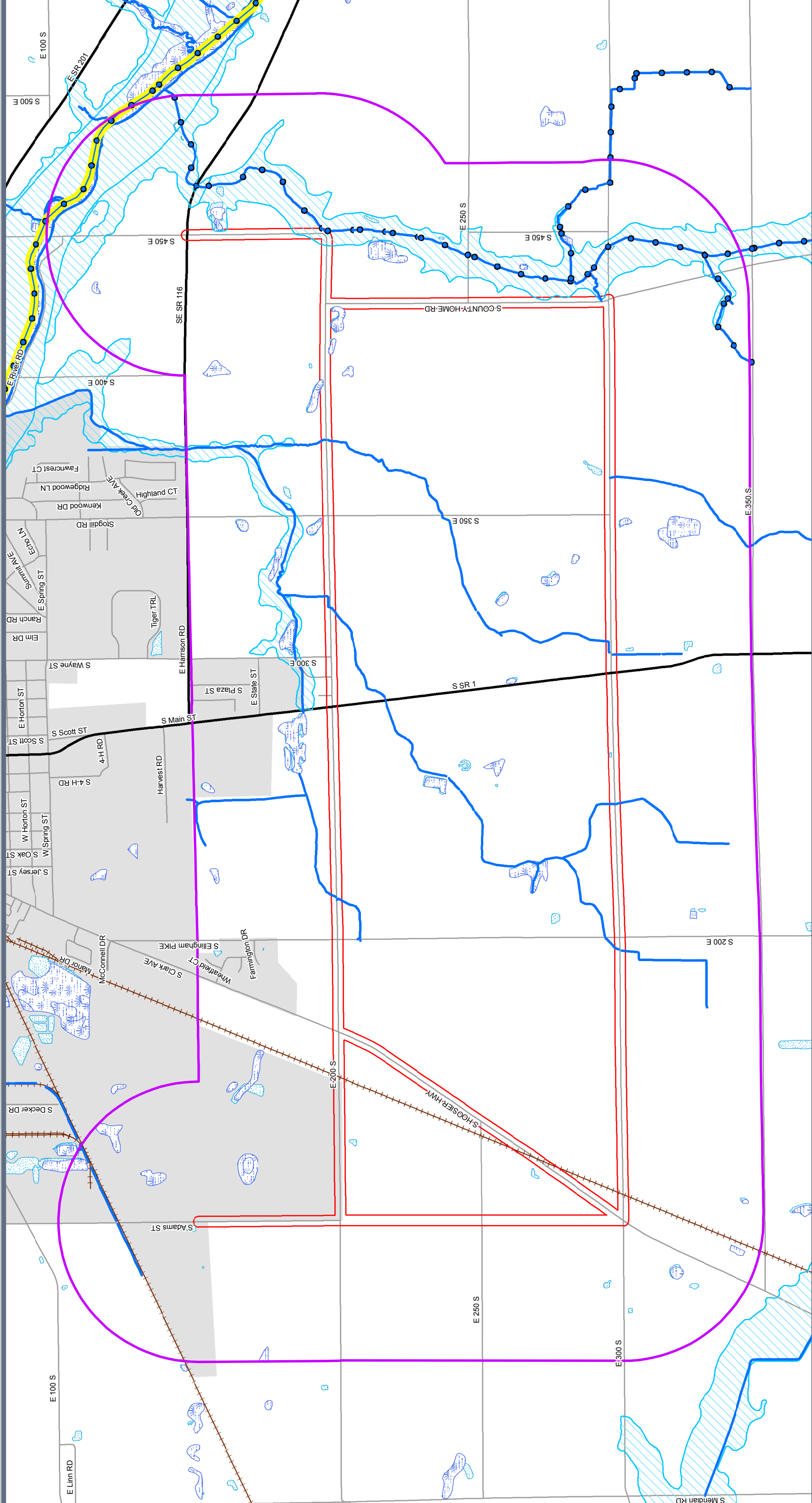
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Produced by NIRCC



Red Flag Investigation - Infrastructure Map
 Corridor Evaluation, area south of Bluffton
 Wells County, Indiana
 February 2018



Red Flag Investigation - Water Resources Map
Corridor Evaluation, area south of Bluffton
Wells County, Indiana
February 2018

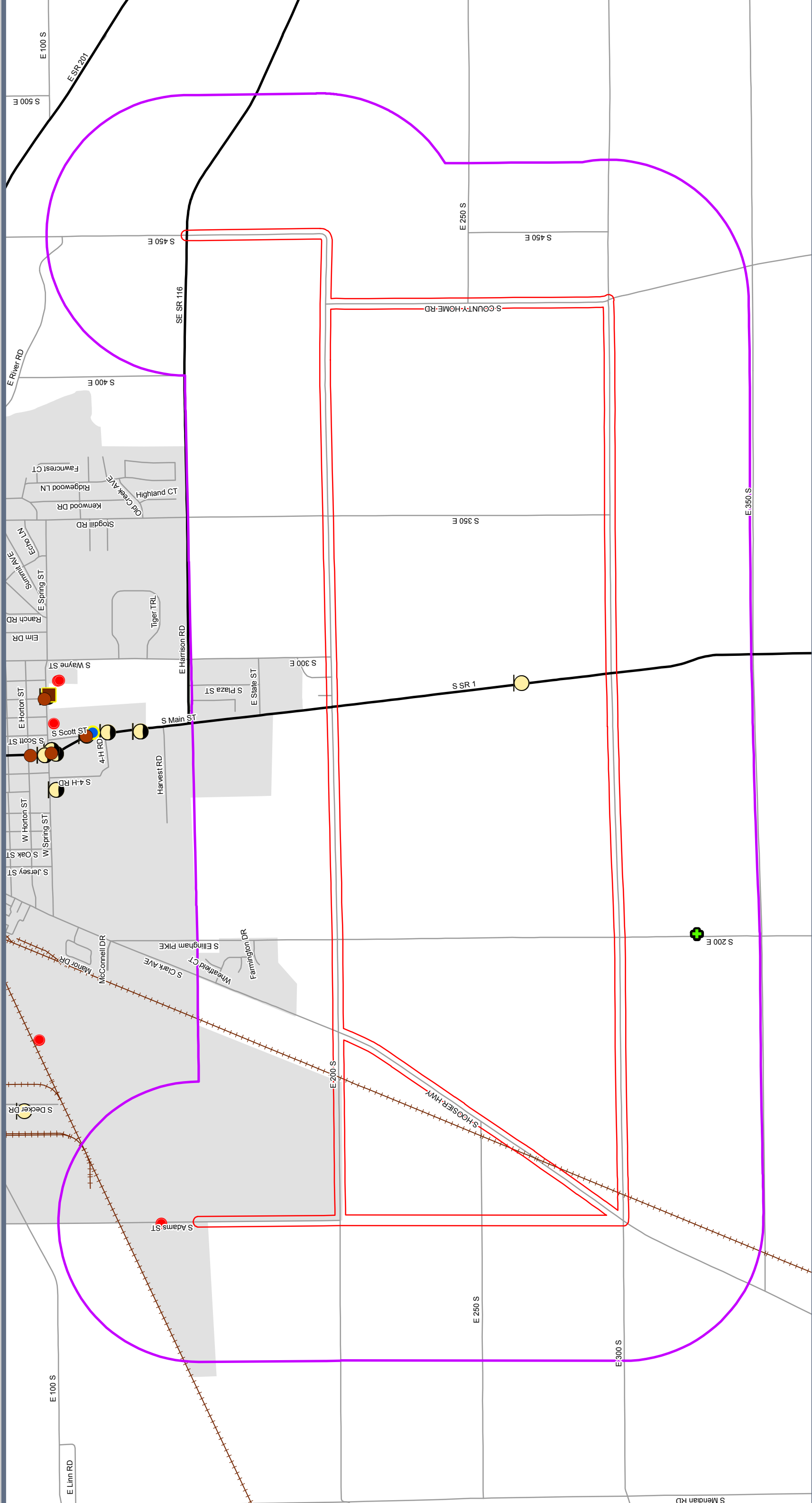
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This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.



- | | | |
|--------------------------------|--------------------------|-----------------------|
| Wetlands | Waterbody Areas | Cave Entrance Density |
| Floodplain | Historic Canal Route | Railroad |
| Stream - Impaired | Historic Canal Structure | Highway |
| Lake - Impaired | Karst Springs | Local Road |
| Outstanding Rivers | Sinkhole Areas | City of Bluffton |
| National River Inventory (NRI) | Sinking-Stream Basins | Half Mile Buffer |
| Linear Waterbody | | Project Area |

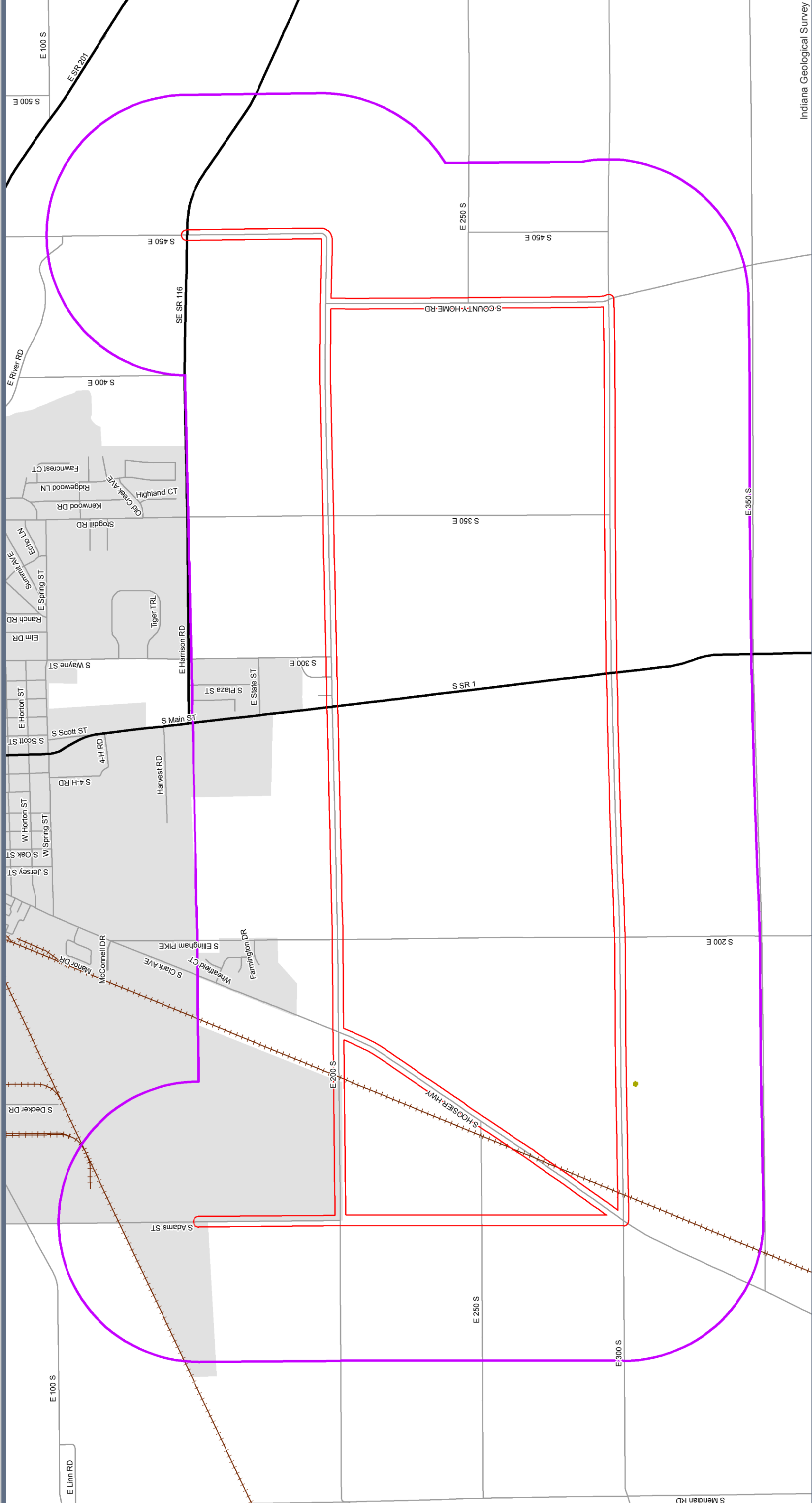


Red Flag Investigation - Hazmat Concerns Map
Corridor Evaluation, area south of Bluffton
Wells County, Indiana
February 2018



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

- Confined Feeding Operations**
- Industrial Waste Site**
- Waste Treatment Storage Disposal**
- Waste Septage Sites**
- Waste Tire Sites**
- Construction Demolition Waste**
- Waste Solid Active Permitted**
- Composting Facilities**
- Open Dumps**
- Waste Old Landfills**
- NPDES Facility**
- NPDES Pipe**
- Corrective Action Sites**
- Superfund**
- Brownfields**
- State Cleanup Sites**
- Voluntary Remediation Program Sites**
- Institutional Controls**
- Leaking Underground Storage Tank**
- Underground Storage Tank**
- Manufactured Gas Plants**
- Waste Transfer Stations**
- Waste Restricted Sites**
- Half Mile Buffer**
- Project Area**
- Railroad**
- Highway**
- Local Road**
- City of Bluffton**



Indiana Geological Survey

Produced by NIRCC



Red Bluff Investigation - Mining/Mineral Exploration Map
 Corridor Evaluation, area south of Bluffton
 Wells County, Indiana
 February 2018

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



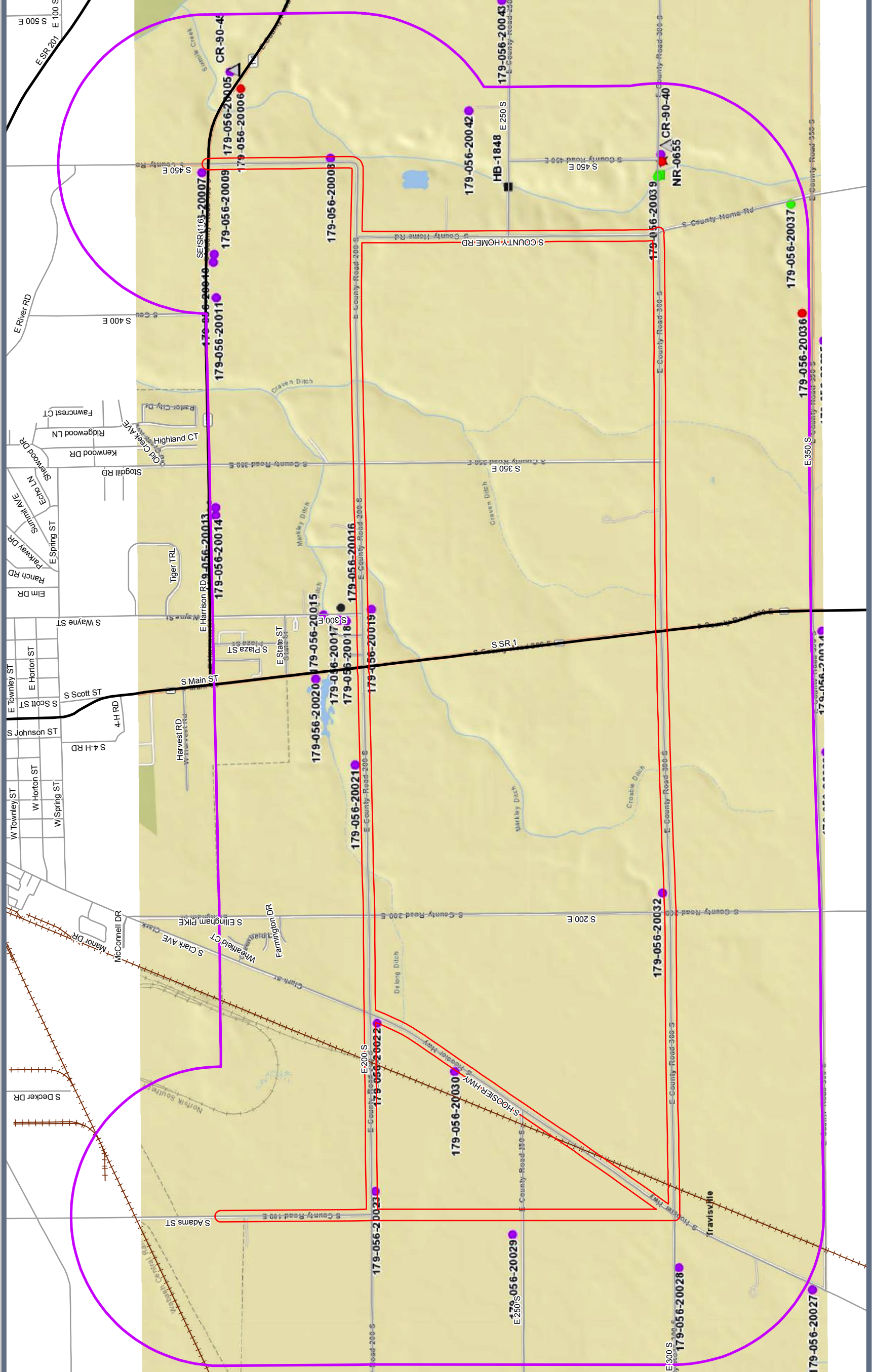
- Petroleum Wells (IGS, 2015)**
- Gas Wells
 - Gas Storage Wells
 - Oil Wells
- Well Type**
- Service Wells
 - Stratigraphic Test Wells
 - Dry Wells
 - Unknown Wells
- Other Features**
- Highway
 - Local Road
 - City of Bluffton
 - Half Mile Buffer
 - Project Area

SHAARD GIS

Indiana Department of Natural Resources
NATURAL RESOURCES

Search
Find Address
Bookmarks

- Historic Structures
- Cemeteries
- County Survey Sites
 - Outstanding
 - Notable
 - Contributing
 - Non-Contributing
 - Demolished
 - Unknown
- Historic Bridges
 - Outstanding
 - Notable
 - Contributing
 - Non-Contributing
 - Demolished
 - Unknown
- National Register Sites
- Historic Districts



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

0 0.25 0.5 1 Miles

Legend:

- Highway
- Local Road
- Half Mile Buffer
- Project Area



Red Flag Investigation - Historical Resources Map
 Corridor Evaluation, area south of Bluffton
 Wells County, Indiana
 February 2018

APPENDIX G

UTILITY

COORDINATION

INVESTIGATION

RED FLAG STUDY

Wells County – Hoosier Highway Route Study

Utility Coordination Summary

Introduction:

A Utility Coordination Red Flag Study was performed as part of this report. The red flag study included performing IUPPS 811 design tickets and area research to determine the potential utilities involved within the study area. After the list of potential utilities in the area was compiled, requests for information were sent out to initial contacts requesting that they respond with whom their proper local contact is, the location type and size of any facilities within the scope area, and if any of their facilities have reimbursable interests. Non-responsive utilities continued to be followed-up with, and high risk utilities were corresponded with to assess their impacts to the study’s suggested improvements projects.

Preliminary railroad coordination was also performed as part of this report. After establishing contact information with the railroad company (Norfolk Southern) potential options were discussed with the railroad in order to receive their costs to improve local crossings at grade.

The table below summarizes all response information received to date, specific conflict locations are summarized in the individual utility summary sections below.

No.	Utility Company Name	Conflicts Anticipated	Reimbursable	Reimbursable Costs
1.	American Electric Power Distribution	No Facilities	N/A	N/A
2.	American Electric Power Transmission	No	Yes	N/A
3.	AT&T Distribution	Yes	No	N/A
4.	City of Bluffton (Water Utility Only)	TBD	Yes	TBD
5.	Citizens Telephone Corp.	No Facilities	N/A	N/A
6.	Craigsville Telephone	Yes	No	N/A
7.	Heartland REMC	Yes	No	N/A
8.	Mediacom	Yes	No	N/A
9.	NIPSCO Gas	Yes – Distribution mains only.	Yes – Transmission main only	N/A
10.	Norfolk Southern RR	Yes	Yes	\$67,000*
11A.	Panhandle Pipeline Option A	Yes	Yes	\$3,868,680.00*
11B.	Panhandle Pipeline Option B	Yes	Yes	\$1,707,094.00*
12.	Zayo	No Facilities	N/A	N/A

*Utility or Railroad provided estimated costs

Individual Utility Summaries:

1. AEP – Distribution
 - a. Does not have distribution facilities within the limits of the project. Distribution electric is provided by Heartland REMC.
2. AEP – Transmission**
 - a. Owns and maintains two transmission lines throughout the project scope area as shown in the attached maps. All AEP transmission lines are within existing easements and therefore if impacted would qualify for reimbursement. No conflicts with AEP transmission facilities are anticipated.
 - b. Adams – Bluffton 69 kV aerial transmission electric line
 - i. Adams – Bluffton overhead transmission line runs northwest – southeast throughout the eastern portion of the project scope area (see first AEP transmission map included).
 - c. Liberty Center – REMC 69kV tap aerial transmission electric line
 - i. Liberty Center – REMC overhead transmission line taps off of the Bluffton – Liberty Center 69kV line in the west portion of the project scope area and runs straight north/south just east of Meridian Road (see second and third AEP transmission maps included).
3. AT&T – Distribution
 - a. Confirmed they have facilities throughout the project limits including overhead and underground copper and fiber optic facilities. No reimbursement is expected for facilities in the area.
 - b. If Heartland REMC has overhead electric poles in conflict, AT&T will transfer to new pole locations after Heartland REMC relocates.
 - c. Anticipated conflicts with any roadway widening as most of their existing buried plant is located only a few feet off of existing edges of pavement or shoulders.
4. City of Bluffton Utilities – Water Utility Only
 - a. Only the City of Bluffton utility within the scope limits is their water utility. The City confirmed that no sanitary or electric facilities exist within the scope of the project.
 - b. The City's two newest wells and 12-inch raw water intake line which is the main feed for over 50% of the water supply are within the study limits.
 - c. The 12-inch raw water intake line runs along S. 350 East from River Road south to E. 350 South. The raw water intake line along the extension S. 350 East between E. 300 South and E. 350 South is within a 20-foot easement.
5. Citizens Telephone Corporation of Indiana
 - a. Confirmed they do not have facilities within the study area.
6. Craigsville Telephone
 - a. Owns and maintains active overhead and underground communication cables along E. 200 South. E. 200 south is the borderline for their service area, except for one business at 2675 South State Road 1 where underground facilities extend south of E. 200 South along State Road 1.
 - b. Conflicts are anticipated with any roadway widening or reconstruction of E. 200 South or State Road 1.
7. Heartland REMC – Distribution Electric**

- a. Owns and maintains active overhead electric distribution facilities throughout the scope area.
 - b. Potential conflicts from roadway widening and reconstruction could occur with their three phase electric along E. 300 South from Hoosier Highway east to S. 350 east, and their recently rebuilt electric around the intersection of E. 200 South and County Home Road intersection.
8. Mediacom Communications
- a. Owns and maintains aerial and underground communication utilities throughout the scope area. No reimbursable facilities are anticipated, and no description of existing facilities locations was provided.
9. NIPSCO – Gas**
- a. Owns and maintains distribution and transmission natural gas pipelines within the scope of the project area.
 - b. Distribution gas mains are all medium pressure and are not anticipated to be reimbursable, however could be in conflict with any proposed roadway reconstruction or widening of E. 200 South or State Road 1. Distribution mains will be relocated or adjusted to accommodate projects as needed.
 - c. There is a 20-inch transmission high pressure natural gas pipeline that runs along the north side of E. 200 South to the NIPSCO owned regulation station just south of E. 200 South on S. 200 East. The portion of transmission pipeline from the regulation station west across Hoosier Highway is anticipated to be in easement and would be reimbursable if impacted.
10. Norfolk Southern
- a. Owns and maintains three railroad crossings in the study area.
 - b. Two crossings are proposed to close as part of the TRAX Application
 - i. 477_195J (Hoosier Highway)
 - ii. 477_196R (CR 250 South)
 - c. As part of this report and a TRAX Application Wells Counties has been working on, the feasibility of upgrading the crossing at CR 300 South (477_194C) has been discussed.
 - i. Norfolk Southern estimated cost to upgrade this crossing as an asphalt crossing is \$66,911.***
11. Panhandle High Pressure Natural Gas Pipelines**
- a. Owns and maintains four natural gas transmission pipelines through our scope area that travel from southwest to northeast (22-inch, 24-inch, and two 30-inch). Any temporary or permanent work will be reimbursable as all pipelines are covered by easements.
 - b. The utility provided updated relocation costs on (10/02/18) for two options.
 - i. Option A (Hoosier Highway Extension/realignment from E. 300 South to E. 200 South and reconstruction of E. 300 South east of Hoosier Highway)
 - ii. Option B (Hoosier Highway Extension/realignment from E. 300 South to E. 200 South only).
 - iii. Both costs are updated in the table above.***
 - c. The utility also owns a major regulation station including all four pipelines south of E. 200 South approx. 500-feet on S. 200 east.

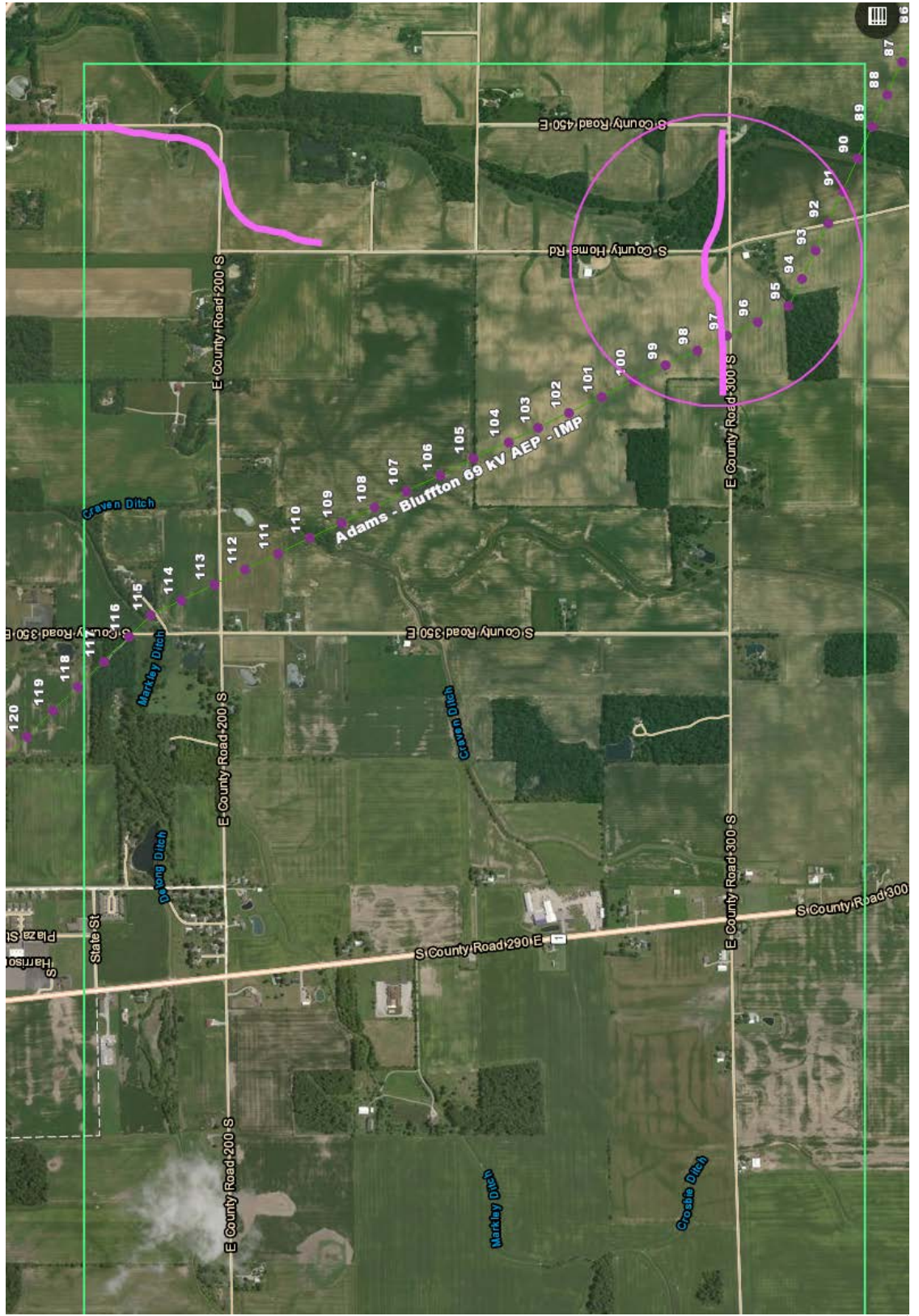
- d. Panhandle General Guidelines and Requirements for Encroachment Activities on or near their Right-of-way are included as an attachment to this report.
- 12. Zayo Group
 - a. Confirmed they do not have facilities within the scope area.

**Indicates that utility maps were provided and are included as an attachment to this report.

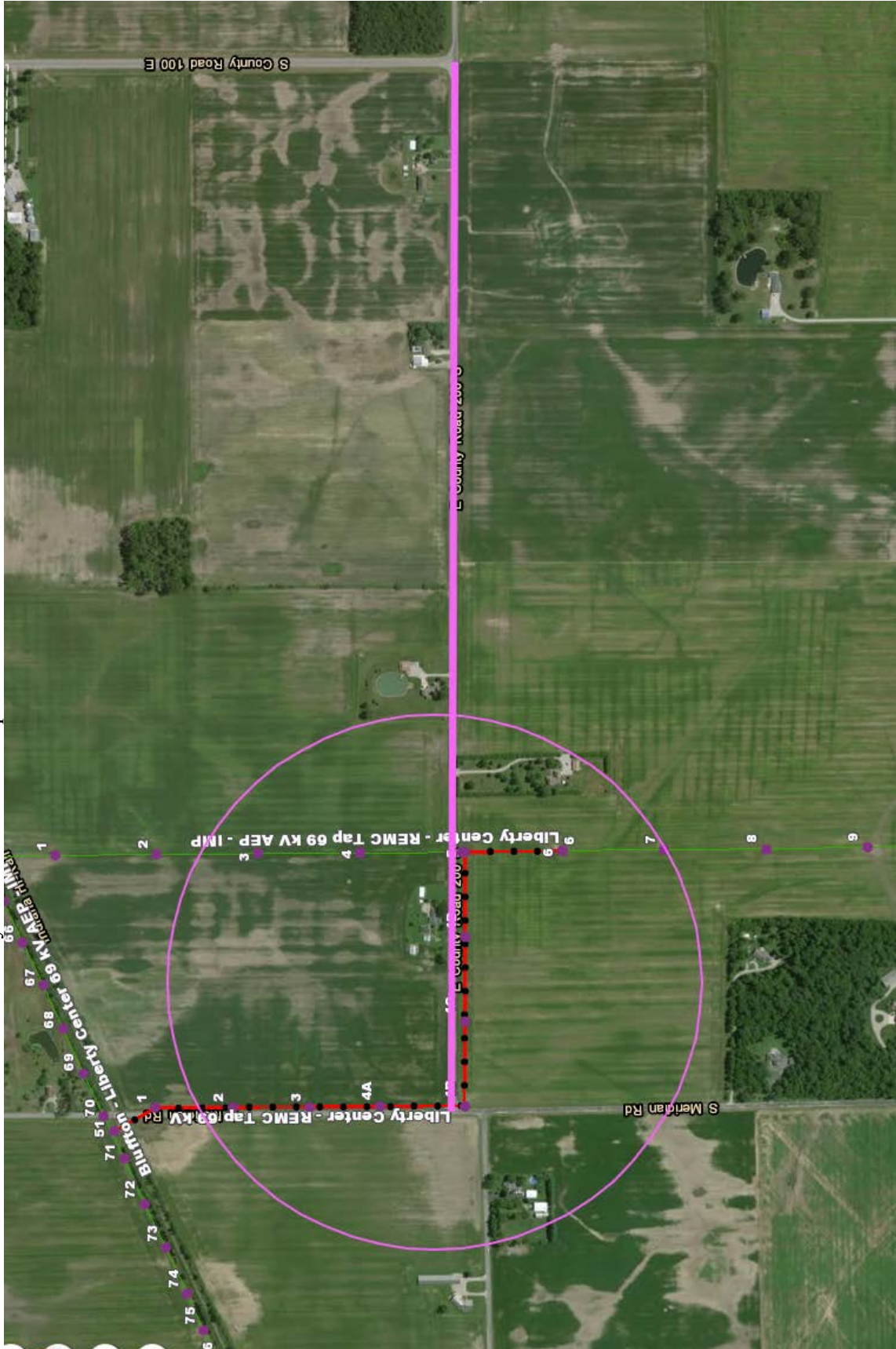
***Indicates that an itemized cost estimate was provided and are included as an attachment to this report

AEP Transmission Facility Maps

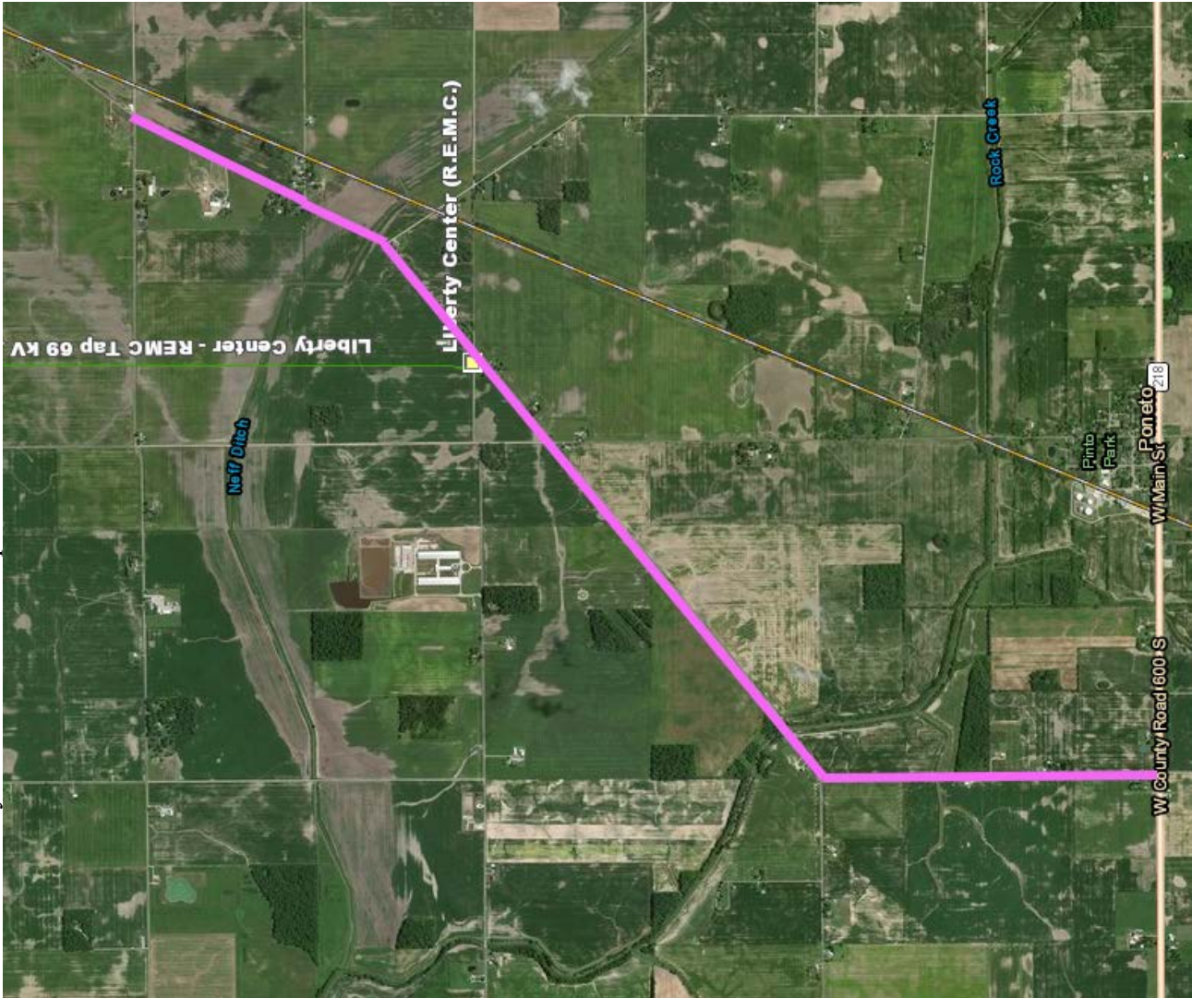
Adams – Bluffton 69kV Overhead Transmission Line



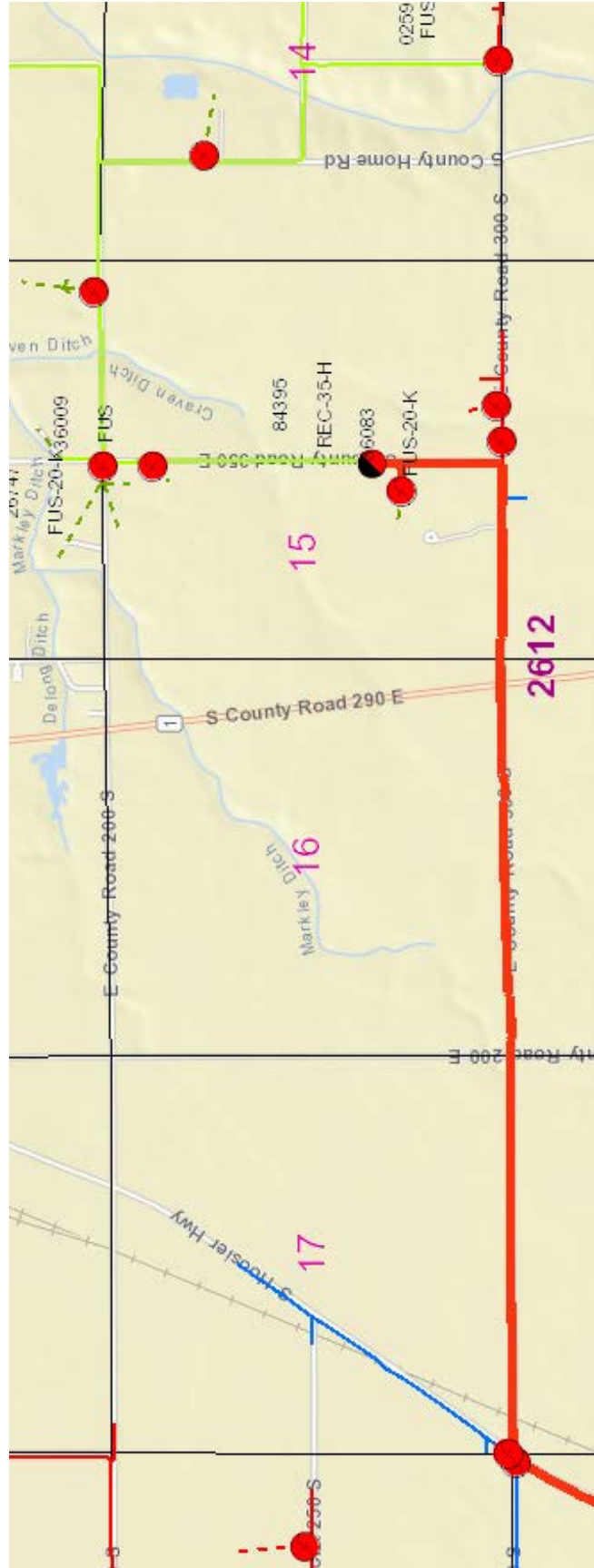
Liberty Center – REMC Tap 69kV Overhead Transmission Line



Liberty Center – REMC Tap 69kV Overhead Transmission Line



Heartland REMC Facility Maps



Norfolk Southern Railway Company
 Lake Division
 Bluffton, Wells County, IN
 ESTIMATE FOR CROSSING IMPROVEMENT (ASPHALT SURFACE)

Existing Crossing
 DOT Number: 477194C

1 TRACK(S); 72 CROSSING LENGTH

MATERIAL	QUANTITY	UNIT	UNIT COST	AMOUNT
SURFACE MATERIAL (Rubber Flangeways)	72	TRK. FT.	75.00	5,400
ASPHALT (BY CONTRACTOR)	273	TONS	55.00	15,040
RAIL, 132-LB RE	160	LIN FT.	22.00	3,520
TRANSITION RAIL	0	EA.	1140.00	0
INSULATED JOINTS	4	EA.	500.00	2,000
RAIL ANCHORS	299	EA.	1.50	448
SPIKES	3.0	KEG	115.00	345
TIE PLATES	149	EA.	12.00	1,792
CROSSTIES (10')	0	EA.	75.00	0
CROSSTIES (GRADE 5)	75	EA.	55.00	4,107
BALLAST AND GRAVEL	125	TONS	35.00	4,375
GEOTEXTILE	92	LIN FT.	7.00	644
THERMITE WELDS	4	EA.	650.00	2,600
ASPHALT (DISPOSAL)	0	LUMPS	5000.00	0
TOTAL (INCLUDES 5% INVENTORY OR TAX ADDITIVES)				44,838
LABOR				
REMOVE EXISTING CROSSING	50	MAN HOURS	25.00	1,250
REHABILITATE TRK. STRUCTURE	80	MAN HOURS	25.00	2,000
INSTALL NEW CROSSING	80	MAN HOURS	25.00	2,000
TOTAL				5,250
OTHER ITEMS				
Rail	-3.1	TON	35	(107)
Scrap	-1.0	TON	35	(34)
				(142)
COMPOSITE LABOR ADDITIVE (185.81)				9,756
EQUIPMENT RENTAL & TRANSPORTATION				3,413
PRELIMINARY & CONSTRUCTION ENGINEERING SERVICES AND INVOICE				3,796
TOTAL (TO BE BILLED TO PROJECT SPONSOR)				\$66,911

ESTIMATE BASED ON TRAFFIC CONTROL AND BARRICADES BEING PROVIDED BY OTHERS, AND FULL CLOSURE OF ROAD. PAVING BY CONTRACTOR.

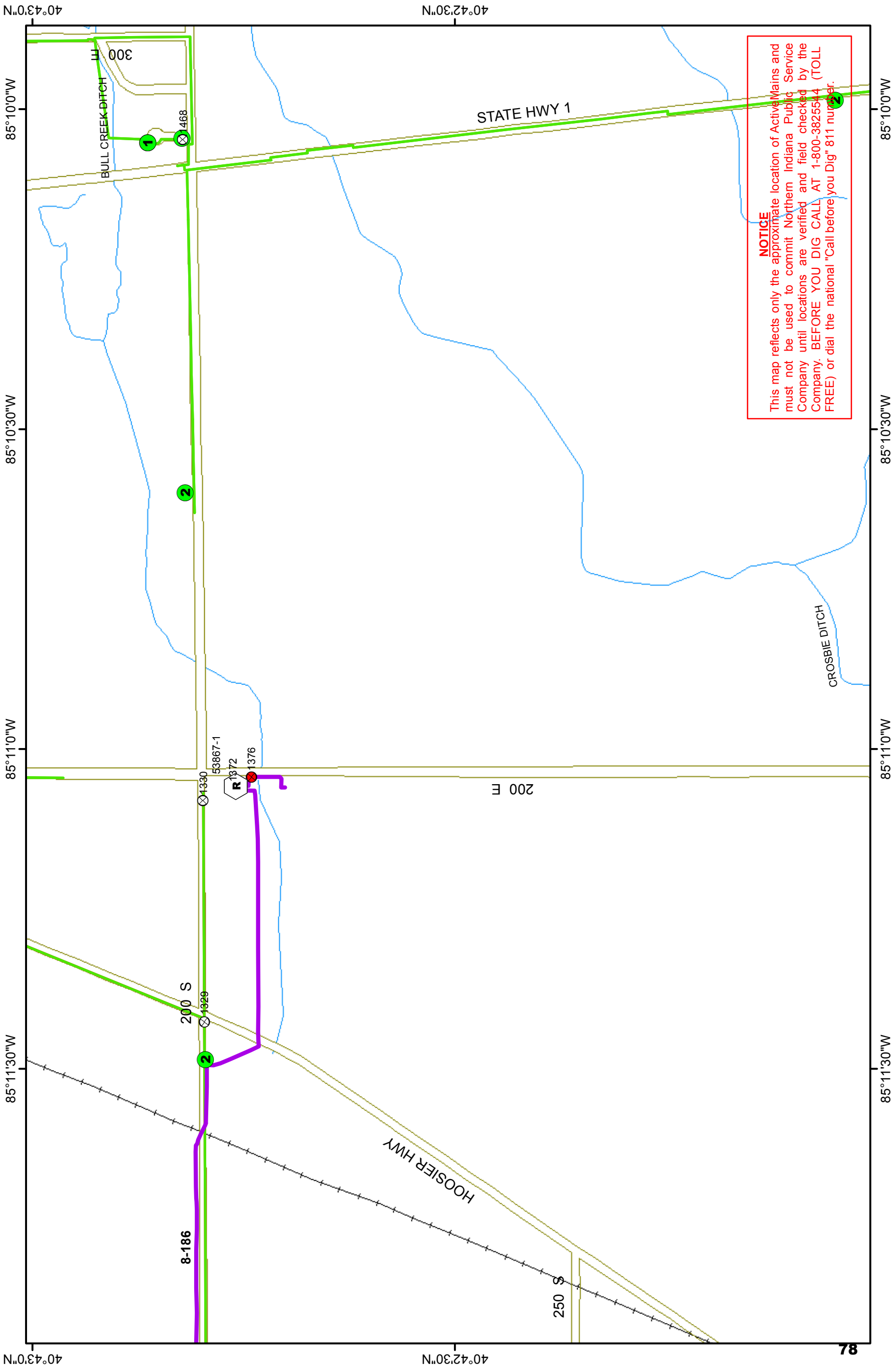
This estimate is valid for one (1) year after the date of estimate. If work is not performed within this time frame the Railway may revise the estimate to include work not previously deemed necessary.

This estimate shall not be considered as an approval for a temporary crossing. Information provided is an estimation of the anticipated cost for the construction of the crossing only. All temporary construction crossings require a separate approval from Norfolk Southern's General Manager and Division Superintendent, a separate stand alone temporary construction crossing agreement with associated real estate fees, and all required insurances as noted in the in the temporary construction crossing agreement.

OFFICE OF CHIEF ENGINEER, BRIDGES AND STRUCTURES - ATLANTA, GEORGIA
 Tuesday, August 23, 2016

File: 0

Wells County Route Study - Gas 1



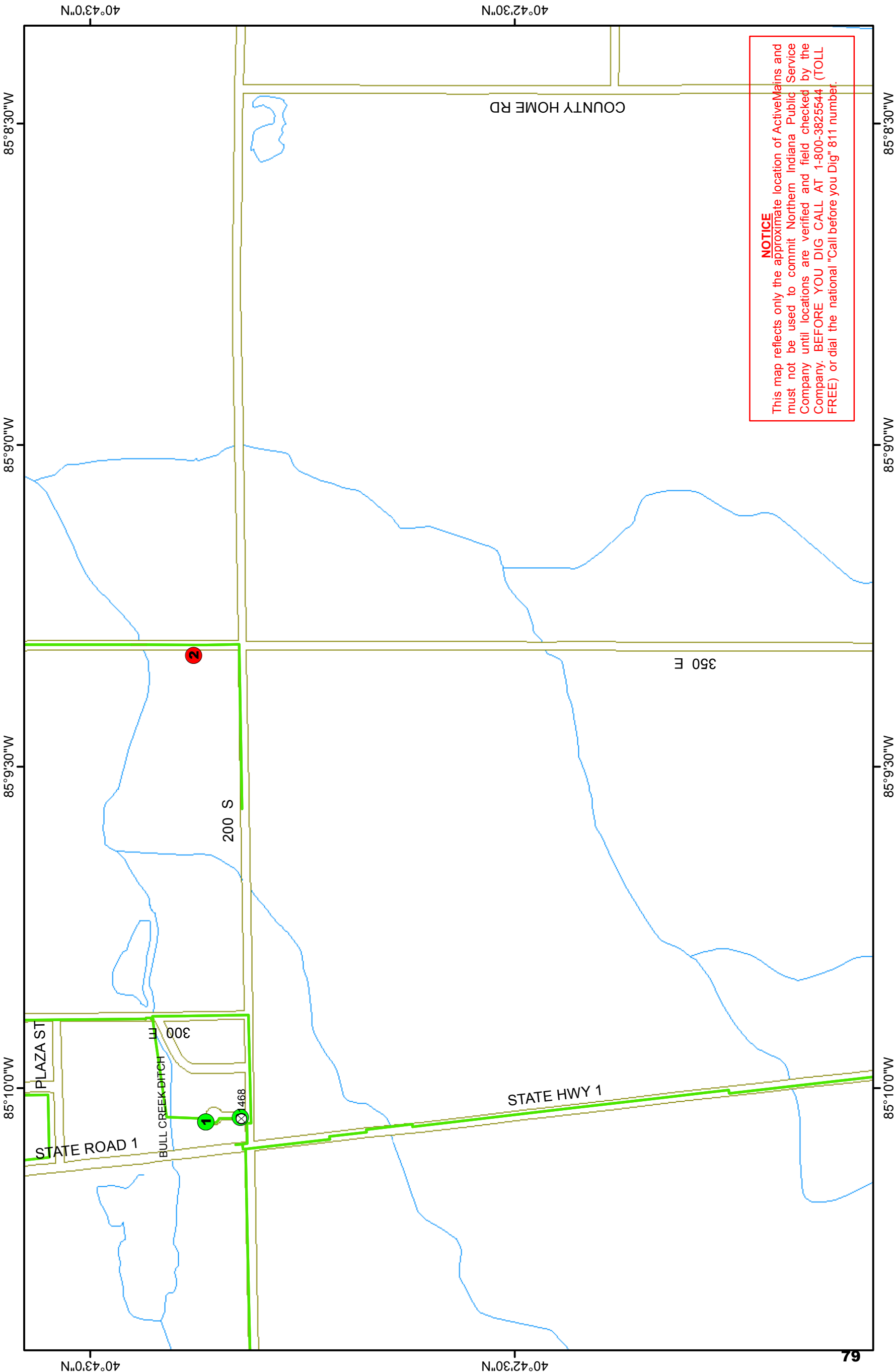
Legend:

Gas Valve		Closed - Critical
		Closed - Not Critical
		Open - Critical
		Open - Not Critical
		Unknown value
Gas Main by Pressure		High Pressure
		Medium Pressure
		Low Pressure
		Unknown Pressure
Gas Service		Steel
		Plastic
		Cast Iron
		Wrought Iron
		Fittings
		Other
		All other values

Prepared by:	
Date:	
Coordinates:	GCS (Lat/Long) in DMS. Datum: WGS84

NOTICE
 This map reflects only the approximate location of Active Mains and must not be used to commit Northern Indiana Public Service Company until locations are verified and field checked by the Company. BEFORE YOU DIG CALL AT 1-800-3825544 (TOLL FREE) or dial the national "Call before you Dig" 811 number.

Wells County Route Study - Gas 2



Legend:

Gas Valve	Closed - Critical
Closed - Not Critical	Open - Critical
Open - Not Critical	Unknown value
Gas Main by Pressure	High Pressure
Medium Pressure	Low Pressure
Unknown Pressure	Gas Service
Steel	Plastic
Cast Iron	Wrought Iron
Fittings	Other
All other values	

Prepared by:	
Date:	
Coordinates:	GCS (Lat/Long) in DMS. Datum: WGS84

NOTICE
 This map reflects only the approximate location of Active Mains and must not be used to commit Northern Indiana Public Service Company until locations are verified and field checked by the Company. BEFORE YOU DIG CALL AT 1-800-3825544 (TOLL FREE) or dial the national "Call before you Dig" 811 number.

85°10'0"W 85°9'30"W 85°9'0"W 85°8'30"W

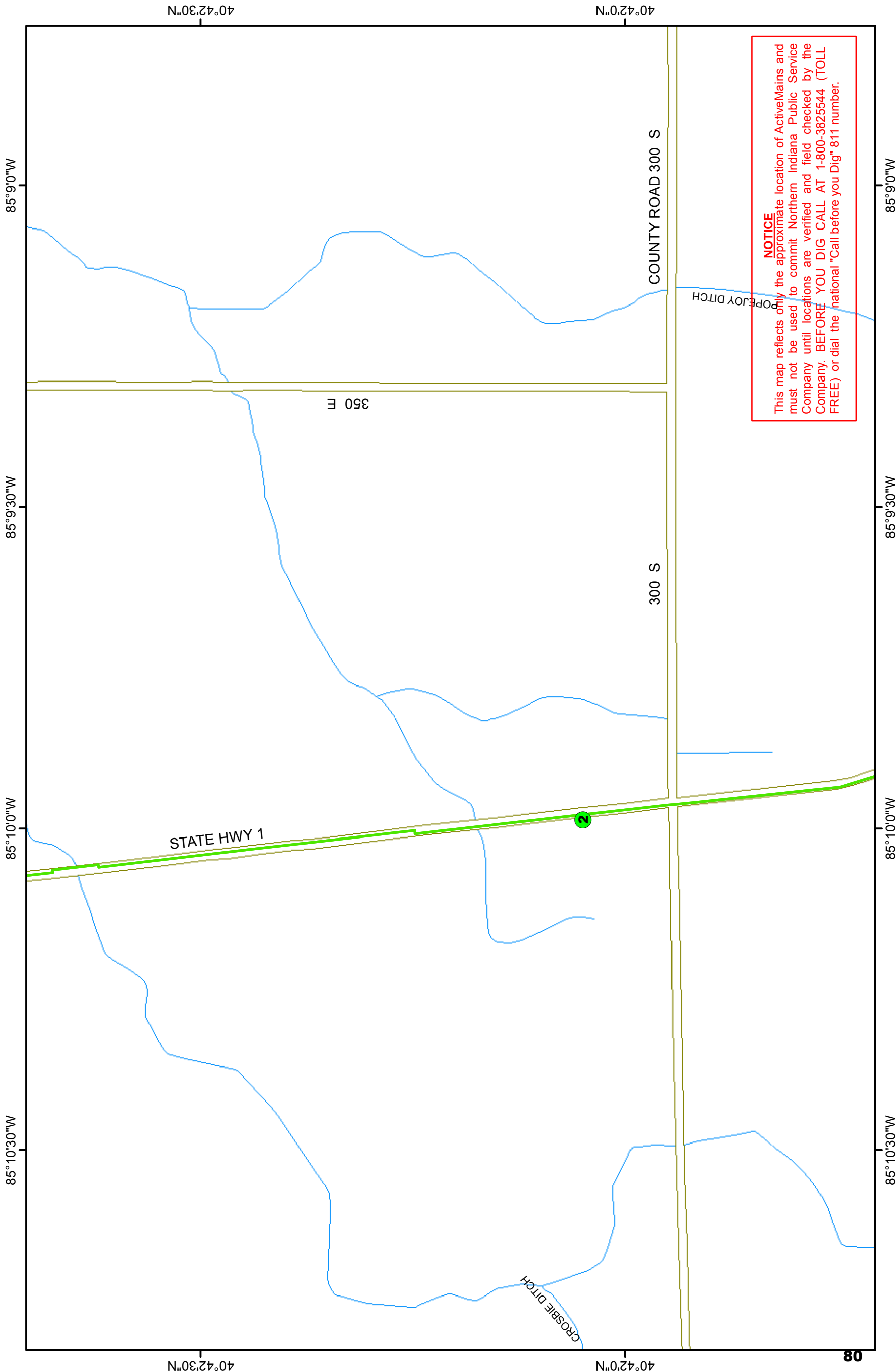
40°43'0"N 40°42'30"N

PLAZA ST
 STATE ROAD 1
 BULL CREEK DITCH
 300
 200 S
 350 E
 COUNTY HOME RD
 STATE HWY 1

1
 2

69

Wells County Route Study - Gas 3



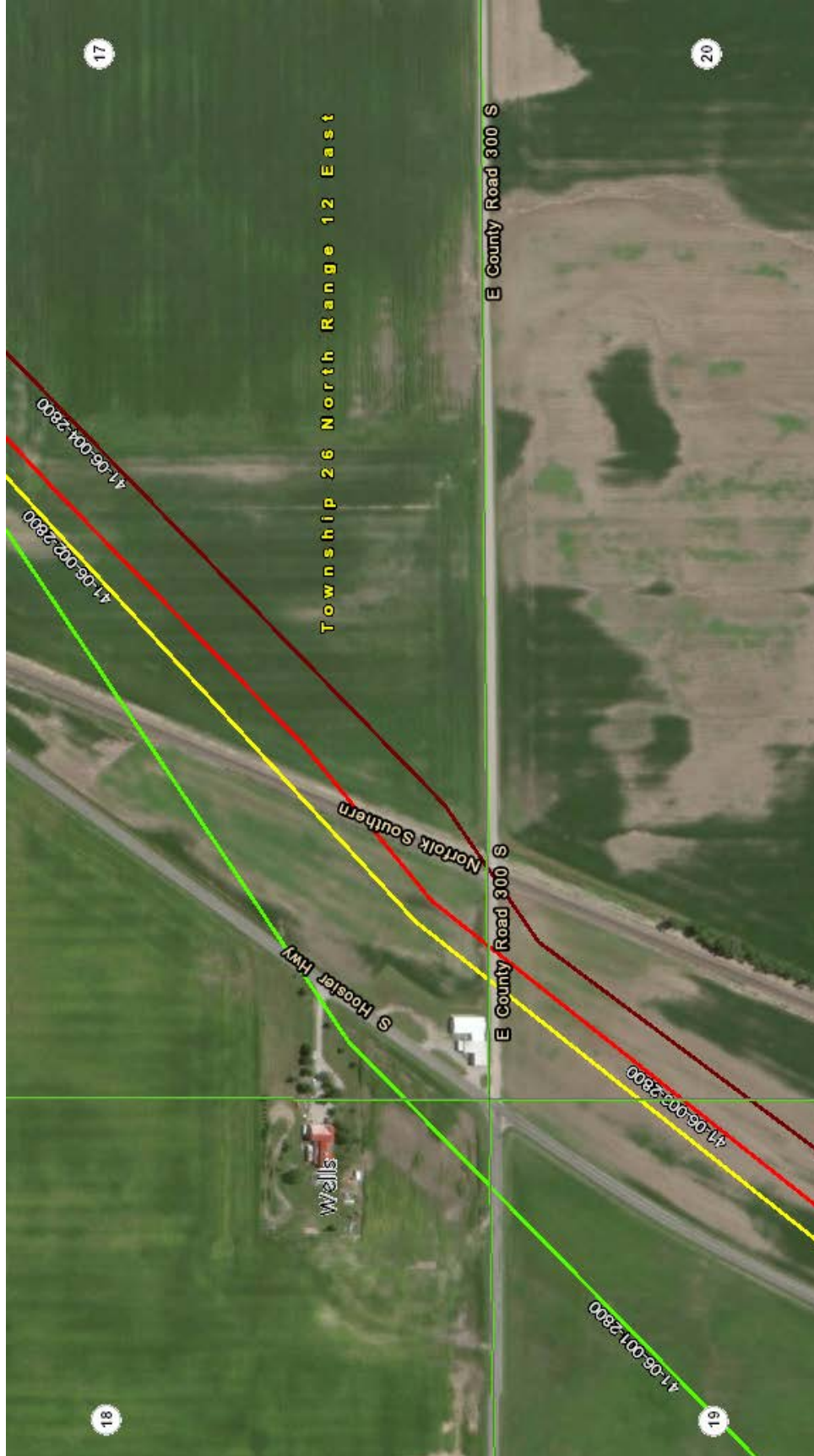
Legend:

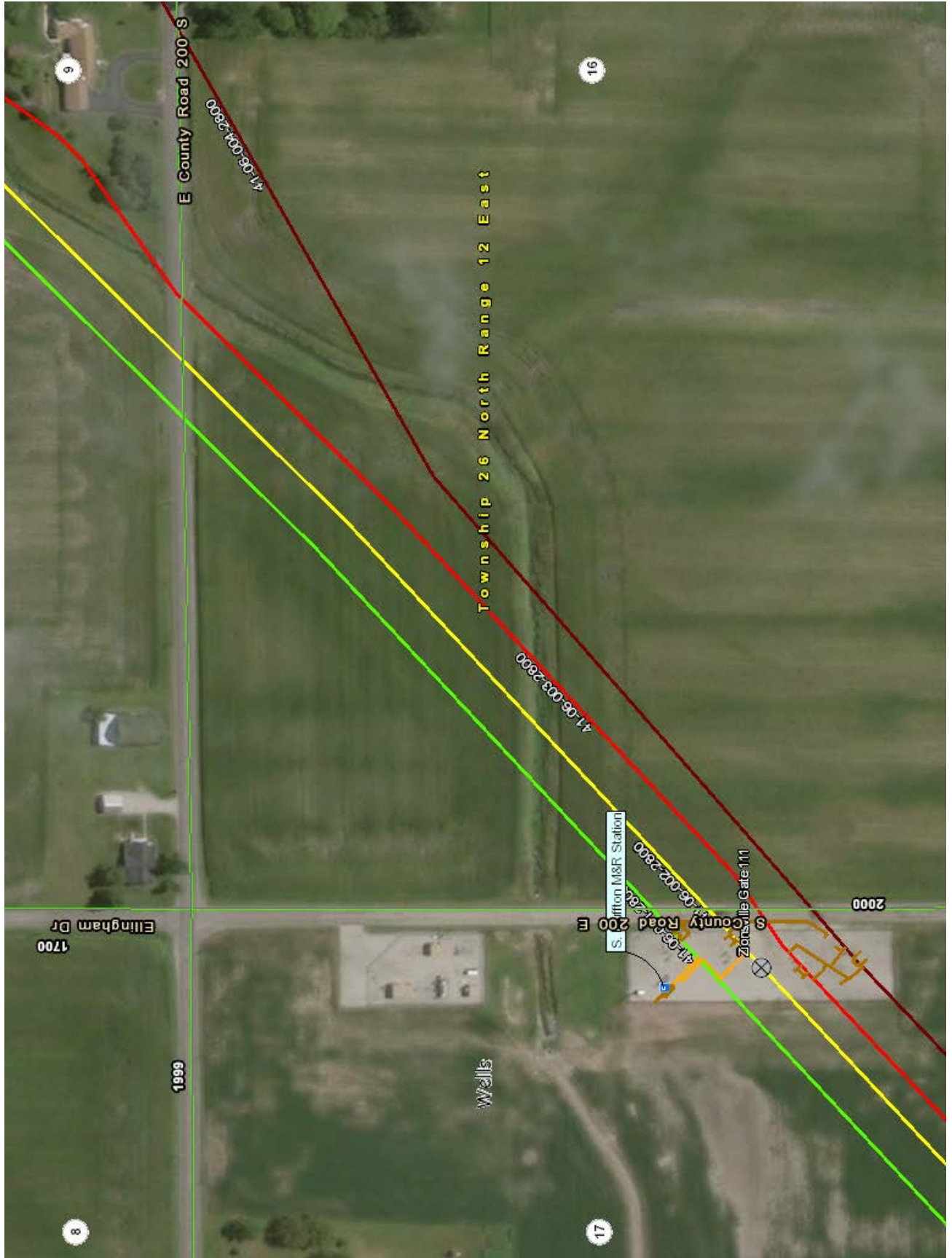
Gas Valve	Closed - Critical
Closed - Not Critical	Open - Critical
Open - Not Critical	Unknown value
Gas Main by Pressure	High Pressure
Medium Pressure	Low Pressure
Unknown Pressure	Gas Service
Steel	Plastic
Cast Iron	Wrought Iron
Fittings	Other
All other values	

Prepared by:	
Date:	
Coordinates:	GCS (Lat/Long) in DMS. Datum: WGS84

NOTICE
 This map reflects only the approximate location of Active Mains and must not be used to commit Northern Indiana Public Service Company until locations are verified and field checked by the Company. BEFORE YOU DIG CALL AT 1-800-3825544 (TOLL FREE) or dial the national "Call before you Dig" 811 number.

Panhandle Transmission Natural Gas Pipelines Facility Maps







RE: Order of Magnitude Estimate
Hoosier Highway Expansion

Wells County is proposing to expand and re-align Hoosier Highway in Wells County, Indiana. The roadway expansion as shown on the revised preliminary plans (Option A) will encroach on Panhandle Eastern Pipe Line Company's (PEPL) four (4) large diameter high pressure natural gas transmission mainlines.

The roadway expansion as shown on the revised preliminary plans (Option B) will encroach only on one of Panhandle Eastern Pipe Line Company's (PEPL) large diameter high pressure natural gas transmission mainlines.

In order to protect PEPL assets, PEPL proposes the following to bore to meet the added design loads and new safety factors the road expansion will require. All PEPL facilities are within existing easements:

Option A

1. 320 ft. Open Cut Relay on 100 Line. Cut and remove existing 22" line and replace with 22", 0.500", X-60 pipe. Backfill with flowable fill.
2. Reinforce four (4) Style 40 Couplings on the 22", 100 Line
3. 120 ft. Open Cut Relay on 200 Line. Cut and remove existing 24" line and replace with 24", 0.500", X-60 pipe. Backfill with flowable fill.
4. 120 ft. Open Cut Relay on 300 Line. Cut and remove existing 24" line and replace with 30", 0.500", X-60 pipe. Backfill with flowable fill.
5. 160 ft. Relay through existing casing using 30", 0.500", X-65 pipe w/ 2" Concrete Coating. Cut and remove existing 30" pipe in casing and pull new concrete coated pipe.

Option B – 100 Line Only

1. 450 ft. Open Cut Relay on 100 Line. Cut and remove existing 22" line and replace with 22", 0.500", X-60 pipe. Backfill with flowable fill.
2. Reinforce four (4) Style 40 Couplings on the 22", 100 Line

In summary, the order of magnitude estimate below reflects both options.

Should there be continued interest in PEPL providing engineering and construction services for our assets, further investigation will be performed to determine feasibility and draft preliminary designs that could result in lower material and construction costs.

Estimated costs are as follows:

Option A

Material:	\$	250,730.00
Construction & Inspection:	\$	3,321,200.00
Engineering & Survey:	\$	140,750.00
PEPL Direct Labor:	\$	156,000.00
TOTAL:	\$	3,868,680.00

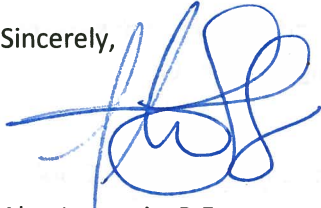
Option B

Material:	\$ 142,874.00
Construction & Inspection:	\$ 1,386,720.00
Engineering & Survey:	\$ 99,500.00
PEPL Direct Labor:	\$ 78,000.00
TOTAL:	\$ 1,707,094.00

Clarifications:

1. PEPL has not included any costs for acquiring new easements.
2. PEPL has not included any costs for permitting and/or amending existing easements with the Railroad.

Sincerely,



Alan Longoria, P.E.
Manager, Engineering & Construction

**GENERAL GUIDELINES AND REQUIREMENTS FOR ENCROACHMENT
ACTIVITIES ON OR NEAR COMPANY RIGHT-OF-WAY:**

It is not the intent of the following general guidelines and requirements to list all possible encroachments or activities affecting company right-of-way but rather facilitate engineering and construction specifications regarding specific encroachment activities within or near company right-of-way. Contact a company right-of-way representative to determine specific company right-of-way limits. All plans must be submitted to and approved by an authorized representative of the company prior to any encroachment activities on or near company right-of-way.

1. Contractors, developers, landowners, and others, prior to any installation, construction, excavation, or demolition activities on or near company right-of-way, shall make notifications to the appropriate ONE CALL or 811 center. A company representative must be on-site during any encroachment activity within company right-of-way. The company representative on-site will have authority to stop work by contractors, developers, landowners, or others if the encroachment activities are determined to be unsafe or violate company rights. The company representative shall be invited to participate in any construction safety meetings.
2. A minimum of 36 inches of cover is to be maintained over below ground company pipeline facilities across the entire company right-of-way.
3. No building, septic or geothermal system, patio, signage, berm, facility causing either the permanent or temporary retention of water, chattel or other improvements, permanent, temporary or otherwise, shall be permitted within company right-of-way.
4. No portion of company right-of-way shall be utilized for the seating or other accommodation of persons in connection with any gathering of any sort, nor shall any portion of the company right-of-way be utilized for the parking of vehicles, and no type pavement, impervious, gravel or otherwise shall be placed over or within company right-of-way.
5. Structures or foreign appurtenances are not allowed to be erected within, above, or below company right-of-way including underground supports, foundations, or anchors. No apparatus obstructing the line-of-sight at ground level will be allowed in company right-of-way.
6. No foreign line, appurtenance, structure or related fittings are to be constructed parallel to and/or allowed within company right-of-way. No foreign easements shall encroach into company right-of-way when proposed foreign construction is parallel to and outside of company right-of-way.
7. Open ditches where consent has been given must cross company right-of-way at or near right angles with at least 36 inches of cover remaining at the lowest point of the ditch.
8. Where consent for landscaping has been granted, vegetation shall not create a screen or obstruct company identification markers. The planting of trees, bushes, shrubs and/or other woody/non-herbaceous type growth is prohibited within company right-of-way.

9. Where consent for permanent fencing has been granted, the owner must install and maintain a vehicle access gate at least 12 feet in width and/or walkovers where required.
 - Shall cross at or near right angles.
 - No fence post excavations shall be directly over company pipeline facilities.
 - Fence posts shall be placed with adequate spacing from company pipeline facilities.
 - Stone, brick, concrete, privacy or similar style fences or barriers are prohibited within company right-of-way.
 - If a gate is locked, the owner shall provide the company with a key or allow a company lock to be installed in series to enable access.
10. Wind turbines and communication towers (e.g., cell, radio, and microwave) will be placed a minimum distance equal to the height of the structure (plus the length of wind turbine blades measured to the tip in the vertical position) from company right-of-way limits.
11. Equipment used in earthwork (e.g., excavation, contouring, precision leveling) must be approved on a site specific basis. This will include a wheel/track load calculation to be completed on every vehicle and/or construction equipment crossing company pipeline facilities.
 - A minimum 36 inches of cover is required.
 - Depth of cover should not exceed 7 feet.
12. Excavation equipment shall be equipped with a barred tooth bucket with side cutters removed when digging or excavating within company right-of-way. All excavation within 18 inches of the top or 36 inches from the side or bottom of any company pipeline facility shall be completed by hand. After the top is exposed, excavation up to 24 inches from the side or bottom of the exposed company pipeline facilities may proceed by mechanical means only if approved by a company representative.
13. Temporary storage of spoils, material, equipment, or vehicles within company right-of-way must be approved; at no time will storage be allowed directly over company pipeline facilities.
14. Depth of cover or overburden over company pipeline facilities shall not be altered, nor shall any lateral or subjacent support be removed except temporarily and as an incident to approved construction within company right-of-way. No more than one company pipeline is to be exposed and/or unsupported at one time and no more than 25 feet of company pipeline shall be unsupported at any given time. Engineering stress calculations must be performed and approved prior to allowing more than 25 feet of unsupported pipe.
15. For temporary vehicle and/or construction equipment crossing company pipeline facilities, each crossing location will be reviewed on a site specific basis, to include a wheel/track load calculation to be completed and approved on every vehicle and/or construction equipment crossing company pipeline facilities.
 - Crossings shall be at or near right angles.
 - A minimum 36 inches cover is required.
 - Installation of air bridging, matting or other suitable material may be required to achieve the necessary support for each crossing.
 - Crossing supports shall span a minimum of 10 feet either side of company pipeline facilities.
16. For a new or modified road, railroad, or driveway crossing company pipeline facilities, each crossing location will be reviewed and approved on a site specific basis. The review will include, but not limited to, a wheel load calculation for superimposed loading due to traffic (DOT maximum

axle load 20,000 lbs. per axle), imposed conditions caused by soil overburden and determination of the need for alterations to company pipeline facilities to comply with Federal and State regulations.

- Crossings shall be at or near right angles.
- A minimum 36 inches of undisturbed or compacted soil shall be maintained from the bottom of the road or drive to the top of company pipeline facilities.
- Permanent air bridging requires drawings signed and approved by a Professional Engineer (P.E.) provided to the company.
- If a concrete pad is to be used as the method to minimize load, the crossing shall be built with load bearing footers spanning a minimum 10 feet either side of company pipeline facilities.

17. Open cut foreign line crossings, if approved, require a minimum 24 inches of separation below company pipeline facilities the entire width of company right-of-way. A compaction plan with a description of how fill will be compacted under company pipeline facilities to prevent settling will need to be reviewed and approved prior to the proposed crossing. Contractors, developers, landowners, and others will be responsible for repairing any settling due to the encroachment activities occurring on company right-of-way after completed.

- Open cut crossings shall cross at or near right angles.
- Communication cables (Fiber Optic, Telephone, and TV) shall be placed in non-metallic conduit with bags of concrete mix placed directly above and below the conduit, with warning burial tape installed 18 inches directly above the conduit, across the entire width of company right-of-way.
- All metallic foreign line crossings shall have insulation methods installed (e.g., Micarta board) where required between company pipeline facilities and the foreign line to prevent interference with cathodic protection.
- Sand and/or clean fill, free of rocks and debris, shall be installed around company pipeline facilities.
- Where permissible foreign crossings should be clearly and permanently marked on each side of company right-of-way.

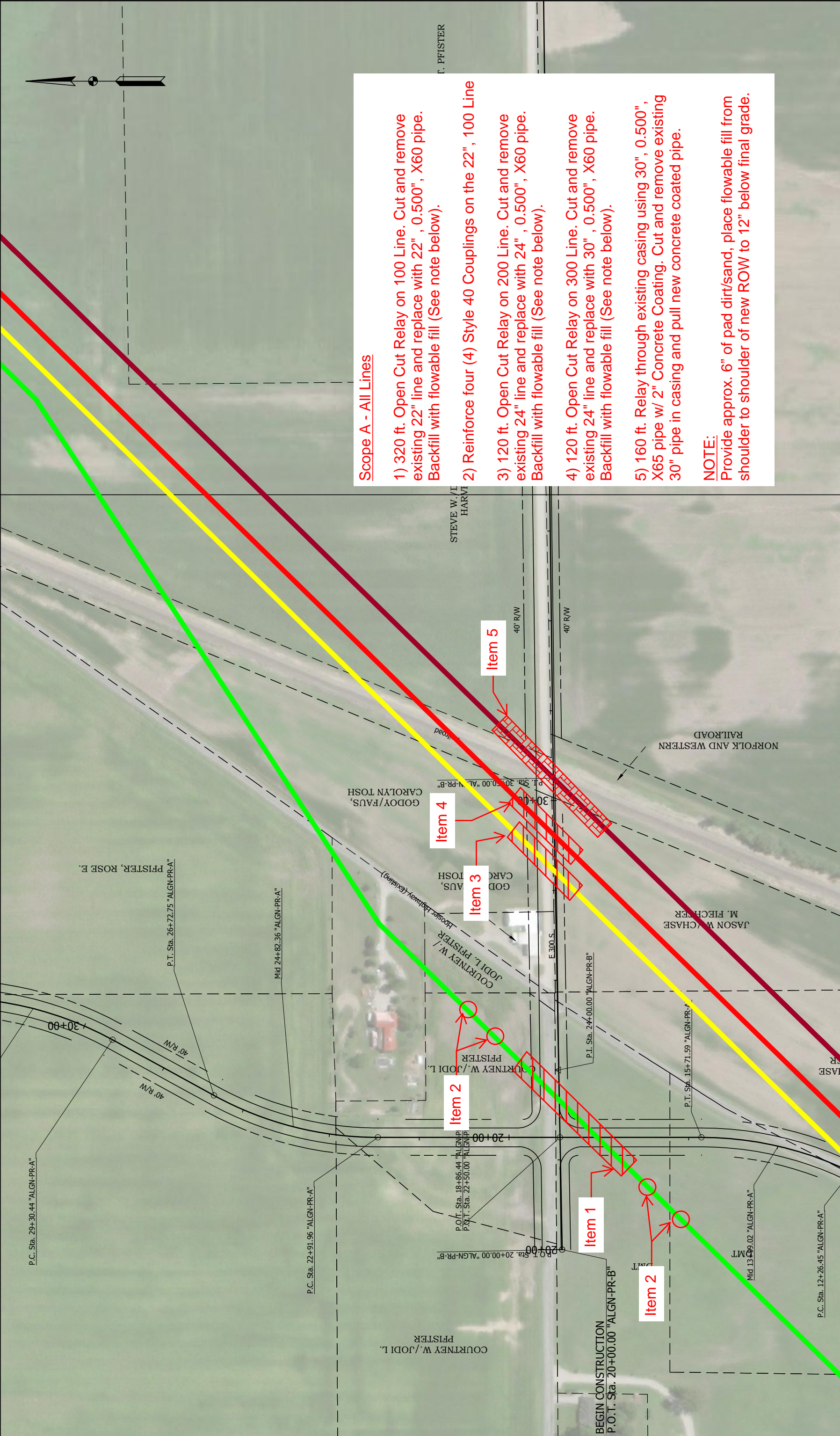
18. Auger bore (dry) foreign line crossings, if approved, require a minimum 36 inches of separation below company pipeline facilities the entire width of company right-of-way. Pothole excavations will be dug to observe the boring and pulling process does not damage company pipeline facilities and spacing is maintained.

- Auger bore (dry) crossings shall cross at or near right angles.
- An auger bore plan shall be provided for the proposed crossing showing the relationship of the auger hole to the bottom of company pipeline facilities and include bore pit locations.
- Potholes shall be excavated on the approach side of the bore. The depth of the pothole shall be a minimum 24 inches below the bottom of company pipeline facilities and in the direct path of the approaching auger to visually confirm it does not impact the pipeline.

19. Directionally drilled foreign line crossings, if approved, require a minimum 36 inches, and 60 inches for large diameter (12 inches or greater), of separation below company pipeline facilities the entire width of company right-of-way. Pothole excavations will be dug to observe the drilling and pulling process does not damage company pipeline facilities. Boring equipment, if required, shall incorporate a mechanism for real time positioning and controlling bore bit/auger to ensure the required clearance is maintained throughout the boring process.

- Directionally drilled crossings shall cross at or near right angles.
- A directional drill plan shall be provided for the proposed crossing showing the relationship of the bore hole to the bottom of company pipeline facilities.

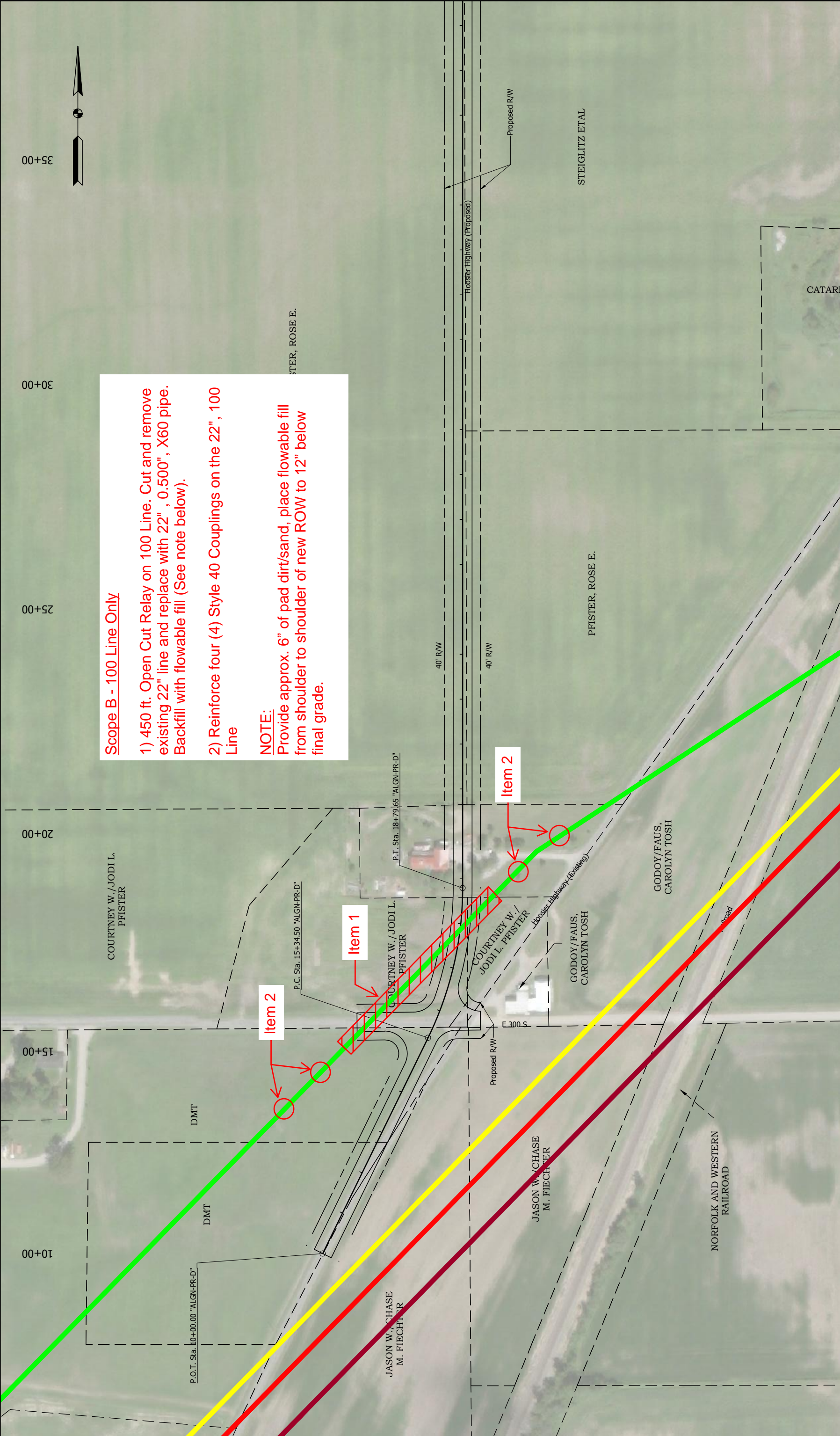
- Potholes shall be excavated on the approach side of the drill. The depth of the pothole shall be a minimum 24 inches below the bottom of company pipeline facilities and in the direct path of the approaching drill tool to visually confirm it does not impact company pipeline facilities.
20. Foreign crossing excavations, exposing company pipeline facilities, shall be sloped and/or shored to allow a company representative the ability to inspect and make coating repairs where required.
 21. Contractors, developers, landowners, and others shall provide and install temporary construction fencing along company right-of-way to protect company pipeline facilities. The fencing must be maintained for the duration of the encroachment activities. Barriers adequate to prevent vehicular damage to any excavated and exposed company pipeline facilities shall be installed and maintained at all times.
 22. Additional requirements for approved power lines energized to 600 volts or more shall include a minimum 36 inches of separation below company pipeline facilities the entire width of company right-of-way.
 - Shall cross at or near right angles.
 - Be installed in rigid non-metallic conduit.
 - For an open cut crossing method include:
 - Bags of concrete-mix placed directly above and below the conduit the entire width of company right-of-way.
 - Red burial tape placed 18 inches directly above the conduit.
 - Have external, spiral wound, neutrals grounded on each side of company right-of-way.
 - Where permissible the cable crossing should be clearly and permanently marked on each side of company right-of-way.
 23. All pile driving operations within 20 feet of company right-of-way will be required to pre-drill or auger all pilings to 36 inches below the bottom elevation of company pipeline facilities.
 24. Roto-mixing or vibrating machinery is not allowed within company right-of-way.
 25. Seismographic activity within 300 feet of company pipeline facilities is not allowed without company approval.
 26. Cathodic protection test stations and identification markers must be protected from damage by encroachment activities.
 27. Should modifications to company pipeline facilities be required, the company will be reimbursed for all costs, including overtime costs, incurred to complete any company pipeline facility modification (e.g., coupling/weld reinforcement) including, but not limited to: engineering, surveying, contract labor, materials, inspections, gas loss, administrative expenses and any other costs reasonably incurred directly or indirectly with respect to the work to be performed. Company lead times for competitively bidding, permitting, and material procurement (estimated at 120 days) will commence only after the company receives a fully executed reimbursable agreement. Seasonal demands for natural gas can preclude the company from having outages of company pipeline facilities during any unscheduled timeframe in any given year.
 28. Should any encroachment activity by the contractors, developers, landowners, and others result in damage to any company pipeline facilities the total cost of the repairs will be the sole responsibility of the damaging party



Scope A - All Lines

- 1) 320 ft. Open Cut Relay on 100 Line. Cut and remove existing 22" line and replace with 22", 0.500", X60 pipe. Backfill with flowable fill (See note below).
 - 2) Reinforce four (4) Style 40 Couplings on the 22", 100 Line
 - 3) 120 ft. Open Cut Relay on 200 Line. Cut and remove existing 24" line and replace with 24", 0.500", X60 pipe. Backfill with flowable fill (See note below).
 - 4) 120 ft. Open Cut Relay on 300 Line. Cut and remove existing 24" line and replace with 30", 0.500", X60 pipe. Backfill with flowable fill (See note below).
 - 5) 160 ft. Relay through existing casing using 30", 0.500", X65 pipe w/ 2" Concrete Coating. Cut and remove existing 30" pipe in casing and pull new concrete coated pipe.
- NOTE:**
Provide approx. 6" of pad dirt/sand, place flowable fill from shoulder to shoulder of new ROW to 12" below final grade.

RECOMMENDED FOR APPROVAL:		DESIGN ENGINEER	DATE
DESIGNED:	EC	DRAWN:	SHH
CHECKED:	ACE	CHECKED:	EC
WELLS COUNTY		INDIANA	
Headquarters: 200 S. STATE, 300 INDIANAPOLIS, IN 46204-0402 TEL: 317-713-4815 FAX: 317-713-4816 www.bds-engineering.com		Branch Locations: COLUMBIANA LAFAYETTE MARIETTA PORTLAND TERRE HAUTE	
PLAN "PR-B"		HORIZONTAL SCALE	1"=100'
		VERTICAL SCALE	N/A
		SURVEY BOOK	
		CONTRACT	
		SHEET	6
		OF	
		PROJECT	



RECOMMENDED FOR APPROVAL:		DESIGN ENGINEER	DATE
DESIGNED:	EC	DRAWN:	SHH
CHECKED:	ACE	CHECKED:	EC
WELLS COUNTY		INDIANA	
Headquarters: 210 S. STATE, 300 MARIETTA, GA 30067-0302 TEL: 317-713-4815 FAX: 317-713-4816 www.bds-engineering.com		Branch Locations: COLUMBUS, IN 317-713-4815 LAFAYETTE, IN 785-423-5602 MERRILLVILLE, IN 317-768-3333 PORTER, IN 317-638-3242	
PLAN "PR-A"		HORIZONTAL SCALE	1"=100'
		VERTICAL SCALE	N/A
		SURVEY BOOK	
		CONTRACT	
		SHEET	
		OF	
		PROJECT	

APPENDIX H

**RIGHT OF WAY
ENGINEERING
ANALYSIS**

MEMO ■ LETTER



TO: Eduardo Calderin
FROM: Brent Friend
DATE: 22 May 2018
JOB NO.: 616400.0000
SUBJECT: R/W Assessment

Assessment for the focus areas for the Wells County Route Study includes efforts to build a landowner database from the Wells County GIS data. This will serve as the foundation to study the impact of right-of-way acquisition. Attached is an Owner Ledger and associated exhibit. This information will be used with the developed typical road sections to calculate right-of-way areas that will ultimately be conveyed to the county for construction and maintenance. Of note, we have discovered existing right-of-way records at the County which are valid for portions of the project area. The origin of the reported widths is noted on the ledger, per owner. Here is a summary of the areas of focus:

- Section 1 – Hoosier Highway from 300 South to 200 South
 - Ten owners over seventeen tax parcels along this new alignment
 - Right-of-way along 300 South is based upon County records
 - Hoosier Highway is based off of the pavement width (no R/W records found to date)
- Section 2 – CR 300 South from Hoosier Highway to SR 1
 - Twenty owners over 23 tax parcels along this alignment
 - Right-of-way along 300 South is based upon County records which indicate 33 to 34 feet of full width. These records will need to be further studied.
 - Hoosier Highway and SR 1 are based off of the pavement width (no R/W records found to date)
- Section 3 – CR 300 South at County Home Road
 - Three owners over four tax parcels at this intersection
 - Right-of-way along 300 South is based upon County records
 - County Home Road is based off of the pavement width (no R/W records found to date)
- Section 4 - County Home Road transition to CR 450 East
 - Eight owners over nine tax parcels at this location
 - Right-of-way along CR 300 South and CR 450 East are based upon County records
 - County Home Road is based off of the pavement width (no R/W records found to date)

As our evaluation proceeds, we will continue to augment this owner information.

Revised by Eduardo Calderin 11/29/2018

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Branch Locations:
Bluffton
Jeffersonville
Lafayette
Merrillville
Plainfield

Founded 1961



Section 1 - Hoosier Highway from 200 South to 300 South

Parcel	Owner	Road	Frontage	Right of Way Width		Areas (in Acres)			Notes
				Existing	Proposed	Existing	Proposed	Net	
301	Mossburg, Michael K/Shelley A	New Align.	1320	0	40	0.000	1.212	1.212	
302	Noe, Timothy L	New Align.	1320	0	40	0.000	1.212	1.212	
303	Huss, Donald G/Vicky L	200S	322	16	0	0.118	0.000	NA	Width based on County Records
304	Smith'S Garage & Trucking, Inc	New Align.	1320	0	40	0.000	1.212	1.212	
305	Smith'S Garage & Trucking, Inc	New Align.	1320	0	40	0.000	1.212	1.212	
306	Pfister, Rose E etal	New Align.	2175	0	40	0.000	1.997	1.997	
307	Steiglitz Etal	New Align.	1310	0	40	0.000	1.203	1.203	
308	Pfister, Rose E etal	New Align.	840	0	40	0.000	0.771	0.771	
309	Craig, Donald W	New Align.	210	0	40	0.000	0.193	0.193	
310	Craig, Donald W	New Align.	210	0	40	0.000	0.193	0.193	
311	Pfister, Courtney W/Jodi L	300S	580	16.5	0	0.220	0.000	NA	Width based on County Records
312	Pfister, Courtney W/Jodi L	New Align.	260	0	40	0.000	0.239	0.239	
		300S	544	16.5	40	0.206	0.500	0.293	Width based on County Records
313	Pfister, Courtney W/Jodi L	New Align.	260	0	40	0.000	0.239	0.239	
314	Tosh, Godoy / Faus , Carolyn	New Align.	100	0	40	0.000	0.092	0.092	
		300S	190	16.5	40	0.072	0.174	0.103	Width based on County Records
315	DMT	New Align.	100	0	40	0.000	0.092	0.092	
		300S	880	16.5	40	0.333	0.808	0.475	Width based on County Records
316	Fiechter, Jason W/Chase M	New Align.	100	0	40	0.000	0.092	0.092	
		300S	2720	9	40	0.562	2.498	1.936	Width based on Pavement
317	Fiechter, Jason W/Chase M	New Align.	100	0	40	0.000	0.092	0.092	
		300S	435	17	40	0.170	0.399	0.230	Width based on County Records

14.430

Section 2 - 300 South from Hoosier Highway to SR 1

Parcel	Owner	Road	Frontage	Right of Way Width		Areas (in Acres)			Notes
				Existing	Proposed	Existing	Proposed	Net	
401	Tosh, Godoy / Faus , Carolyn	300S	260	16.5	40	0.098	0.239	0.140	Width based on County Records
402	Harvey, Steve W / Dawn R	300S	830	16.5	40	0.314	0.762	0.448	Width based on County Records
403	Okey, Steven G/Terri L etal	300S	3430	16.5	40	1.299	3.150	1.850	Width based on County Records
404	Pfister, Chris T	300S	1330	16.5	40	0.504	1.221	0.718	Width based on County Records
405	Pfister, Chris T etal	300S	1320	16.5	40	0.500	1.212	0.712	Width based on County Records
406	Pfister, Chris T	300S	1320	16.5	40	0.500	1.212	0.712	Width based on County Records
407	Okey, Donald B / Martha R	300S	1320	16.5	40	0.500	1.212	0.712	Width based on County Records
408	Steffen, Steven L / Charlotte K	300S	530	16.5	40	0.201	0.487	0.286	Width based on County Records
409	Pfister, Spencer	300S	650	16.5	40	0.246	0.597	0.351	Width based on County Records
410	Wall, Norman E/ Bonnie J	300S	1200	16.5	40	0.455	1.102	0.647	Width based on County Records
411	Pfister, Spencer	300S	380	16.5	40	0.144	0.349	0.205	Width based on County Records
412	Pfister, Spencer S	300S	320	16.5	40	0.121	0.294	0.173	Width based on County Records
413	Pfister, Jodi L	300S	970	16.5	40	0.367	0.891	0.523	Width based on County Records
414	Fiechter, Terry W / Sandra M	300S	2000	16.5	40	0.758	1.837	1.079	Width based on County Records
415	Moser, Kurt R/Molli J	300S	1460	16.5	40	0.553	1.341	0.788	Width based on County Records
416	Pursley, Ryan W	300S	280	16.5	40	0.106	0.257	0.151	Width based on County Records
417	Bowman, Jeffrey L/Sharon E	300S	200	16.5	40	0.076	0.184	0.108	Width based on County Records
418	Wann etal, Obbie V	300S	460	16.5	40	0.174	0.422	0.248	Width based on County Records
419	Fiechter, Terry W / Sandra M	300S	690	16.5	40	0.261	0.634	0.372	Width based on County Records
420	Mittlestedt, Robert A	300S	540	16.5	40	0.205	0.496	0.291	Width based on County Records
		SR1	165	12	40	0.045	0.152	0.106	Width based on Pavement
421	Macon, Phyllis	300S	275	16.5	40	0.104	0.253	0.148	Width based on County Records
		SR1	900	12	40	0.248	0.826	0.579	Width based on Pavement
422	Jones, Connie S	300S	340	16.5	40	0.129	0.312	0.183	Width based on County Records
		SR1	245	12	40	0.067	0.225	0.157	Width based on Pavement
423	Faus, Carolyn	300S	340	16.5	40	0.129	0.312	0.183	Width based on County Records
		SR1	410	12	40	0.113	0.376	0.264	Width based on Pavement

20.354

Section 3 - County Road 300 South from SR 1 to 450 East

Parcel	Owner	Road	Frontage	Right of Way Width		Areas (in Acres)			Notes
				Existing	Proposed	Existing	Proposed	Net	
702	Mittlestedt, Chris M	300S	185	17	40	0.072	0.170	0.098	Width based on County Records
703	Rich, Howard / Beverly J	300S	1920	17	40	0.749	1.763	1.014	Width based on County Records
704	Rich, Howard D / Beverly J	300S	1320	17	40	0.515	1.212	0.697	Width based on County Records
705	Rich, Howard / Beverly J	300S	50	17	40	0.020	0.046	0.026	Width based on County Records
706	Beeks, John/Laura	300S	460	17	40	0.180	0.422	0.243	Width based on County Records
707	Ebnit, Richard G/Suzanne	300S	695	17	40	0.271	0.638	0.367	Width based on County Records
708	Wells County	300S	1330	17	40	0.519	1.221	0.702	Width based on County Records
709	Schreiber, Donald A	300S	195	17	40	0.076	0.179	0.103	Width based on County Records

710	Schreiber, Donald A	300S	210	17	40	0.082	0.193	0.111	Width based on County Records
711	Karwoski, Donald R / Karen S	300S	235	17	40	0.092	0.216	0.124	Width based on County Records
712	Shaw, Gary D/Constance J	300S	470	20	40	0.216	0.432	0.216	Width based on County Records
713	Shaw, Gary D/Connie J	300S	1015	20	40	0.466	0.932	0.466	Width based on County Records
715	Johnson, Jack D / Diane M	300S	300	20	40	0.138	0.275	0.138	Width based on County Records
716	Bethel Church Of Wells Co Inc	300S	215	20	40	0.099	0.197	0.099	Width based on County Records
717	Bethel Cemetery Assoc	300S	280	20	40	0.129	0.257	0.129	Width based on County Records
718	Martin MAP Trust, Jayne E/Richard	300S	730	20	40	0.335	0.670	0.335	Width based on County Records
719	Faus, Carolyn	300S	20	17	40	0.008	0.018	0.011	Width based on County Records

Section 4 - 300 South at County Home Road

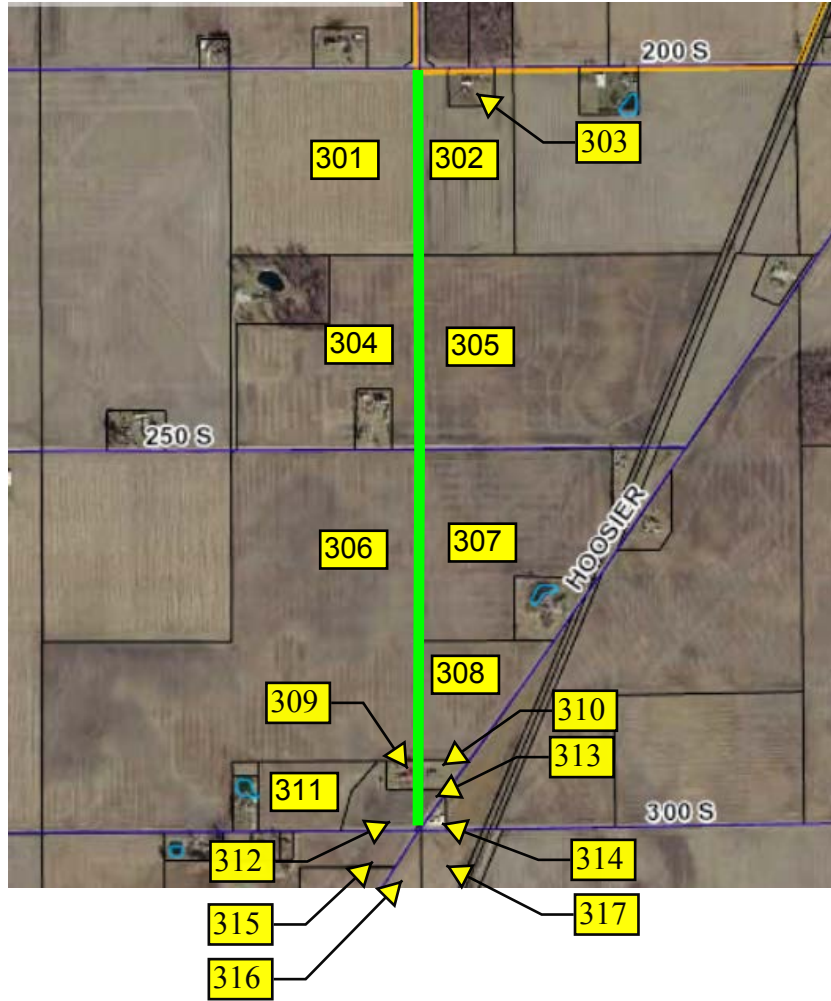
Parcel	Owner	Road	Frontage	Right of Way Width		Areas (in Acres)			Notes
				Right of Way Width		Existing	Proposed	Net	
				Existing	Proposed				
501	Baumann, John/Mary Lou	300S	1370	20	40	0.629	1.258	0.629	Width based on County Records
		County Home	690	10	40	0.158	0.634	0.475	Width based on Pavement
502	Studabaker, Michael D / Jean M	300S	1290	20	40	0.592	1.185	0.592	Width based on County Records
		County Home	2670	10	40	0.613	2.452	1.839	Width based on Pavement
503	Sturgeon etal, James L	300S	1370	20	40	0.629	1.258	0.629	Width based on County Records
		County Home	1110	10	40	0.255	1.019	0.764	Width based on Pavement
504	Sturgeon, James L etal	300S	1460	20	40	0.670	1.341	0.670	Width based on County Records
		County Home	1110	10	40	0.255	1.019	0.764	Width based on Pavement

10.165

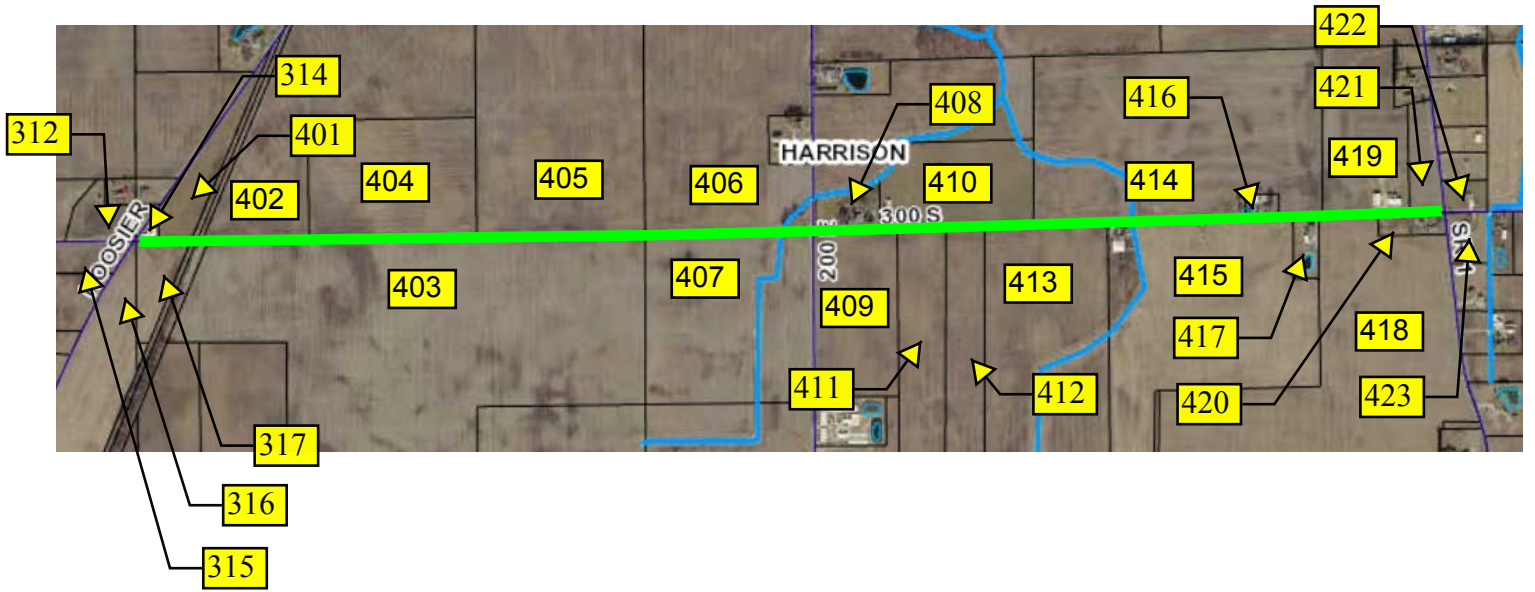
Section 5 - County Home Road transition to 450 East

Parcel	Owner	Road	Frontage	Right of Way Width		Areas (in Acres)			Notes
				Right of Way Width		Existing	Proposed	Net	
				Existing	Proposed				
601	Schenkel Trust, Dale M / Maxine L	County Home	700	9	40	0.145	0.643	0.498	Width based on Pavement
602	Studabaker Trust, Hugh E/Avis	County Home	2600	9	80	0.537	4.775	4.238	Width based on Pavement
		200S	1320	20	0	0.606	0.000	NA	Width based on County Records
603	Shaw, Ray A/Jerry L	County Home	200	9	40	0.041	0.184	0.142	Width based on Pavement
		200S	1330	9	0	0.275	0.000	NA	Width based on Pavement
604	Hauk, Max R	450E	600	20	80	0.275	1.102	0.826	Width based on County Records
		200S	1320	20	0	0.606	0.000	NA	Width based on County Records
605	Dubach Trust, Albert D/Ruth M	450E	400	20	40	0.184	0.367	0.184	Width based on County Records
606	Starkey, Philip C / Nola M	450E	200	20	40	0.092	0.184	0.092	Width based on County Records
607	Dubach Trust, Albert D/Ruth M	450E	200	20	40	0.092	0.184	0.092	Width based on County Records
608	Powell etal, Claudine	450E	535	20	0	0.246	0.000	NA	Width based on County Records
609	Gilgen Jr, Gene L/Melinda	450E	195	20	0	0.090	0.000	NA	Width based on County Records

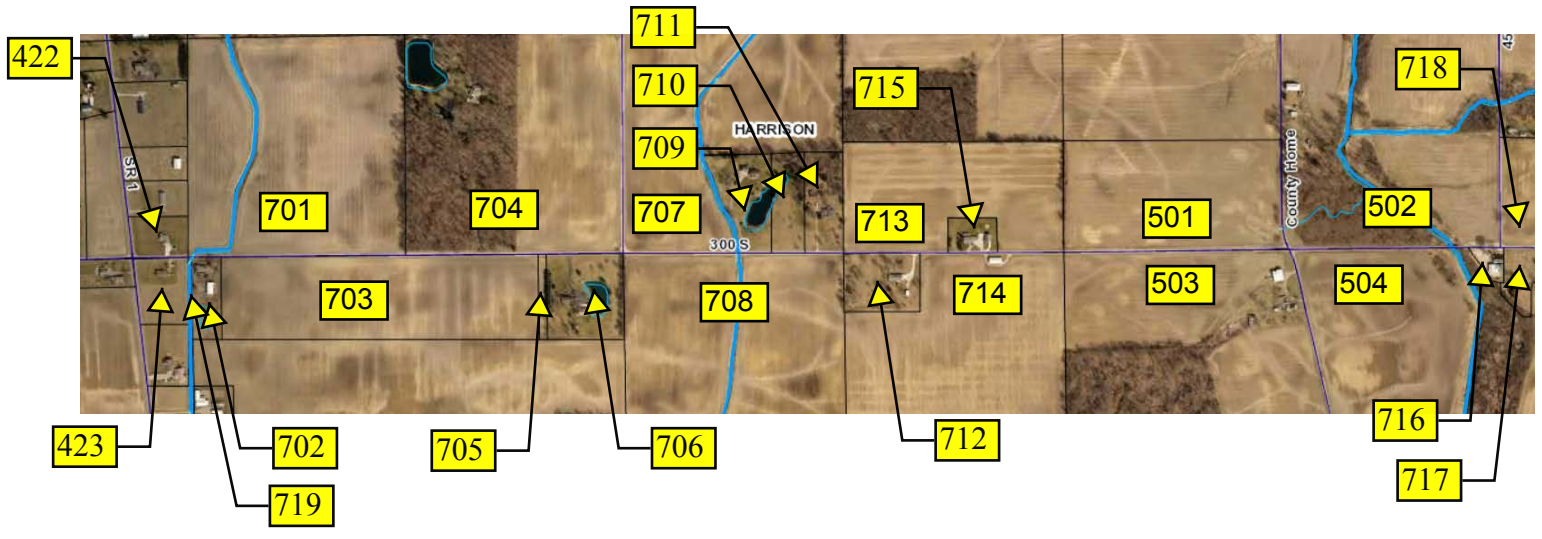
Section 1 - Hoosier Highway from 200 South to 300 South



Section 2 - 300 South from Hoosier Highway to SR 1



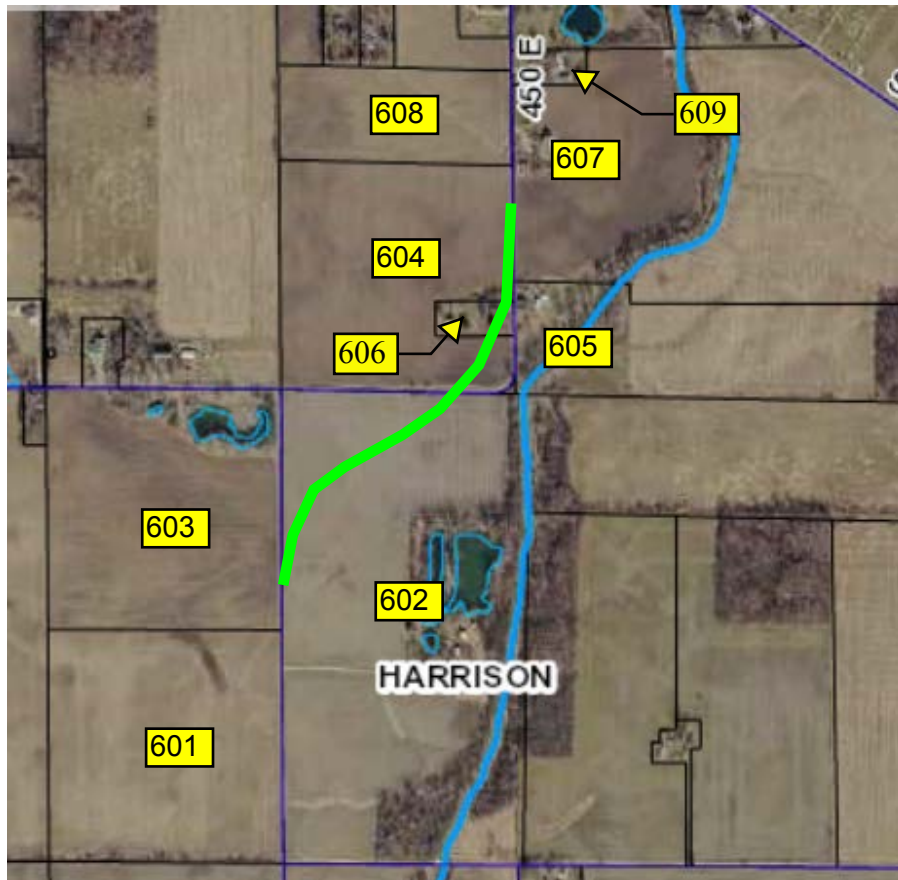
Section 3 - County Road 300 South from SR 1 to 450 East



Section 4 - 300 South at County Home Road



Section 5 - County Home Road transition to 450 East



APPENDIX I

RIGHT OF WAY

SERVICES

ASSESSMENT

Parcel Number	Name on GIS	APR Type	Appr. Fee	Second Appr. Fee	Buyer Fee	Relocation Fee	ROW Management (LSum)
Section 1: Hoosier Highway. Extension: CR 200S to CR 300S							
301	Mossburg, Michael K/Shelley A	VF	\$2,500	\$0	\$2,500	NA	\$1,800
302	Noe, Timothy L	VF	\$2,500	\$0	\$2,500	NA	\$1,800
303	Huss, Donald G/Vicky L	LF Res	\$5,000	\$5,000	\$2,500	NA	\$1,800
304/305	Smith'S Garage & Trucking, Inc	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
306/308	Pfister, Rose E etal	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
307	Steiglitz Etal	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
309/310	Craig, Donald W	Res TT	\$5,000	\$5,000	\$2,500	\$5,000	\$1,800
311/312/313	Pfister, Courtney W/Jodi L	VF	\$2,500	\$0	\$2,500	NA	\$1,800
314	Tosh Godoy/ Carolyn Faus	VF	\$2,500	\$0	\$2,500	NA	\$1,800
315	DMT	VF	\$2,500	\$0	\$2,500	NA	\$1,800
316/317	Fiechter, Jason W/Chase M	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
318	Pierce, Ruth A & Ralph L	VF	\$2,500	\$0	\$2,500	NA	\$1,800
319	Catarino, Ybarra Jr. & Cathy M	VF	\$2,500	\$0	\$2,500	NA	\$1,800
320	Berry, Edward/ Knueven, Jaclyn R	VF	\$2,500	\$0	\$2,500	NA	\$1,800
	Sub-Total Adams St. Extension		\$40,000	\$20,000	\$35,000	\$5,000	\$25,200
	Sub-Total Services						\$125,200
	20% Direct Costs & Scope Changes						\$25,040
	Total Section 1: Adams St. Extension ROW Sevices						\$150,240
Section 2: Alternate 1: CR 300 S: Hoosier Rd. to CR 200E							
401	Tosh, Steve W & Dawn R	LF Res	\$5,000	\$5,000	\$2,500	\$5,000	\$1,800
402	Harvey, Steve W / Dawn R	VF	\$2,500		\$2,500	NA	\$1,800
403	Okey, Steven G/Terri L etal	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
404/406	Pfister, Chris T	VF	\$2,500		\$2,500	NA	\$1,800
405	Pfister, Chris T etal	VF	\$2,500		\$2,500	NA	\$1,800
407	Okey, Donald B / Martha R	VF	\$2,500		\$2,500	NA	\$1,800
408	Steffen, Steven L / Charlotte K	Res TT	\$5,000	\$5,000	\$2,500	\$5,000	\$1,800
408A	Steffen, Steven L / Charlotte K	LF Res	\$5,000	\$5,000	\$2,500	NA	\$1,800
409	Pfister, Spencer	VF	\$2,500		\$2,500	NA	\$1,800
	Sub-Total		\$30,000	\$17,500	\$22,500	\$10,000	\$16,200
	Sub-Total Services						\$96,200
	20% Direct Costs & Scope Changes						\$19,240
	Total Section 2 - Alternate 1 ROW Services						\$115,440
Section 3: Alternate 2: CR 300 S: CR 200E to SR 1							
410	Wall, Norman E/ Bonnie J	VF	\$2,500		\$2,500	NA	\$1,800
411/412	Pfister, Spencer	VF	\$2,500		\$2,500	NA	\$1,800
413	Pfister, Jodi L	VF	\$2,500		\$2,500	NA	\$1,800
414	Fiechter, Terry W / Sandra M	VF	\$2,500		\$2,500	NA	\$1,800
415	Moser, Kurt R/Molli J	VF	\$2,500		\$2,500	NA	\$1,800
416	Pursley, Ryan W	LF Res	\$5,000	\$5,000	\$2,500	NA	\$1,800
417	Bowman, Jeffrey L/Sharon E	LF Res	\$5,000	\$5,000	\$2,500	NA	\$1,800
418	Wann etal, Obbie V	VF	\$2,500		\$2,500	NA	\$1,800
419	Fiechter, Terry W / Sandra M	VF	\$2,500		\$2,500	NA	\$1,800
420	Mittlestedt, Robert A	LF Res	\$5,000	\$5,000	\$2,500	NA	\$1,800
421	Macon, Phyllis	VF	\$2,500		\$2,500	NA	\$1,800
422	Jones, Connie S	LF Res	\$5,000	\$5,000	\$2,500	NA	\$1,800
423	Faus, Carolyn (3010 E300S)	LF Res	\$5,000	\$5,000	\$2,500	NA	\$1,800
424	Faus, Carolyn (2476 E300S)	LF Res	\$5,000	\$5,000	\$2,500	NA	\$1,800
	Sub-Total		\$50,000	\$30,000	\$35,000	\$0	\$25,200
	Sub-Total Services						\$140,200
	20% Direct Costs & Scope Changes						\$28,040
	Total Section 3 - Alternate 2 ROW Services						\$168,240
Section 4: County Road 300 from SR 1 to CR 450 East							
701	Captain, Charles N/Renee D	VF	\$2,500		\$2,500	NA	\$1,800
702	Mittlestedt, Chris M	LF Res	\$5,000		\$2,500	NA	\$1,800
703/704/705	Rich, Howard / Beverly J	VF	\$2,500		\$2,500	NA	\$1,800
706	Beeks, John/Laura	LF Res	\$5,000		\$2,500	NA	\$1,800
707	Ebnit, Richard G/Suzanne	VF	\$2,500		\$2,500	NA	\$1,800
708	Wells County	VF	\$2,500		\$2,500	NA	\$1,800
709/710	Schreiber, Donald A	LF Res	\$5,000		\$2,500	NA	\$1,800
711	Karwoski, Donald R / Karen S	LF Res	\$5,000		\$2,500	NA	\$1,800
712	Shaw, Gary D/Constance J	LF Res	\$5,000		\$2,500	NA	\$1,800

Parcel Number	Name on GIS	APR Type	Appr. Fee	Second Appr. Fee	Buyer Fee	Relocation Fee	ROW Management (LSum)
713/714	Shaw, Gary D/Connie J	VF	\$2,500		\$2,500	NA	\$1,800
715	Johnson, Jack D / Diane M	LF Res	\$5,000		\$2,500	NA	\$1,800
716	Bethel Church Of Wells Co Inc	VF	\$2,500		\$2,500	NA	\$1,800
717	Bethel Cemetery Assoc	VF	\$2,500		\$2,500	NA	\$1,800
718	Martin MAP Trust, Jayne E/Richard	VF	\$2,500		\$2,500	NA	\$1,800
	Sub-Total		\$50,000	\$0	\$35,000	\$0	\$25,200
	Sub-Total Services						\$110,200
	20% Direct Costs & Scope Changes						\$22,040
	Total Section 4 - Alternate						\$132,240
	Section 5: CR 300 S: At County Home Rd.						
501	Baumann, John/Mary Lou	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
502	Studabaker, Michael D / Jean M	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
503	Sturgeon etal, James L	VF	\$2,500		\$2,500	NA	\$1,800
504	Sturgeon, James L etal	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
	Sub-Total		\$10,000	\$7,500	\$10,000	\$0	\$7,200
	Sub-Total Services						\$34,700
	20% Direct Costs & Scope Changes						\$6,940
	Total Section 5 ROW Services						\$41,640
	Section 6: County Home Rd. transition to CR450E						
601	Schenkel Trust, Dale M / Maxine L	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
602	Studabaker Trust, Hugh E/Avis	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
603	Shaw, Ray A/Jerry L	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
604	Hauk, Max R	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
605/607	Dubach Trust, Albert D/Ruth M	LF Res	\$5,000	\$5,000	\$2,500	NA	\$1,800
606	Starkey, Philip C / Nola M	Res TT	\$5,000	\$5,000	\$2,500	\$5,000	\$1,800
608	Powell etal, Claudine	VF	\$2,500	\$2,500	\$2,500	NA	\$1,800
609	Gilgen Jr, Gene L/Melinda	LF Res	\$5,000	\$5,000	\$2,500	NA	\$1,800
	Sub-Total		\$27,500	\$27,500	\$20,000	\$5,000	\$14,400
	Sub-Total Services						\$94,400
	20% Direct Costs & Scope Changes						\$18,880
	Total Section 6 ROW Services						\$113,280

ONLY IF TOTAL RECONSTRUCTION OF THE ROAD

\$132,240

WELLS COUNTY ROUTE STUDY

Parcel	Owner	Type of Take Type Perm Temp Both	Property Type Residential Commercial	R/W (Area)	Dwelling Or Damages	Amount/Acre for Land	Land Cost	10% Contingency	Relocation Entitlement Estimate	Total
WELLS COUNTY										
Section 1: Hoosier Highway Extension: CR 200S to CR 300S										
301	Mosburg, Michael K/Shelley A	FEE	Ag	1.212	\$	9.500 \$	11,514 \$	1,151 \$	- \$	12,700
302	Noe, Timothy L	FEE	Ag	1.212	\$	9.500 \$	11,514 \$	1,151 \$	- \$	12,700
303	Huss, Donald G/Vicky L	FEE	Res	0.118	\$ 10,000	20,000 \$	2,360 \$	1,236 \$	- \$	13,600
304/305	Smith'S Garage & Trucking, Inc	FEE	Ag	2.424	\$	9.500 \$	23,028 \$	2,303 \$	- \$	25,400
306/308	Pfister, Rose E etal	FEE	Ag	4.888	\$	9.500 \$	46,436 \$	4,644 \$	- \$	51,100
307	Steiglitz Etal	FEE	Ag	2.123	\$	9.500 \$	20,169 \$	2,017 \$	- \$	22,200
309/310	Craig, Donald W	FEE	Res	2.490	\$ 200,000	20,000 \$	49,800 \$	24,980 \$	50,000 \$	324,800
311/312/313	Pfister, Courtney W/Jodi L	FEE	Res/Ag	0.771	\$	20,000 \$	15,420 \$	1,542 \$	- \$	17,000
314	Tosh Godoy/ Carolyn Faus	FEE	Ag/Com	0.195	\$	20,000 \$	3,900 \$	390 \$	- \$	4,300
315	DMT	FEE	Ag	0.475	\$	9.500 \$	4,513 \$	451 \$	- \$	5,000
316/317	Fiechter, Jason W/Chase M	FEE	Ag	2.340	\$	9.500 \$	22,230 \$	2,223 \$	- \$	24,500
318	Pierce, Ruth A & Ralph L	FEE	Res	0.200	\$	20,000 \$	4,000 \$	400 \$	- \$	4,400
319	Catarino, Ybarra Jr. & Cathy M	FEE	Res	0.200	\$	20,000 \$	4,000 \$	400 \$	- \$	4,400
320	Berry, Edward/ Kneiven, Jaclyn R	FEE	Res	0.200	\$	20,000 \$	4,000 \$	400 \$	- \$	4,400
Total Section 1: Hoosier Highway Extension										\$ 526,500
Section 2: CR 300 S: Hoosier Rd. to CR 200E										
401	Tosh, Steve W & Dawn R	FEE	Ag/Com	0.539	\$	25,000 \$	13,475 \$	11,348 \$	50,000 \$	174,900
402	Harvey, Steve W / Dawn R	FEE	Ag	0.448	\$	9.500 \$	4,256 \$	426 \$	- \$	4,700
403	Okey, Steven G/Terril L etal	FEE	Ag	3.150	\$	9.500 \$	29,925 \$	2,993 \$	- \$	33,000
404/406	Pfister, Chris T	FEE	Ag	1.430	\$	9.500 \$	13,585 \$	1,359 \$	- \$	15,000
405	Pfister, Chris T etal	FEE	Ag	0.712	\$	9.500 \$	6,764 \$	676 \$	- \$	7,500
407	Okey, Donald B / Martha R	FEE	Ag	0.712	\$	9.500 \$	6,764 \$	676 \$	- \$	7,500
408	Steffen, Steven L / Charlotte K	FEE	Res	1.000	\$ 100,000	20,000 \$	20,000 \$	12,000 \$	50,000 \$	182,000
408A	Steffen, Steven L / Charlotte K	FEE	Res	0.286	\$ 10,000	20,000 \$	5,720 \$	1,572 \$	- \$	17,300
409	Pfister, Spencer	FEE	Ag	0.351	\$	9.500 \$	3,335 \$	333 \$	- \$	3,700
Total Section 2 - Alternate 1										\$ 445,600

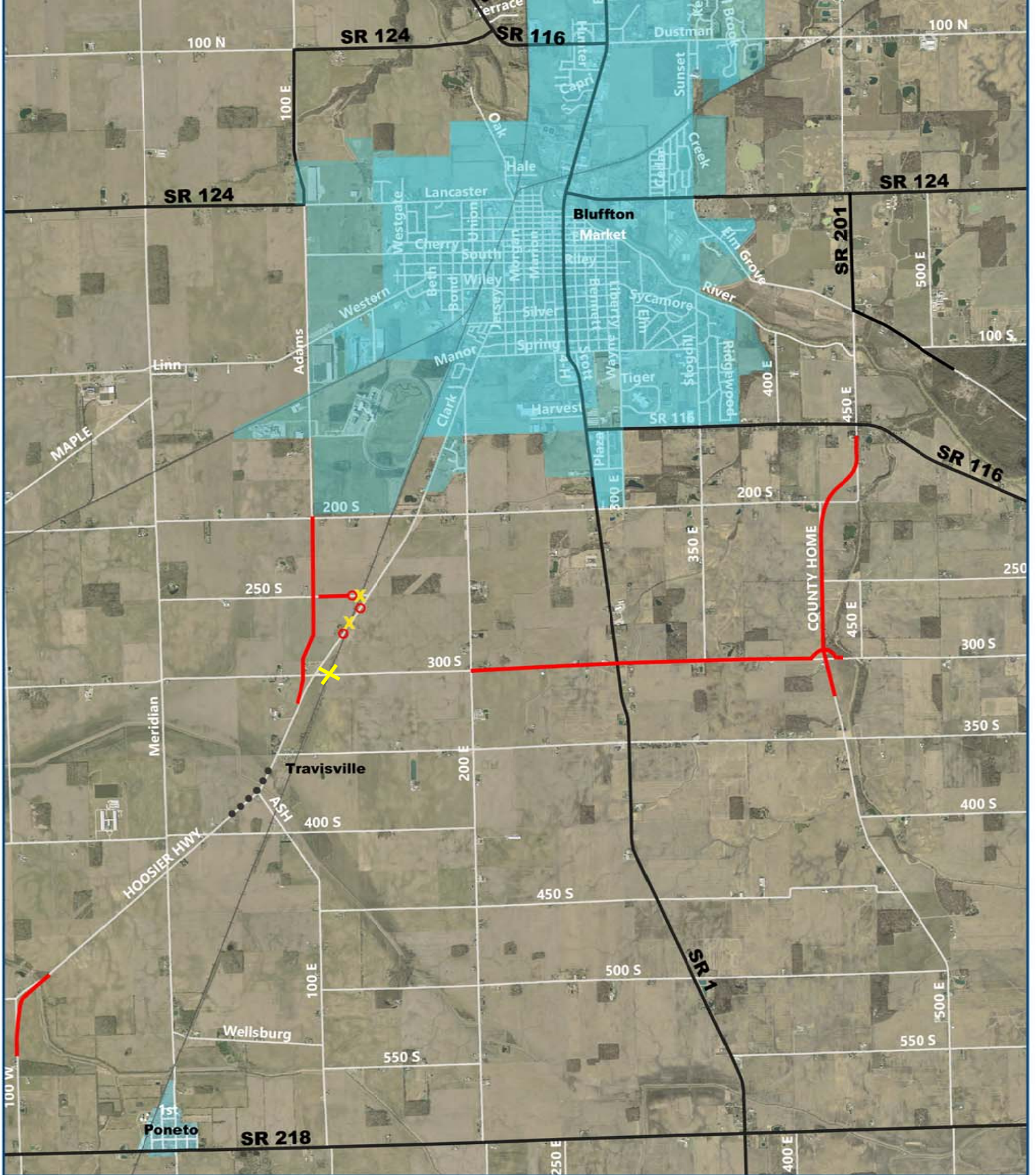
WELLS COUNTY ROUTE STUDY

Section 3: CR 300 S: CR 200E to SR 1																
410	Wall, Norman E/ Bonnie J	FEE	Ag	0.647	\$	-	\$	9,500	\$	6,147	\$	615	\$	-	\$	6,800
411/412	Pfister, Spencer	FEE	Ag	0.378	\$	-	\$	9,500	\$	3,591	\$	359	\$	-	\$	4,000
413	Pfister, Jodi L	FEE	Ag	0.523	\$	-	\$	9,500	\$	4,969	\$	497	\$	-	\$	5,500
414	Fiechter, Terry W / Sandra M	FEE	Ag	1.079	\$	-	\$	9,500	\$	10,251	\$	1,025	\$	-	\$	11,300
415	Moser, Kurt R/Molli J	FEE	Ag	0.788	\$	-	\$	9,500	\$	7,486	\$	749	\$	-	\$	8,300
416	Pursley, Ryan W	FEE	Res	0.151	\$	10,000	\$	20,000	\$	3,020	\$	1,302	\$	-	\$	14,400
417	Bowman, Jeffrey L/Sharon E	FEE	Res	0.108	\$	10,000	\$	20,000	\$	2,160	\$	1,216	\$	-	\$	13,400
418	Wann etal, Obbie V	FEE	Ag	0.248	\$	-	\$	9,500	\$	2,356	\$	236	\$	-	\$	2,600
419	Fiechter, Terry W / Sandra M	FEE	Ag/Res	0.372	\$	-	\$	20,000	\$	7,440	\$	744	\$	-	\$	8,200
420	Mittlestedt, Robert A	FEE	Res	0.397	\$	10,000	\$	20,000	\$	7,940	\$	1,794	\$	-	\$	19,800
421	Macon, Phyllis	FEE	Ag	0.727	\$	-	\$	9,500	\$	6,907	\$	691	\$	-	\$	7,600
422	Jones, Connie S	FEE	Res	0.330	\$	10,000	\$	20,000	\$	6,600	\$	1,660	\$	-	\$	18,300
423	Faus, Carolyn (3010 E300S)	FEE	Res	0.275	\$	10,000	\$	20,000	\$	5,500	\$	1,550	\$	-	\$	17,100
424	Faus, Carolyn (2476 E300S)	FEE	Res	0.140	\$	10,000	\$	20,000	\$	2,800	\$	1,280	\$	-	\$	14,100
Total Section 3 - Alternate 2													\$	151,400		
Section 3: County Road 300 from SR 1 to CR 450 East																
701	Captain, Charles N/Renee D	FEE	Ag	0.697	\$	-	\$	9,500	\$	6,622	\$	662	\$	-	\$	7,300
702	Mittlestedt, Chris M	FEE	Res	0.170	\$	10,000	\$	20,000	\$	3,400	\$	1,340	\$	-	\$	14,800
03/704/705	Rich, Howard / Beverly J	FEE	Ag	1.713	\$	-	\$	9,500	\$	16,274	\$	1,627	\$	-	\$	18,000
706	Beeks, John/Laura	FEE	Res	0.422	\$	10,000	\$	20,000	\$	8,440	\$	1,844	\$	-	\$	20,300
707	Ebnit, Richard G/Suzanne	FEE	Ag	0.367	\$	-	\$	9,500	\$	3,487	\$	349	\$	-	\$	3,900
708	Wells County	FEE	Ag.	0.702	\$	-	\$	9,500	\$	6,669	\$	667	\$	-	\$	7,400
709/710	Schreiber, Donald A	FEE	Res	0.214	\$	5,000	\$	20,000	\$	4,280	\$	928	\$	-	\$	10,300
711	Kanowski, Donald R/ Karen S	FEE	Res	0.124	\$	10,000	\$	20,000	\$	2,480	\$	1,248	\$	-	\$	13,800
712	Shaw, Gary D/Constance J	FEE	Res.	0.216	\$	10,000	\$	20,000	\$	4,320	\$	1,432	\$	-	\$	15,800
713/714	Shaw, Gary D/Connie J	FEE	Ag.	0.868	\$	-	\$	9,500	\$	8,246	\$	825	\$	-	\$	9,100
715	Johnson, Jack D / Diane M	FEE	Res	0.138	\$	10,000	\$	20,000	\$	2,760	\$	1,276	\$	-	\$	14,100
716	Bethel Church Of Wells Co Inc	FEE	Special	0.197	\$	-	\$	20,000	\$	3,940	\$	394	\$	-	\$	4,400
717	Bethel Cemetery Assoc	FEE	Special	0.129	\$	-	\$	20,000	\$	2,580	\$	258	\$	-	\$	2,900
718	Martin MAP Trust, Jayne E/Richard	FEE	Ag	0.335	\$	-	\$	9,500	\$	3,183	\$	318	\$	-	\$	3,600
Total Section 3													\$	145,700		
Section 4: CR 300 S: At County Home Rd.																
501	Baumann, John/Mary Lou	FEE	Ag	4.000	\$	-	\$	9,500	\$	38,000	\$	3,800	\$	-	\$	41,800
502	Studabaker, Michael D / Jean M	FEE	Ag	2.431	\$	-	\$	9,500	\$	23,095	\$	2,309	\$	-	\$	25,500
503	Sturgeon etal, James L	FEE	Ag	1.393	\$	-	\$	9,500	\$	13,234	\$	1,323	\$	-	\$	14,600
504	Sturgeon, James L etal	FEE	Ag	1.434	\$	-	\$	9,500	\$	13,623	\$	1,362	\$	-	\$	15,000
Total Section 4													\$	96,900		
Section 5: County Home Rd. transition to CR450E																
601	Schenkel Trust, Dale M / Maxine L	FEE	Ag	0.498	\$	-	\$	9,500	\$	4,731	\$	473	\$	-	\$	5,300
602	Studabaker Trust, Hugh E/Avis	FEE	Ag	4.238	\$	-	\$	9,500	\$	40,261	\$	4,026	\$	-	\$	44,300
603	Shaw, Ray A/Jerry L	FEE	Ag	0.142	\$	-	\$	9,500	\$	1,349	\$	135	\$	-	\$	1,500
604	Hauk, Max R	FEE	Ag	0.826	\$	-	\$	9,500	\$	7,847	\$	785	\$	-	\$	8,700
605/607	Dubach Trust, Albert D/Ruth M	FEE	Res	0.276	\$	10,000	\$	20,000	\$	5,520	\$	1,552	\$	-	\$	17,100
606	Starkey, Philip C / Nola M	FEE	Res	0.092	\$	175,000	\$	20,000	\$	1,840	\$	17,684	\$	50,000	\$	244,600
608	Powell etal, Claudine	FEE	Ag	0.246	\$	-	\$	9,500	\$	2,337	\$	234	\$	-	\$	2,600
609	Gilgen Jr, Gene L/Melinda	FEE	Res	0.090	\$	10,000	\$	9,500	\$	855	\$	1,086	\$	-	\$	12,000
Total Section 5													\$	336,100		

APPENDIX J

CORRIDOR PLANNING STUDY

MAPS



APPENDIX K

WELLS COUNTY

FUNCTIONAL CLASSIFICATION

MAPS

FUNCTIONAL CLASSIFICATION SYSTEM FOR WELLS COUNTY, IN

URBAN FUNCTION CLASSIFICATION

- URBAN INTERSTATE
- URBAN OTHER PRINCIPAL ARTERIAL
- URBAN MINOR ARTERIAL
- URBAN MAJOR COLLECTOR, URBAN
- URBAN MINOR COLLECTOR, URBAN
- PROPOSED URBAN COLLECTOR

RURAL FUNCTION CLASSIFICATION

- RURAL INTERSTATE
- RURAL OTHER PRINCIPAL ARTERIAL
- RURAL MINOR ARTERIAL
- RURAL MAJOR COLLECTOR
- RURAL MINOR COLLECTOR
- PROPOSED RURAL MAJOR COLLECTOR

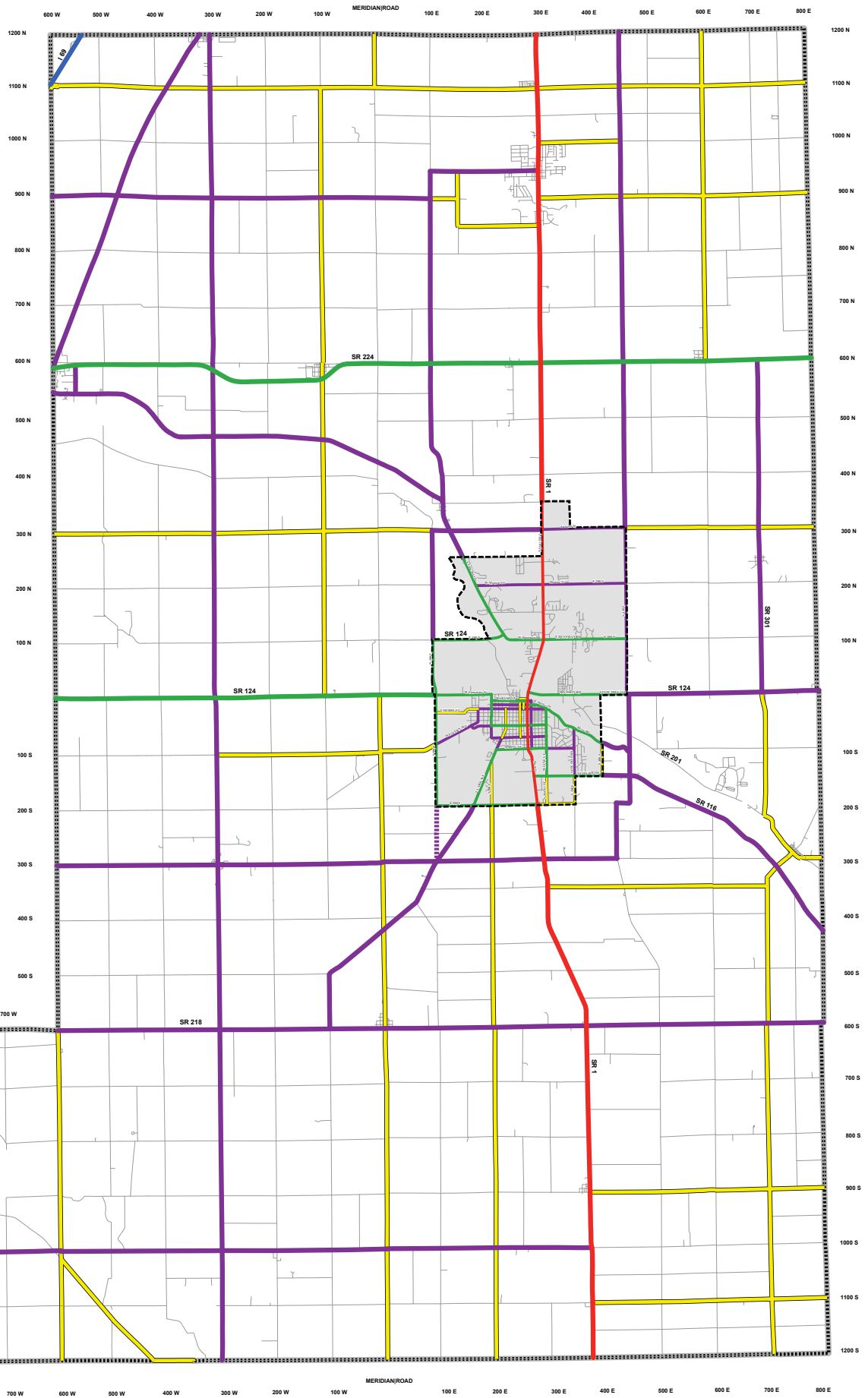
OTHER MAP FEATURES

- COUNTY BOUNDARY
- 2007 URBAN BOUNDARY



Produced by NIRCC
7/17

0 0.5 1 2 Miles



APPENDIX L

GEOMETRIC DESIGN CRITERIA

Design Element		Manual Section	2 Lanes						
Alignment Elements	Design Speed		30 mph	35 mph	45 mph	50 mph	55 mph	60 mph	
	*Stopping Sight Distance	42-1.0	200 ft	250 ft	360 ft	425 ft	495 ft	570 ft	
	Decision Sight Distance	Speed / path / direction change		450 ft	525 ft	675 ft	750 ft	865 ft	990 ft
		Stop Maneuver	42-2.0	220 ft	275 ft	395 ft	465 ft	535 ft	610 ft
	Passing Sight Distance	42-3.0	1090 ft	1280 ft	1625 ft	1835 ft	1985 ft	2135 ft	
	Intersection Sight Distance, -3% to +3% (19)	46-10.0	P: 330 ft SUT: 420 ft	P: 390 ft SUT: 490 ft	P: 500 ft SUT: 630 ft	P: 630 ft SUT: 780 ft	P: 730 ft SUT: 890 ft	P: 840 ft SUT: 1020 ft	
	*Minimum Radius, e=8%	43-2.0	270 ft	410 ft	590 ft	750 ft	1000 ft	1290 ft	
	*Superelevation Rate	43-3.0		emax = 8% (16)					
	*Horizontal Sight Distance	43-4.0		(17)					
	*Vertical Curvature, K-value	Crest	44-3.0	19	29	61	84	114	151
		Sag		37	49	79	96	115	136
	*Maximum Grade (18)	Level		7%	7%	6%	6%	5.5%	5%
		Rolling	44-1.02	9%	8%	7%	7%	6.5%	6%
	Minimum Grade	44-1.03		Desirable: 0.5%; Minimum: 0.0%					

* Level One controlling criterion. Except as noted in this chapter, the values shown in AASHTO's *A Policy on Geometric Design of Highways and Streets* (the *Green Book*) may be used as minimum values if they are lower than similar values shown herein. A controlling criterion that does not meet the minimum value is a design exception and is subject to approval. See Section 40-8.0.

These criteria apply only to a federal-aid project.

GEOMETRIC DESIGN CRITERIA FOR RURAL COLLECTOR, LOCAL-AGENCY ROUTE

(New Construction or Reconstruction)

Figure 53-4 (Page 2 of 4)

- (1) (Blank.)
- (2) (Blank.)
- (3) Design Speed. The minimum design speed should equal the minimum value or the anticipated posted speed limit after construction, whichever is greater. The legal speed limit is 55 mph on a non-posted highway.
- (4) Travel-Lane Width. The following will apply.
 - a. Use an 11-ft width if the design speed is 55 mph.
 - b. Use a 12-ft width if the design speed is 55 mph.
- (5) Shoulder Width. The following will apply.
 - a. If guardrail is required, the minimum width is 4 ft.
 - b. Usable-shoulder width is defined as the distance from the edge of the travel lane to the shoulder break point.
 - c. If curbs are to be used, the criteria described in Figure 53-8 should be applied.
- (6) Cross Slope, Travel Lanes. Cross slopes of 1.5% are acceptable on an existing bridge to remain in place.
- (6A) Cross Slope, Shoulder. See Figure 45-1A(1) or Figure 45-1A(2) for more-specific information.
- (7) Clear-Zone Width. This will vary according to design speed, traffic volume, side slopes, and horizontal curvature. See Section 49-2.0.
- (8) Side Slope. Value is for new construction. See Section 45-3.0 for more information. For a reconstruction project, see Section 49-3.0.
- (9) Foreslope. See Sections 49-2.0 and 49-3.0 for the lateral extent of the foreslope in a ditch section.
- (10) Ditch Width. A V-ditch should be used in a rock cut.
- (11) Backslope. The backslope for a rock cut will vary according to the height of the cut and the geotechnical requirements. See Sections 45-3.02 and 107-6.02 for typical rock-cut sections.

GEOMETRIC DESIGN CRITERIA FOR RURAL COLLECTOR, LOCAL-AGENCY ROUTE
 (New Construction or Reconstruction)
Figure 53-4 (Page 3 of 4)

- (12) Width, New or Reconstructed Bridge. See Section 402-6.02(01) for more information. The bridge clear-roadway width is the algebraic sum of the following:
- the approach traveled-way width;
 - the approach usable shoulder width without guardrail; and
 - a bridge-railing offset (see Figure 402-6H).
- (13) Width, Existing Bridge to Remain in Place. Clear-roadway width will be at least equal to the approach traveled-way width or the table value, whichever is greater. For a bridge longer than 100 ft, the value does not apply. The acceptability of such a bridge will be assessed individually.
- (14) Vertical Clearance, Collector Under. Value includes an additional 6 in. allowance for future pavement overlays. Vertical clearance applies from usable edge to usable edge of shoulders.
- (15) Vertical Clearance, Collector Over Railroad. See Chapter 402-6.01(03) for additional information on railroad clearance under a highway.
- (16) Superelevation Rate. See Section 43-3.0 for value of superelevation rate based on design speed and radius.
- (17) Horizontal Sight Distance. For a given design speed, the necessary middle ordinate will be determined by the radius and the sight distance which applies at the site. See Section 43-4.0.
- (18) Maximum Grade. For a grade along a longitudinal distance of less than 480 ft (PVT to PVC), a one-way downgrade, or a road with AADT < 400, the maximum grade may be up to 2% steeper than the table value.
- (19) Intersection Sight Distance. For a left turn onto a 2-lane roadway: P = Passenger car; SUT = single unit truck. See Figure 46-10G for value for a combination truck.

GEOMETRIC DESIGN CRITERIA FOR RURAL COLLECTOR, LOCAL-AGENCY ROUTE
(New Construction or Reconstruction)
Figure 53-4 (Page 4 of 4)

APPENDIX M

WELLS COUNTY
TRAFFIC COUNT MAPS

APPENDIX N

CRASH DATA INFORMATION

HOOSIER HIGHWAY CRASH DATA FROM SEPTEMBER 23, 2008 TO DECEMBER 27, 2017

HOOSIER HIGHWAY BETWEEN CR E 300 S to CR E 200 S														
MASTER AGENCY	LOCAL ID	DATE	TIME	# VEHICLES	# TRAILERS	# INJURED	# DEAD	# DEER	LOCATION	LIGHT CON	WEATHER	SURFACE COND	PRIMARY FACTOR	MANNER OF COLLISION
90306705E:WELLS SD	W178189	12/27/2017	1009	1	0	0	0	0	E 200 S & Hoosier Hwy	DAYLIGHT	CLEAR	ICE	RAN OFF ROAD RIGHT	RAN OFF ROAD
90292971E:WELLS SD	W173208	5/23/2017	1328	2	0	1	0	0	E 200 S & Hoosier Hwy	DAYLIGHT	CLEAR	DRY	FAILURE TO YIELD RIGHT OF WAY	RIGHT ANGLE
90292436E:WELLS SD	W173014	5/15/2017	1420	1	1	0	0	0	2340 Hoosier Hwy	DAYLIGHT	CLEAR	DRY	RAN OFF ROAD RIGHT	RAN OFF ROAD
90278963E:WELLS SD	W165746	10/5/2016	0705	1	0	0	0	1	2397 Hoosier Hwy	DAWN/DU	CLEAR	DRY	ANIMAL/OBJECT IN ROADWAY	COLLISION WITH DEER
90253418E:WELLS SD	W155704	10/6/2015	1740	2	0	0	0	0	E 200 S & Hoosier Hwy	DARK (NOT CLOUDY)	CLOUDY	ICE	SPEED TOO FAST FOR WEATHER CONDITIONS	RIGHT ANGLE
90247911E:WELLS SD	W153735	7/11/2015	0907	1	0	0	0	0	2255 Hoosier Hwy	DAYLIGHT	CLEAR	DRY	ANIMAL/OBJECT IN ROADWAY	COLLISION WITH DEER
90208403E:WELLS SD	W134845	9/13/2013	1445	2	0	0	0	0	2700 Hoosier Hwy	DAYLIGHT	CLEAR	DRY	RAN OFF ROAD RIGHT	RAN OFF ROAD
90202042E:WELLS SD	W132487	5/16/2013	0714	2	0	4	0	0	2706 Hoosier Hwy	DAYLIGHT	CLOUDY	DRY	FAILURE TO YIELD RIGHT OF WAY	RIGHT ANGLE
90197785E:WELLS SD	W130885	2/22/2013	0930	1	0	0	0	0	2920 Hoosier Hwy	DAYLIGHT	CLOUDY	ICE	OTHER (DRIVER) - EXPLAIN IN NARRATIVE	REAR END
90177088E:WELLS SD	W120341	1/19/2012	2245	1	0	0	0	0	2920 Hoosier Hwy	DARK (NOT CLOUDY)	CLOUDY	ICE	ROADWAY SURFACE CONDITION	RAN OFF ROAD
90164670E:WELLS SD	W112734	6/13/2011	0550	1	0	0	0	1	2092 Hoosier Hwy	DAWN/DU	CLOUDY	DRY	ROADWAY SURFACE CONDITION	RAN OFF ROAD
90133995E:WELLS SD	W101797	4/24/2010	2224	1	0	0	0	0	E 200 S & Hoosier Hwy	DARK (NOT RAIN)	WET	WET	ANIMAL/OBJECT IN ROADWAY	HEAD ON
90096439E:WELLS SD	90W08211	9/23/2008	1140	1	0	0	0	0	2245 Hoosier Hwy	DAYLIGHT	CLEAR	DRY	OTHER (ENVIRONMENTAL) - EXPLAIN IN NARRATIVE	EXPLAIN IN NARRATIVE
													RAN OFF ROAD RIGHT	RAN OFF ROAD