FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT

For

Indiana Project
Des. Number 1173760 et al
Kennedy Ave Reconstruction and New Grade Separated Railroad Crossing between US 30 and Main Street
Town of Schererville, Lake County, Indiana

The approved Environmental Assessment (EA) was released for public involvement by the Federal Highway Administration (FHWA) on December 28, 2021. The public comment period was from March 14, 2022, to May 2, 2022, and an in-person public hearing was held on March 30, 2022. Seventy-five (75) members of the public attended the meeting. Comments were received from twenty-six (26) members of the public and two (2) agencies (US Environmental Protection Agency and Lake County Soil and Water Conservation District). These comments provided no new substantive information requiring additional analysis.

The Town of Schererville proposes to reconstruct and widen Kennedy Avenue and build a grade separated crossing at the intersection of Kenney Avenue and Canadian National/Norfolk Southern (CN/NS) Railroad in Schererville, Lake County, Indiana. The project will correct roadway deficiencies, improve the operational capacity of Kennedy Avenue, and improve its connectivity to US 30 resulting in improved linkages in the area and a reduction in congestion and train related backups, emissions, vehicle crashes, and travel time delays.

Below is a summary of the scope of the project, but a full project description is identified as the “Preferred Alternative” in the Environmental Assessment Document:

- Full reconstruction of Kennedy Avenue along existing alignment from Junction Avenue to Main Street including widening from 2 to 4 lanes.
- Realign Kennedy Avenue as a 4 lane cross section from US 30 to Junction Avenue 750 feet to the west of current alignment to merge back into existing alignment at Junction Avenue.
- Existing Kenney Avenue south of Junction Avenue will be cul de saced south of the railroad crossing.
- Realign approximately 2,300 feet of Junction Avenue to the southeast and 650 feet of Public Works Drive to the northwest of Kennedy Ave
- Construct sidewalk or mutli-use path facilities along both sides of Kennedy Avenue
- Realign the Pennsy Greenway Trail to follow the realigned Junction Avenue southeast of Kennedy Avenue
- Construct stormwater drainage systems in the project area
- Install roadway lighting

- Install traffic signals and dedicated turn lanes at cross streets as warranted throughout the project area
- Construct a grade separated crossing over the NC/NS Railroad
- Eliminate Scherland Drive crossing of Kennedy Avenue and cul de sac the road.

After the public hearing, the project scope changed to include an additional driveway to connect Barbara Street and Oak Street west of the Kennedy Avenue. This area is located within the limits of the environmental studies completed for the project and additional coordination and investigations are not needed.

The project has been divided into four construction phases with Phase 1, the grade separated railroad crossing, located within the limits of Phase 2. Phase 2 extends from Junction Avenue to Oak Street, Phase 3 extends from Oak Street to Main Street, and Phase 4 extends from US 30 to Junction Avenue.

The right-of-way amounts for the project total 34.51 acres of permanent and 1.2 acres of temporary right-of-way. The right-of-way acquisitions are mostly from commercial, residential, industrial, and municipal properties with minor amounts from the railroads and the state. A total of 47 properties will require full acquisition, including 40 residences, 6 commercial businesses and 1 football league facility owned by the Town of Schererville.

A Conceptual State Relocation Study was completed, and it found there were an adequate number of residential replacement properties available for sale or rent in the area. The study found that it should be relatively easy for four of the six businesses to relocate in the area, but it may be more difficult for the two largest companies, a recreational vehicle sales business and a landscaping company, to relocate within the area. The recreational football league has been offered space in another town that is part of the three towns making up the football organization and the Town of Schererville has offered to find another facility within the area.

There will be four (4) streams with a total of 867 linear feet permanently impacted by the project, and a total of 5.548 acres of wetlands will be impacted. The project has been designed to minimize stream and wetland impacts where possible within the project area. Stream and wetland impacts will be mitigated through the waterway permitting process in compliance with federal and state regulations.

Terrestrial habitats impacted permanently by the project include approximately 14.66 acres of mowed roadside, commercial and residential lawn areas, and a total of 8.5 acres of trees will be removed. Total terrestrial impacts are approximately 23.16 acres.

The project is within range of the federally endangered Indiana bat, the federally threatened Northern long-eared bat (NLEB), the federally endangered Karner blue butterfly, and the federally endangered rusty patched bumble bee. On October 20, 2020, the USFWS concurred with the “Not Likely to Adversely Affect” finding for the bats. On August 31, 2020, the USFWS concluded the Karner blue butterfly is no longer in the area.

And, on November 4, 2020, the USFWS concurred no additional coordination for the rusty patched bumble bee since the area is in a low potential zone for the bee.

There are no properties that are listed on or eligible for listing on the National Register of Historic Places within the area of potential effect for the project. There will be no historic properties affected by the project. The State Historic Preservation Officer concurred with the finding on February 15, 2021.

There is one Section 4(f) resource within or adjacent to the project area. The Hoosier Prairie, a publicly owned nature preserve, is within the northern limits of the project area. Construction will take place within the existing roadway easement in that area and there will be no use of the Hoosier Prairie. The Pennsy Greenway Trail, which is considered a transportation facility and is not a Section 4(f) resource, will be realigned as part of this project. The publicly owned facility used by the Pop Warner Youth Football League is not considered or maintained as a park or recreation facility open to the public and is, therefore, is also not considered a Section 4 (f) resource.

This project is located in Lake County, which is currently a nonattainment area for 2008 “8-hour” standard for ozone. The project’s design concept and scope are accurately reflected in both the Northwest Indiana Regional Planning Commission’s 2050 Long Range Metropolitan Transportation Plan and Transportation Improvement Plan, and both conform to the State Implementation Plan. Therefore, the conformity requirements of 40 CFR 93 have been met.

This project is considered a Type 1 project in terms of analyzing traffic noise impacts. Therefore, in accordance with 23 CFR 772 and the INDOT Traffic Noise Analysis Procedures (2017), this action required a formal noise analysis. Based on the studies completed, 17 impacted receptor locations will have noise impacts. However, noise abatement not feasible based on engineering and acoustical reasons due to the lack of access control resulting from existing driveway access points. Therefore, the project will not include noise abatement.

It was determined that the impacts associated with this project will not have a disproportionately high and adverse effect on minority and/or low-income populations of Environmental Justice (EJ) concern relative to non-EJ populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23a.

There are 9 commitments listed as firm commitments and 19 included for further consideration.

The FHWA has determined that this project, as identified in the Environmental Assessment and supplemental project information, will have no significant impact on the natural and human environment. This Finding of No Significant Impact (FONSI) is based on the environmental assessment, public hearing transcript, public and agency comments

received. They have been independently evaluated by the FHWA and determined to adequately and accurately discuss the environmental issues and impacts of the project. These documents provide sufficient evidence and analysis for determining that significant impacts will not occur and an environmental impact statement is not required. The FHWA takes full responsibility for the accuracy, scope, and content of these documents.

July 12, 2022

MICHELLE B ALLEN

Digitally signed by MICHELLE B ALLEN
Date: 2022.07.12 07:18:51 -04'00'

Date

for: Jermaine R. Hannon
Division Administrator

FHWA-Indiana Environmental Document

CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

GENERAL PROJECT INFORMATION

Road No./County:	**Kennedy Avenue, Lake County, Indiana**
Designation Number(s):	**1173760, 1382603, 1902000, 1801911 and 1900834**
Project Description/Termini:	**Kennedy Avenue Reconstruction, US 30 to Main Street**

	Categorical Exclusion, Level 2 – Required Signatories: INDOT DE and/or INDOT ESD
	Categorical Exclusion, Level 3 – Required Signatories: INDOT ESD
	Categorical Exclusion, Level 4 – Required Signatories: INDOT ESD and FHWA
X	**Environmental Assessment (EA) –** Required Signatories: INDOT ESD and FHWA
	Additional Investigation (AI) – The proposed action included a design change from the original approved environmental document. Required Signatories must include the appropriate environmental approval authority

Release for Public Involvement

Ronald E. Bales	December 28, 2021	KARSTIN MARIE CARMANY-GEORGE Digitally signed by KARSTIN MARIE CARMANY-GEORGE Date: 2021.12.28 14:48:07 -05'00'	12/28/21
ESD Signature	Date	FHWA Signature	Date

Certification of Public Involvement Lisa Shrader — Office of Public Involvement; 05/02/2022 — Date

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

INDOT ES/District Env. Reviewer Signature: Terri Fair Date: 12/28/2021

Name and Organization of CE/EA Preparer: Jason A. Stone, DLZ Indiana, LLC

Part I – Public Involvement

Every Federal action requires some level of public involvement, providing for early and continuous opportunities throughout the project development process. **The level of public involvement should be commensurate with the proposed action.**

	Yes	No
Does the project have a historic bridge processed under the Historic Bridges PA*?		x
If No, then:		
Opportunity for a Public Hearing Required?	x	

**A public hearing is required for all historic bridges processed under the Historic Bridges Programmatic Agreement between INDOT, FHWA, SHPO, and the ACHP.*

Discuss what public involvement activities (legal notices, letters to affected property owners and residents (i.e. notice of entry), meetings, special purpose meetings, newspaper articles, etc.) have occurred for this project.

Notice of Entry letters were mailed to potentially affected property owners near the project area on December 18, 2013 notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G, page 1.

To meet the public involvement requirements of Section 106, a legal notice of FHWA's finding of "No Historic Properties Affected" was published in the Times of Northwest Indiana on February 22, 2021 offering the public an opportunity to submit comment pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4). The public comment period closed 30 days later on March 25, 2021. The text of the public notice and the affidavit of publication appear in Appendix D, page 303. No comments were received.

The proposed project is being processed as an Environmental Assessment (EA). Per the current *Indiana Department of Transportation (INDOT) Public Involvement Manual*, a public hearing will be conducted. Upon release of the EA for public involvement, a legal advertisement will be placed in a local publication notifying the public of the EA's availability for review and comment for a period of 30 days. The legal notice will appear in local publications of general circulation, contingent upon the release of this document for public involvement, announcing the availability of the environmental documentation, and the date and venue of the public hearing at least 15 days and again at least seven days in advance of the event. The hearing will allow the public to formally provide comments on the preferred alternative and potential effects to the social and natural environments. Comments will be accepted for a period of 15 days following the hearing. A Notice of Availability (NOA) will be advertised in the same local publications and mailed to the established mailing list compiled for the project, announcing the availability of the approved environmental document and disposition of public comments.

Community Advisory Committee (CAC):

A Community Advisory Committee (CAC) was established for this project. A CAC is comprised of stakeholders from groups and entities such as adjacent neighborhoods, businesses, community groups, educators, religious groups, and representatives from various departments of your local governments. The role of a CAC is to facilitate communication between project team members and representatives of potentially impacted and key constituent groups in the project area.

CAC Meeting #1:
CAC Meeting #1 was held on April 9, 2018 at the Schererville Town Hall. The purpose of CAC Meeting #1 was to introduce the project team to the CAC members, to explain the role of the CAC in project development, to review the Kennedy Avenue corridor within the project area, to discuss the project purpose and need and to discuss the development of preliminary alternatives (15 in total) within the corridor. Minutes of this meeting are presented as Appendix G, pages 2 – 9.

CAC Meeting #2:
CAC Meeting #2 was held on July 10, 2018 at the Schererville Town Hall. The purpose of CAC Meeting #2 was to review input received from CAC Meeting #1, and to inform the CAC that of the 15 preliminary alternatives considered, Alternatives 2A and 2B appear to be most favorable. Large graphics of these alternatives were presented and discussed. Other topics of conversation were the "Do Nothing" alternative, an overview of the right of way acquisition process and access considerations. Minutes of this meeting are presented as Appendix G, pages 10 – 14.

CAC Meeting #3:
CAC Meeting #3 was held on May 21, 2019 at the Schererville Town Hall. The purpose of CAC Meeting #3 was to review input

received from CAC Meeting #2 and to discuss the Preferred Alternative. Based upon input received from the CAC during and subsequent to CAC Meeting #2, a Preferred Alternative alignment was developed as a hybrid of Preliminary Alternatives 2A and 2B. Justification for development of a Preferred Alternative alignment versus continued analysis of Preliminary Alternatives 2A and 2B was based on the reduction in severity of impacts to residential parcels south of 67th Avenue while maintaining a south terminus at the existing Joliet Street/US 30 intersection, without any offsetting increases in other social, economic and environmental impacts. Minutes of this meeting are presented as Appendix G pages 15 – 18.

CAC Outreach Via E-mail:
On April 20, 2021, the CAC was contacted via e-mail. The CAC was informed that aspects of the project had been reevaluated and that the design had been refined. Key among the design refinements were elimination of the pedestrian pathway along the east side of the Kennedy Avenue bridge over the NS/CN Railroads and the Kennedy Trail along the Norfolk Southern Railroad right of way and pipeline easement along the continuation of Division Street east of Kennedy Avenue. A graphic of the design was provided with the e-mail. Additionally, information regarding Environmental Justice (EJ) populations was requested to determine if the CAC is aware of EJ or otherwise underserved populations present along the Kennedy Avenue corridor from US 30 to Main Street. The CAC did not provide any information relating to EJ populations. Comments were received from the CAC relating to properties to be relocated, the possibility of retaining the eliminated pedestrian pathways, drainage and provision of a traffic signal at the Kennedy Avenue/Junction Avenue intersection. The CAC Outreach e-mail and responses received are presented as Appendix G, pages 19 – 23.

Public Controversy on Environmental Grounds

Discuss public controversy concerning community and/or natural resource impacts, including what is being done during the project to minimize impacts.

At this time, there is no substantial public controversy concerning impacts to the community or to natural resources.

Part II - General Project Identification, Description, and Design Information

Sponsor of the Project: Town of Schererville, Indiana INDOT District: LaPorte

Local Name of the Facility: Kennedy Avenue

Funding Source (*mark all that apply*): Federal [x] State [x] Local [x] Other* [ ]

*If other is selected, please identify the funding source: _____

PURPOSE AND NEED:

The need should describe the specific transportation problem or deficiency that the project will address. The purpose should describe the goal or objective of the project. The solution to the traffic problem should NOT be discussed in this section.

Project Need:
Three distinct needs have been identified for the Town of Schererville's proposed project for improvements to Kennedy Avenue between US 30 and the intersection of Kennedy Avenue and Main Street. They are operational capacity, system linkage, and roadway deficiencies. The needs for this project are supported by local planning efforts within the Town, and from a regional perspective by Northeastern Indiana Regional Planning Commission (NIRPC). The Town has identified Kennedy Avenue as an important north-south roadway with linkage to US 30 that may provide opportunities for redevelopment, as noted in the Town of Schererville's current (2009) Comprehensive Plan.

NIRPC has identified potential improvements to the Kennedy Avenue corridor from US 30 to Main Street as having a positive local and regional significance in previous and current documented programs and initiatives including; "Northwest Indiana At-Grade Crossing Report," "Northwest Indiana 2050 Plan" (NWI 2050 Plan), and "NIRPC Regional Corridor Study" (RCS).

Various contributing factors for congestion were cited in the CRP along the Kennedy Avenue corridor. These factors include lack of intersection turn lanes, the number of vehicular crashes, road blockage from train traffic at the CN/NS crossing, and lack of connectivity.

The RCS evaluated various roadway corridors throughout the NIRPC's planning area. A total of 22 roadway segments were selected for evaluation in Lake, Porter and LaPorte counties. The roadway corridors that were selected for the study were those determined to have "missing links" in the transportation system. The results of this study were produced over a 2-year period (July 2014 through June 2016), involved various local public agency stakeholders who identified regional roadways that met the criteria for further evaluation and could potentially have a positive impact upon the regional transportation system. After selection of the roadways for the study, a set of criteria were developed to evaluate each roadway's capability to address factors such as:

- Located in an area that has Level of Service (LOS) for travel times of D, E or F identified in the NIRPC 2050 CRP.
- Regional significant impact to relieve vehicle congestion (based upon NIRPC's regional transportation model).
- Located in an area that has a significant number of crashes.
- Improve connectivity between existing urban areas and activity centers.
- Improve connectivity to state highway system, major principal roadways and existing/proposed significant regional corridors.
- Serve high employment and population centers.

Of all roadways examined by the NIRPC corridor study, the Kennedy Avenue corridor ranked 5th overall for currently meeting the criteria and/or having the potential to be a regionally significant project in the NIRPC planning area. The Kennedy Avenue corridor received a rating of 81 points on a scale 0 to 100 points, with 100 meeting 100% of the criteria. In comparison with the other roadway segments evaluated, the 22 identified regional corridors were rated between a range of 34 to 85 points, reflecting the lowest and highest rated corridors, respectively, within the NIRPC planning area.

The NIRPC RCS identified that Kennedy Avenue's crash rate (from US 30 to US 12) ranks third highest out of the top 25 evaluated corridors in Lake County. The NIRPC corridor study indicated that the immediate roadway network surrounding the Kennedy Avenue corridor had LOS values of F.

The CN and NS railroad crossings are parallel and adjacent to each other. While the NS Railroad is currently inactive, the CN Railroad currently has traffic of 26 trains/day at the at-grade crossing of Kennedy Avenue. Backups in traffic are noted, especially during the peak periods of the day. The Northwest Indiana At-Grade Crossing Study identified the Kennedy Avenue at-grade crossing as one of the 15 High Priority Grade Separations within the NIRPC planning area. As stated in the report… "Analysis of traffic volumes, train volumes, Federal Railroad Administration (FRA) accident prediction index and stakeholder input refined the list (of 80 railroad crossings) to 15 high priority areas, some with multiple crossings." Currently, vehicles are exposed to the active CN Railroad crossing, resulting in safety concerns that are the result of, and directly support the identification of congestion and delays as primary needs for the project.

Operational Capacity:
The first need for the proposed project relates to the operational capacity of Kennedy Avenue. Most notably, there are frequent traffic back-ups and delays observed at various locations along the Kennedy Avenue corridor, especially during peak hours. Kennedy Avenue currently possesses a LOS value of F. The NIRPC corridor study indicated improvements to Kennedy Avenue would provide increased capacity and connectivity.

Traffic congestion/backups occur on Kennedy Avenue at the Division Street intersection, the Main Street intersection, the US 30 intersection and the at-grade crossing of the Canadian National Railroad and Norfolk Southern (CN/NS) Railroad. Of further note are the number and type of vehicle crashes at these locations. A report generated by the Schererville Police Department on 10/1/21

indicating the last 3-5 years of crash data for the corridor (Appendix I, page 12) notes the most predominant crash type is the rear-end type collision, which is an indicator of congested conditions.

System Linkage:
The second need for the project relates to system linkage with respect to local travel demands along the Kennedy Avenue corridor, as well as regional travel demands extending to I-80/94, US 12/US 20, and US 30. Northern Lake County currently provides numerous east-west roadways that provide linkages between communities; however, there is a lack of north-south roadways that provide similar connections. Over the years, the Town of Highland has made improvements to the Kennedy Avenue corridor across the length of their jurisdiction from I-80/94 to the north project terminus at Main Street. North of Highland, Kennedy Avenue is an important roadway and is a 4–lane facility through Hammond and East Chicago. Improvements between US 30 and Main Street would further enhance system linkage and improve north- south connectivity, particularly given the existing connectivity break within the Kennedy Avenue corridor at the Norfolk Southern Railroad, just south of Junction Avenue.

Roadway Deficiencies:
The third need for the proposed project relates to Kennedy Avenue's existing roadway deficiencies. The existing Kennedy Avenue roadway is in generally poor condition. The deficiencies include inadequate shoulder width, insufficient storm water management, lack of access control, absence of auxiliary lanes (i.e., left turn lanes) and deteriorated pavement. Additionally, the Kennedy Avenue at-grade crossing of the CN Railroad exhibits daily traffic delays and has been identified by NIRPC to be a high-priority location in need of mitigation.

Project Purpose:
The purpose of the project is to correct the existing roadway deficiencies; to improve the operational capacity of Kennedy Avenue such that it will possess a minimum LOS value of D through the project design years; and to improve Kennedy Avenue's linkage to US 30, a local east-west arterial at the southern project termini. Improving Kennedy Avenue's linkage would allow for access along Kennedy Avenue to additional arterials beyond the immediate area such as 45th Street, Ridge Road and 165th Street, as well as regional facilities such as I-80/94, and US 12/US 20 that do not exist south of Junction Avenue, currently. Improvements along the Kennedy Avenue corridor will moderate existing and future congestion/backups within the corridor, with related benefits including reduced emissions, vehicular crashes and travel time delays.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Lake County Municipality: Town of Schererville, Indiana

Limits of Proposed Work: Along Kennedy Avenue, US 30 to Main Street.

Total Work Length: Approximately 2.2 Mile(s) Total Work Area: 50.4 Acre(s)

	Yes[1]	No
Is an Interstate Access Document (IAD)[1] required?		x
If yes, when did the FHWA provide a Determination of Engineering and Operational Acceptability?	Date:	

[1] *If an IAD is required; a copy of the approved CE/EA document must be submitted to the FHWA with a request for final approval of the IAD.*

Describe location of project including township, range, city, county, roads, etc. Existing conditions should include current conditions, current deficiencies, roadway description, surrounding features, etc. Preferred alternative should include the scope of work, anticipated impacts, and how the project will meet the Purpose and Need. Logical termini and independent utility also need discussed.

The Town of Schererville, with funding from the Federal Highway Administration (FHWA), Local Trax funding and administrative oversight from the Indiana Department of Transportation (INDOT), proposes to proceed with a project for improvements along Kennedy Avenue between US 30 and Main Street.

DLZ Indiana, LLC (DLZ) is the consultant contracted by the Town of Schererville to perform environmental studies for roadway improvements along Kennedy Avenue. Environmental studies were initiated in 2013. Des. Nos. assigned to the Kennedy Avenue Improvements project include 1173760, 1382603 and 1902000. In 2019, the Town of Schererville was awarded funds from the State of Indiana safety initiative called Local TRAX, which provides funding for large-scale rail-related transportation projects aimed at improving safety as well as the quality of life for residents. The Local TRAX project awarded to the Town of Schererville is for construction of a grade-separated crossing of the active Canadian National/Norfolk Southern (CN/NS) railroad corridor and was assigned Des. Nos. 1801911 and 1900834. This project is within the Kennedy Avenue Improvements project's overall project limits; however, a separate NEPA study and Section 106 review were initiated for the Local TRAX project as a stand-alone project. Crawford, Murphy and Tilly, Inc. (CMT) is the consultant contracted by INDOT to perform environmental studies for the Local TRAX project. On June 16, 2020 the Project Team made the recommendation to INDOT that the Local TRAX project should be combined with the Kennedy Avenue Improvements project. INDOT accepted this recommendation. Therefore, the projects should be considered part of the same federal undertaking for review under the National Environmental Policy Act (NEPA). Unless otherwise indicated, "the project", as referenced in the following sections of this document, pertains to improvements to Kennedy Avenue between US 30 and Main Street, including a grade separated crossing of the CN/NS railroad (Des. Nos. 1173760, 1382603, 1801911, 1900834, 1902000).

Project Location:

The project is located in Sections 4, 9, and 16 of Township 35 North, Range 9 West and in Section 33 of Township 36 North, Range 9 West in the Town of Schererville, in Lake County, Indiana. The project will make improvements along Kennedy Avenue between US 30 and Main Street. Refer to Appendix B, Pages 1 - 3. Project area photographs are presented as Appendix B, pages 5 – 13, Appendix D, pages 38 – 207 and Appendix F, pages 39 – 86 and pages 224 – 271.

Existing Conditions:

Within the project area, Kennedy Avenue is functionally classified as a Minor Arterial roadway and extends from Joliet Street (Old US 30) to just south of the former Norfolk Southern Railroad and then from north of the former Norfolk Southern Railroad to Main Street. Continuous north-south travel along Kennedy Avenue between the project termini is not possible.

Existing Kennedy Avenue provides one travel lane in each direction; travel lanes are 10 feet to 11 feet wide. The Kennedy Avenue pavement is in generally poor condition. Concrete curb and gutter are present south of the intersection at Main Street for approximately 300 feet. No paved shoulders are present except those just south of the curb and gutter at Main Street for approximately 200 feet. Left-turn lanes are present only at the Kennedy Avenue/Main Street intersection, which is the project's north terminus. Roadside pedestrian facilities within the project area are limited to sidewalks (5 feet wide) along the east side of Kennedy Avenue, along the frontage of clustered residential properties in the portion of the project area south of the former Norfolk Southern Railroad (formerly Penn Central). No pedestrian facilities are present in the remainder of the project area. Land uses in the project area include residential, commercial and industrial. In addition, the Indiana Dunes National Lakeshore/Hoosier Prairie State Nature Preserve (Hoosier Prairie) abuts the east side of the project area, between Oak Street and Main Street.

Three railroad corridors cross the project area. These railroad corridors are as follows:

- Proceeding northerly from the south project terminus, the first rail corridor is the former Norfolk Southern Railroad (formerly Penn Central) that runs northwest and southeast through the project area. The Town has recently completed construction of the second and third phases of their Pennsy Greenway Trail along this former rail corridor.
- The second rail corridor is the active Canadian National Railroad (CN), a Class I, interstate railroad which runs southwest and northeast. The CN crossing is on a list with the other top 15 crossings in the northwestern Indiana region to be considered for grade separation. This is a very active railroad corridor and the Northwestern Regional Planning Commission (NIRPC) has completed a study of delays caused by at-grade roadway crossings and the railroad gate down data for 25 railroad crossings throughout the region.
- The third rail corridor is the Norfolk Southern Railroad (NS), a Class I railroad that runs parallel and adjacent to the north side of the Canadian National Railroad. This railroad has suspended service on this rail corridor and is now considered former.

Preferred Alternative:

The Preferred Alternative is for full reconstruction of Kennedy Avenue primarily along the existing alignment between US 30 and Main Street, a distance of approximately 2.2 miles. The proposed Kennedy avenue roadway typical section will provide two 11-foot lanes in each direction with 11-foot turn lanes at intersecting roadways. The project will include non-motorized transportation elements on both sides of the roadway from US 30 to Junction Avenue, such as sidewalk/multi-use path facilities separated from the

roadway by grass tree lawns. The project includes improvements to the stormwater drainage system, roadway lighting, traffic signals, pavement markings and signage. The project includes construction of an elevated crossing of the CN/NS Railroad.

For the purposes of constructability and funding, the Kennedy Avenue Improvements project will be implemented in the following phases, with detailed descriptions and termini as indicated below:

Phase 1: Approximately Division Street to approximately Scherland Drive – Des. Nos. 1801911 and 1900834:

Note that this phase is within the limits of Phase 2. Phase 1 is for construction of a grade separation at the CN/NS railroad corridor and will be constructed prior to or in conjunction with the work described above under Phase 2. Within the limits of this phase, the existing Kennedy Avenue roadway will be widened from 2 lanes (one in each direction) to four 11-foot wide lanes (two in each direction). The proposed overpass will cross the railroad corridor using a beam type bridge structure. Mechanically stabilized earth (MSE) walls will be constructed on both side of the roadway to minimize the project footprint. The overpass will accommodate four lanes of traffic. The overpass bridge will provide the minimum 23-foot vertical, and 26-foot horizontal clearances as required by the American Railway Engineering and Maintenance-of- Way Association (AREMA) and the railroads. Guardrail will be required on the east and west side of the roadway from the bridge to the point where the elevated roadway transitions down to the existing roadway elevation. The project will construct a storm water detention facility and access driveway in the northeast quadrant of the bridge to facilitate access to a linear parcel on the north side of the railroad and allow for storm water management.

Phase 2: Approximately Junction Avenue to approximately Oak Street – Des. No. 1382603

Kennedy Avenue:
The existing Kennedy Avenue typical section consists of two, 11-foot wide lanes. Kennedy Avenue will be widened to provide four, 11-foot wide lanes, consisting of two northbound and two southbound lanes.

Eleven-foot wide left turn lanes are proposed in the following locations: northbound and southbound Kennedy Avenue at Junction Avenue; southbound Kennedy Avenue at Division Street; and, northbound and southbound Kennedy Avenue at Oak Street.

The outside southbound lane of Kennedy Avenue at the southern end of Phase 1 will be right turn only into the Schererville Public Works drives until Phase 3 of Kennedy Avenue is complete. The outside northbound lane of Kennedy Avenue at Oak Street will be a right turn only onto Oak Street until Phase 4 of Kennedy Avenue is complete.

Curb and gutter is proposed on both sides of Kennedy Avenue with curb turn outs and storm sewer inlets that will outlet directly to proposed roadside swales. Short segments of storm sewer are proposed for Kennedy Avenue just south of Junction Avenue and just south of Division Street. A hydraulic analysis will be completed to determine if detention or retention ponds will be necessary at the northwest or southeast corner of Junction Avenue at Kennedy Avenue.

Existing Kennedy Avenue at realigned Kennedy Avenue will be reconstructed as a cul-de-sac with curb and gutter.

The intersection traffic control at Kennedy Avenue and Junction Avenue, Division Street and Oak Street will be analyzed for stop control or traffic signal warrants. It is anticipated that these intersections will meet traffic signal warrants and that traffic signals will be provided.

Junction Avenue –Kennedy Avenue to 2,300 feet east of Kennedy Avenue:
The existing Junction Avenue typical section consists of two 11-foot wide lanes. From a point approximately 2,300 feet east of Kennedy Avenue, Junction Avenue will be shifted to the south to the existing Pennsy Trail right of way. Some widening will be required for the proposed curb and gutter. An 11-foot wide left turn lane will be added at the Kennedy Avenue intersection.

Curb and gutter is proposed on both sides of Junction Avenue east of Kennedy Avenue with curb turn outs and storm sewer inlets that will outlet directly to a proposed roadside swale.

The Pennsy Greenway Trail will be realigned to follow the south side of realigned Junction Avenue east of Kennedy Avenue. The trail is proposed to be a 10-foot wide asphalt trail with 2-foot wide aggregate shoulders.

Junction Avenue – Public Works Drive to 650 feet Northwest:
The existing Junction Avenue typical section consists of two 11-foot wide lanes with 2-foot aggregate shoulders on each side with ditches or shallow swales. Junction Avenue will be realigned to the south to intersect the current Public Works Driveway. No additional turn lanes are proposed at the Public Works drive.

Existing drainage patterns will be perpetuated through proposed Junction Avenue roadside swales.

The Pennsy Greenway Trail will be realigned to follow the west side of Junction Avenue. The trail is proposed to be a 10-foot wide asphalt trail with 2-foot wide aggregate shoulders.

Town of Schererville Public Works Drive - 500 feet West of Kennedy Avenue to Kennedy Avenue:
The Town of Schererville Public Works drive will be realigned to intersect Kennedy Avenue opposite Junction Avenue east of Kennedy Avenue. The Public Works drive will provide two, 11- foot wide lanes. Two-foot wide aggregate shoulders will be added to the roadway. No additional turn lanes are proposed for the Public Works drive at Kennedy Avenue.

Existing drainage patterns will be perpetuated through proposed Public Works drive roadside swales.

The Pennsy Greenway Trail will be realigned on the south side of the Public Works drive. The trail is proposed to be a 10-foot wide asphalt trail with 2-foot wide aggregate shoulders.

Division Street – Kennedy Avenue to 275 feet East of Kennedy Avenue:
The existing Division Street typical section consists of two 11-foot lanes with 1-foot aggregate shoulders on each side with ditches or shallow swales. Division Street will be improved to provide two, 11-foot wide through lanes with an 11-foot wide left turn lane east of Kennedy Avenue.

Curb and gutter is proposed on both sides of Division Street east of Kennedy Avenue with proposed roadside swale.

Scherland Drive – Kennedy Avenue to 210 feet east of Kennedy Avenue:
Scherland Drive at Kennedy Avenue will be reconstructed as a cul-de-sac with curb and gutter.

Oak Street – 360 feet West of Kennedy Avenue to 260 feet East of Kennedy Avenue:
The existing Oak Street typical section consists of two 11-foot lanes. Oak Street will be improved to provide two, 11-foot wide through lanes with an 11-foot wide left turn lane east and west of Kennedy Avenue.

Curb and gutter is proposed on both sides of Oak Street east and west of Kennedy Avenue with curb turnouts that will outlet to proposed and existing roadside swales.
A 6-foot wide sidewalk is proposed on the south side of Oak Street east of Kennedy Avenue.

The existing topography of the area is rather flat; however, the existing topography and proposed alignments will be analyzed to determine where guardrail, retaining walls, and pedestrian fence/rail for along proposed sidewalk may be needed when this phase is designed.

Existing driveways will be maintained at their current alignment unless otherwise noted.

Phase 3:Approximately Oak Street to Main Street – Des. No. 1173760:

Kennedy Avenue:
The existing Kennedy Avenue typical section consists of two 11-foot lanes. Kennedy Avenue is proposed to be expanded to four, 11-foot wide lanes in this phase, two northbound and two southbound. An 11-foot wide left turn lane is proposed at Main Street. An 11-foot wide right turn lane will be added along Main Street west of Kennedy Avenue.

Curb and gutter is proposed on both sides of Kennedy Avenue with curb turn outs and storm sewer inlets that will outlet directly to proposed roadside swales. Topographic survey information and hydraulic analysis will determine how the west swale will outlet to the existing Spring Street Ditch west of Kennedy Avenue.

The existing traffic signal at Main Street and Kennedy Avenue will be reconfigured for the revised lane configuration.

The outside northbound lane of Kennedy Avenue at Main Street will be a right turn only onto Main Street.

The existing topography of the area is rather flat; however, the existing topography and proposed alignments will be analyzed to determine where guardrail and retaining walls may be needed when this phase is designed.

Existing driveways will be maintained at their current alignment unless otherwise noted.

Phase 4: Approximately US 30 to approximately Junction Avenue – Des. No. 1902000

Kennedy Avenue:
The existing Kennedy Avenue typical section consists of two 11-foot lanes. Beginning at US 30, Kennedy Avenue will be realigned approximately 750 feet to the west of the current alignment. The alignment will run northerly and then turn northeasterly to merge with the current alignment just south of Junction Avenue. The roadway will be widened to four, 11-foot wide lanes in this phase, two northbound and two southbound. There will be an 11-foot wide left turn lane and two 11-foot wide right turn lanes at US 30. A second 11-foot wide left turn lane will be added along US 30 west of Kennedy Avenue.

Curb and gutter is proposed on both sides of Kennedy Avenue in this phase with curb turn outs and storm sewer inlets that will outlet directly to proposed roadside swales on the east side and an existing roadside ditch on the west side.

A hydraulic analysis will be completed to determine if detention or retention ponds will be necessary at the southeast corner of Joliet Street at Kennedy Avenue.

The intersection traffic control at Kennedy Avenue and Joliet Street will be analyzed for stop control or traffic signal warrants. It is anticipated that this intersection will meet traffic signal warrants and that traffic signals will be provided. The existing traffic signal at US 30 and Kennedy Avenue will be reconfigured for the revised lane configuration.

An 8-foot wide multi-use path is proposed on the west side of Kennedy Avenue that will connect to the multi-use path in Phase I of the project.

Joliet Street – 1,150 East of Kennedy Avenue:
The existing Joliet Street typical section consists of two 11-foot lanes. Joliet Street east of Kennedy will be relocated to the northwest to allow for additional spacing between its intersection with Kennedy Avenue and the US 30 intersection with Kennedy Avenue. There are two 11-foot wide lanes along Junction Avenue. An 11-foot wide left turn lane is proposed at Kennedy Avenue.

Curb and gutter is proposed on both sides of Junction Avenue east of Kennedy Avenue with storm sewer inlets that will outlet directly to the existing storm sewer system and proposed roadside swales.

A 6-foot wide sidewalk is proposed on the north side of Joliet Street to continue the existing sidewalk and connect to the Kennedy Avenue sidewalk.

Existing Kennedy Avenue – 230 feet North of Joliet Street:
The realignment of Kennedy Avenue at Joliet Street is proposed in this phase of the project. There are two, 11-foot wide lanes with 2-foot wide aggregate shoulders. No widening is proposed.

Existing drainage patterns will be perpetuated.

Existing Kennedy Avenue – 210 feet South of Realigned Kennedy Avenue:
Existing Kennedy Avenue at proposed Kennedy Avenue, just south of Junction Avenue, will be reconstructed as a cul-de-sac with curb and gutter.

The existing topography of the area is rather flat; however, the existing topography and proposed alignments will be analyzed to determine where guardrail, retaining walls, and pedestrian rail/fence along proposed multi-use trail or sidewalk may be needed when this phase is designed.

Existing driveways will be maintained at their current alignment unless otherwise noted.

The Maintenance of Traffic (MOT) for the project will require that non-local vehicular traffic is detoured during most phases of construction. Local access to properties will be maintained. Refer to the Maintenance of Traffic Section of this document for additional information. The project requires acquisition of adjacent land for right of way purposes. The project will result in impacts to wetlands and surface water streams. Section 401/404 permitting is likely required. The project will impact floodway areas and IDNR Construction in a Floodway permitting is likely required. The project requires acquisition of land for right of way purposes and will result in relocations of residences and businesses. Every effort to avoid, minimize, and/or mitigate project impacts will be made. Project plan sheets are presented as Appendix B, pages 14 – 37.

Satisfaction of Purpose and Need Logical Termini, by Project Phase:

Phase 1:
Phase 1 involves construction of a grade separated crossing of the CN/NS Railroad corridor, as well as the roadway approach work necessary to tie the required elevation change back to the existing ground elevations and additional roadway approach work to reach an appropriate stopping point. Division Street to the south and Scherland Drive to the north were determined appropriate, logical termini as these are nearby intersecting roadways. Vehicular exposure to this railroad crossing would be eliminated, resulting in improved safety conditions for motorists as compared to at-grade improvements. The project would satisfy the project need for improved roadway deficiencies by constructing a grade separated crossing of the CN/NS Railroad corridor and approach roadway improvements.

Phase 2:
Phase 2 of the project would involve roadway improvements starting at Junction Avenue and terminating at Oak Street. Phase 2 would include improvements to the roadway approaches to the Division Street intersection. Junction Avenue is a logical terminus as Junction Avenue allows for connection to US 30 via Lincoln Highway. Division Street is a logical terminus as it is the south terminus of Phase 1. Improvements to Junction Avenue would satisfy the project need for improvement of roadway deficiencies, with additional system linkage and operational capacity benefits.

Phase 3:
Phase 3 of the project would involve roadway improvements starting at Oak Street and terminating at Main Street. Oak Street is a logical terminus as it is the north terminus of Phase 2. Main Street is a logical terminus as there are existing improvements in place along Kennedy Avenue extending from this point to the north. Improvements within Phase 3 would satisfy the project need for improvement of roadway deficiencies, as well as system linkage and operational capacity by extending the improved section of Kennedy Avenue south of Main Street.

Phase 4:
Phase 4 of the project would involve roadway improvements starting at US 30 and terminating at Junction Avenue. US 30 is a logical terminus as this is the end of the Kennedy Avenue corridor. Junction Avenue is a logical terminus as it demarcates the transition from a predominantly residential area to a commercial/industrial area. Improvements within Phase 4 would satisfy the project need for improvement of roadway deficiencies, as well as system linkage and operational capacity by constructing roadway improvements and eliminating the existing break in Kennedy Avenue continuity at the former Norfolk Southern Railroad.

Independent Utility:
The project has independent utility as it does not rely on completion of any other projects to satisfy its purpose and need.

Current average daily traffic (ADT) and design year ADT values are reported in the Roadway Character section of this document, below. The base year annual average daily traffic (AADT) traffic data source is the Northwest Indiana Regional Plan Commission Regional Traffic Model (NRIPC-RTM) for 2012. The project started in 2012 and at that time NIRPC ran the model to predict the traffic impacts that may result from the project. The traffic model AADT data for the existing conditions for new and changed roadway connections were balanced by DLZ traffic engineers to more accurately reflect the proposed, revised roadway connections and conditions. The 2012 NIRPC-RTM data was used after evaluating the changes that occurred in traffic counts (affected by the COVID-19 pandemic), crowd-sourced traffic data, and the current NRIPC-RTM that has revised Traffic Analysis Zones (TAZ) that did not model conditions more closely matching other traffic count data and field observations. The balanced base year traffic data was grown at rates matching those observed for the various roadway in past and current traffic counts. These factors range from 0.0002%-0.0349%. The traffic data was grown to four different Build-Out years due to and based on the current phasing and construction schedule for each phase of the project.

OTHER ALTERNATIVES CONSIDERED:

Provide a header for each alternative. Describe all discarded alternatives, including the No Build Alternative. Explain why each discarded alternative was not selected. Make sure to state how each alternative meets or does not meet the Purpose and Need and why.

No Build:
The No Build/Do Nothing Alternative would not involve any improvements to the existing Kennedy Avenue roadway. This alternative would require no additional permanent or temporary right-of-way, not involve any cost, and would not result in any impacts to the surrounding environment. This alternative would not address operational capacity, system linkage or roadway deficiencies within the

project area. This alternative does not meet the purpose and need of the project and was therefore dismissed from further consideration.

Preliminary Alternatives Development and Screening

A Preliminary Alternatives Development and Screening Document (Appendix A) was prepared by DLZ for this project in 2017. This document describes the process by which preliminary alternatives for Kennedy Avenue improvements between US 30 and Main Street were developed, and then screened based on consideration of their respective potential to incur fatal flaws and environmental impacts, as well as their ability to satisfy the project purpose and need. A summary of the Preliminary Alternatives development and screening follows.

The Preliminary Alternatives considered share a common north terminus at the Kennedy Avenue/Main Street intersection. Four south terminus locations were developed for linkage to US 30 and Joliet Street. Preliminary Alternatives were developed around the following three alignment alternatives:

- Preliminary Alternative 1 - primarily a new location alternative located west of the existing location of Kennedy Avenue
- Preliminary Alternative 2 - primarily an existing location alternative which follows the existing Kennedy Avenue alignment
- Preliminary Alternative 3 - primarily a new location alternative located east of the existing location of Kennedy Avenue.

The four US 30 south terminus options are described as follows:

- First - as far west as possible within the study area, adjacent to the east side of the north-south running Norfolk Southern railroad
- Second - between the Norfolk Southern railroad and the existing Joliet Street/US 30 intersection
- Third – at the existing Joliet Street/US 30 intersection
- Fourth – at the extension of existing Kennedy Avenue alignment north of Joliet Street to US 30.

A total of 15 end to end Preliminary Alternative alignments were developed. Eight variants of Preliminary Alternative 1 (A through H) were developed south of Junction Avenue to allow for new alignment and existing alignment (Kennedy Avenue via Junction Avenue) connections to US 30 and Joliet Street. Four variants of Preliminary Alternative 2 (A through D) were developed south of Junction Avenue to allow for new alignment and existing alignment (Kennedy Avenue) connections to US 30 and Joliet Street. Three variants of Preliminary Alternative 3 (A through C) were developed south of 67th Avenue to allow for new alignment and existing alignment (Kennedy Avenue) connections to US 30 and Joliet Street. Refer to Appendix A, pages 25 - 37 for graphical depictions of the Preliminary Alternatives.

Screening of the Preliminary Alternatives began with a “fatal flaw” analysis, to determine whether any of the alternatives would appear to incur an unacceptable level of impact. This determination was based primarily on the degree of encroachment upon the Hoosier Prairie near the north project terminus. Impacts to this property would require approval of the Governor and would need to be judged to be of imperative and unavoidable public necessity. Additionally, any alternative that would use land from this property would also need to be determined to be the feasible and prudent alternative that would result in the least overall harm to this Section 4(f) property. Preliminary Alternatives 1 and 2 would follow the existing Kennedy Avenue alignment in proximity to the Hoosier Prairie, making possible the continued development of alternatives to avoid and/or minimize impacts. Preliminary Alternative 3 would result in a bisection impact upon the Hoosier Prairie between Oak Street and Main Street. The continued development of alternatives to avoid impacts upon this property was not possible with Preliminary Alternative 3. Preliminary Alternatives 1 and 2 would not cause inordinately higher levels of other environmental impacts when compared to Preliminary Alternative 3, making it unlikely that Preliminary Alternative 3 would be judged as imperative and of unavoidable public necessity. Additionally, Preliminary Alternative 3 would not withstand the Section 4(f) test (it could not be determined to be the feasible and prudent alternative that would result in the least overall harm to Section 4(f) property). Accordingly, it was determined that Preliminary Alternative 3, including its variants, are fatally flawed and Preliminary Alternative 3 was eliminated from further consideration. No other alternatives were judged to be fatally flawed.

With the elimination of Preliminary Alternative 3, Preliminary Alternatives 1 and 2 and their variants (12 alignments total) remained for continued additional screening. Each of the remaining Preliminary Alternatives would satisfy the purpose and need for this project similarly, as they each have similar linkages at termini, similar lengths, provide similar Levels of Service for Kennedy Avenue and the immediate roadway network and would also address the existing Kennedy Avenue roadway deficiencies. Therefore, screening of the Preliminary Alternatives continued based on their respective social, economic and environmental impacts.

Two subsequent screening steps were undertaken to assess impacts upon primary and secondary screening factors/resources. Primary screening factors/resources were those judged to have the highest associated costs, regulatory status and perceived significance to the natural and human environment (such as relocations, wetlands, streams, Section 4(f) resources and high value infrastructure). Secondary screening factors/resources were those judged to have the lesser associated costs, regulatory status and

perceived significance to the natural and human environmental (such as the number of affected parcels, acres of right of way to be acquired and legal drain impacts).

The conclusions drawn from the screening of primary factors/resources was that Preliminary Alternatives 2A and 2B appeared most worthy of carrying forward for continued analysis, and that Preliminary Alternatives 1A through 1H, 2C and 2D appeared least worthy of carrying forward for continued analysis.

The final step in the screening process was to assess the Preliminary Alternatives' impacts upon secondary screening factors/resources, to consider whether the conclusions drawn from the screening of primary factors/resources would be altered. The conclusions drawn from screening of secondary screening factors/resources was that consideration of the secondary screening factors/resources in combination with the primary screening factors/resources did not warrant advancing alternatives in addition to Preliminary Alternatives 2A and 2B for continued analysis.

Preliminary Alternatives 2A and 2B are identical between 67th Avenue and the north project terminus. South of 67th Avenue, Preliminary Alternative 2A shifted west of the existing Kennedy Avenue alignment and had its south terminus as far west as possible within the study area, adjacent to the east side of the north-south running Norfolk Southern railroad. South of 67th Avenue, Preliminary Alternative 2B shifted west of the existing Kennedy Avenue alignment to a lesser degree than Preliminary Alternative 2A, with its south terminus at the existing Joliet Street/US 30 intersection. Preliminary Alternative 2A resulted in less severe impacts to residential parcels south of 67th Avenue; however, Preliminary Alternative 2B's south terminus location was more favorable than that of Preliminary Alternative 2A. Based upon input received from the CAC subsequent to CAC Meeting #2, a Preferred Alternative alignment was developed as a hybrid of Preliminary Alternatives 2A and 2B, with a westerly shift similar to Preliminary Alternative 2A and a south terminus similar to Preliminary Alternative 2B. Justification for development of a Preferred Alternative alignment versus continued analysis of Preliminary Alternatives 2A and 2B was based on the reduction in severity of impacts to residential parcels south of 67th Avenue while maintaining a south terminus at the existing Joliet Street/US 30 intersection, without any offsetting increases in other social, economic and environmental impacts.

The No Build Alternative is not feasible, prudent or practicable because (*Mark all that apply*)

It would not correct existing capacity deficiencies;	x
It would not correct existing safety hazards;	
It would not correct the existing roadway geometric deficiencies;	
It would not correct existing deteriorated conditions and maintenance problems; or	x
It would result in serious impacts to the motoring public and general welfare of the economy.	
Other (Describe): It would not satisfy the project purpose and need.	x

ROADWAY CHARACTER:

If the proposed action includes multiple roadways, complete and duplicate for each roadway.

Name of Roadway: Kennedy Avenue
Functional Classification: Minor Arterial
Current ADT: 10,116 VPD (2012) Design Year ADT: 33,910 VPD (2047)
Design Hour Volume (DHV): 3,391 Truck Percentage (%): 11
Designed Speed (mph): 45 Legal Speed (mph): 40

	Existing		Proposed	
Number of Lanes:	2		4	
Type of Lanes:	Through		Through	
Pavement Width:	24	ft.	44	ft.
Shoulder Width:	1	ft.	N/A	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	10	ft.

Setting:	x	Urban		Suburban		Rural
Topography:	x	Level		Rolling		Hilly

Name of Roadway: US 30
Functional Classification: Principal Arterial
Current ADT: 34,283 VPD (2012) Design Year ADT: 42,938 VPD (2040)
Design Hour Volume (DHV): 4,294 Truck Percentage (%): 3
Designed Speed (mph): 35 Legal Speed (mph): 35

	Existing		Proposed	
Number of Lanes:	2, 1, 1		2, 2, 1	
Type of Lanes:	Through, Left, Right		Through, Left, Right	
Pavement Width:	48	ft.	59	ft.
Shoulder Width:	1	ft.	1	ft.
Median Width:	23	ft.	23	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:	x	Urban		Suburban		Rural
Topography:	x	Level		Rolling		Hilly

Name of Roadway: Joliet Street
Functional Classification: Minor Arterial
Current ADT: 5,428 VPD (2012) Design Year ADT: 9,658 VPD (2040)
Design Hour Volume (DHV): 966 Truck Percentage (%): 5
Designed Speed (mph): 30 Legal Speed (mph): 30

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Through		Through	
Pavement Width:	24	ft.	22	ft.
Shoulder Width:	N/A	ft.	N/A	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	4	ft.	10	ft.

Setting:	x	Urban		Suburban		Rural
Topography:	x	Level		Rolling		Hilly

Name of Roadway: Junction Avenue
Functional Classification: Major Collector
Current ADT: 5,501 VPD (2012) Design Year ADT: 7,313 VPD (2044)
Design Hour Volume (DHV): 731 Truck Percentage (%): 10
Designed Speed (mph): 30 Legal Speed (mph): 30

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Through		Through	
Pavement Width:	22	ft.	22	ft.
Shoulder Width:	1	ft.	2	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:	x	Urban		Suburban		Rural
Topography:	x	Level		Rolling		Hilly

Name of Roadway: Division Street
Functional Classification: Major Collector
Current ADT: 4,675 VPD (2012) Design Year ADT: 4,714 VPD (2044)
Design Hour Volume (DHV): 471 Truck Percentage (%): 11
Designed Speed (mph): 35 Legal Speed (mph): 35

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Through		Through	
Pavement Width:	22	ft.	22	ft.
Shoulder Width:	1	ft.	1	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:	x	Urban		Suburban		Rural
Topography:	x	Level		Rolling		Hilly

Name of Roadway: Oak Street
Functional Classification: Local
Current ADT: 4,735 VPD (2012) Design Year ADT: 5,970 VPD (2044)
Design Hour Volume (DHV): 597 Truck Percentage (%): 5
Designed Speed (mph): 30 Legal Speed (mph): 30

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Through		Through	
Pavement Width:	22	ft.	22	ft.
Shoulder Width:	1	ft.	1	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:	x	Urban		Suburban		Rural
Topography:	x	Level		Rolling		Hilly

Name of Roadway: Main Street
Functional Classification: Minor Arterial
Current ADT: 17,603 VPD (2012) Design Year ADT: 49,828 VPD (2045)
Design Hour Volume (DHV): 4,983 Truck Percentage (%): 11
Designed Speed (mph): 35 Legal Speed (mph): 35

	Existing		Proposed	
Number of Lanes:	1, 2, 1		2, 1, 1	
Type of Lanes:	Right, Through, Left		Right, Through, Left	
Pavement Width:	48	ft.	59	ft.
Shoulder Width:	N/A	ft.	N/A	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:	x	Urban		Suburban		Rural
Topography:	x	Level		Rolling		Hilly

BRIDGES AND/OR SMALL STRUCTURE(S):

If the proposed action includes multiple structures, complete and duplicate for each bridge and/or small structure. Include both existing and proposed bridge(s) and/or small structure(s) in this section.

Structure/NBI Number(s): TBD (proposed bridge) Sufficiency Rating: N/A
(Rating, Source of Information)

	Existing		Proposed	
Bridge/Structure Type:	N/A		Continuous Composite Welded Steel Plate Girder	
Number of Spans:	N/A		3	
Weight Restrictions:	N/A	ton	36	ton
Height Restrictions:	N/A	ft.	23	ft.
Curb to Curb Width:	N/A	ft.	48	ft.
Outside to Outside Width:	N/A	ft.	62.33	ft.
Shoulder Width:	N/A	ft.	2	ft.

Describe impacts and work involving bridge(s), culvert(s), pipe(s), and small structure(s). Provide details for small structure(s): structure number, type, size (length and dia.), location and impacts to water. Use a table if the number of small structures becomes large. If the table exceeds a complete page, put it in the Appendix and summarize the information below with a citation to the table.

The project requires removal of two 48-inch diameter by 55-foot long corrugated metal pipes (CMP) located approximately 80 feet south of the CN/NS railroad crossing. These CMPs convey a jurisdictional waterway known as the Spring Street Legal Drain (CMT UNT 1) under Kennedy Avenue. These CMPs will not be replaced, as an open channel is proposed in this location, which will convey the drain under the proposed railroad grade separation bridge structure and eventually to the Hartsdale Pond regional detention basin. Approximately 406 linear feet of impact to the drain is required for removal of the existing CMPs and construction of the new open channel.

The project requires removal of a 36-inch diameter by 80-foot long CMP located approximately 800 feet south of the CN/NS railroad crossing. The CMP conveys a roadside ditch (CMT UNT 2) that is a jurisdictional waterway. The CMP will not be replaced as the project proposes a new roadside ditch in this location. Approximately 260.5 linear feet of impact to the drain is required for removal of the existing CMP.

The project requires replacement of a 36-inch diameter by 55-foot long (approximate) CMP located approximately 290 feet west of Kennedy Avenue. This CMP conveys a roadside ditch (DLZ UNT 1) that is a jurisdictional waterway under Oak Street. A 4-foot by 4-foot concrete box culvert that is 67 feet in length is proposed in this location. Approximately 90 linear feet of impact to the waterway is required.

The project requires installation of a Kennedy Avenue crossing structure at Schererville Ditch, which is a jurisdictional waterway located approximately at 67th Avenue (extended). In this location, a concrete box structure that is 22 feet wide, three feet tall and 84 feet in length is anticipated. Approximately 100 linear feet of impact to the waterway is required.

The project includes construction of a grade separation at the CN/NS railroad corridor. The proposed overpass will cross the railroad corridor using a beam type bridge structure that will accommodate HL-93 loading (36 ton weight restriction). Mechanically stabilized earth (MSE) walls will be constructed on both side of the roadway to minimize the project footprint. The overpass structure will be 62.33 feet wide and will accommodate four lanes of traffic. The overpass structure will be approximately 362 feet in length and will provide the minimum horizontal clearances as required by the American Railway Engineering and Maintenance-of- Way Association (AREMA) and the railroads.

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

	Yes	No
Is a temporary bridge proposed?		x
Is a temporary roadway proposed?		x
Will the project involve the use of a detour or require a ramp closure? (describe below)	x	

Provisions will be made for access by local traffic and so posted.	x	
Provisions will be made for through-traffic dependent businesses.	x	
Provisions will be made to accommodate any local special events or festivals.		x
Will the proposed MOT substantially change the environmental consequences of the action?		x
Is there substantial controversy associated with the proposed method for MOT?		x

Discuss closures and/or facilities (if any) that will be provided for maintenance of traffic. Any known impacts from these temporary measures should be quantified to the extent possible, particularly with respect to properties such as Section 4(f) resources and wetlands. Any local concerns about access and traffic flow should be detailed as well.

The MOT for the project will require that non-local vehicular traffic is detoured during most phases of construction. Local access to properties will be maintained. The anticipated MOT by project phase is as follows:

- Phase 1: Approximately Division Street to approximately Scherland Drive (within the overall limits of Phase 2) - Grade Separation at the CN/NS Railroad Corridor – Des. Nos. 1801911 and 1900834. The detour will involve Joliet Street, US 30, US 41 and Main Street. The detour is anticipated to add 5.75 miles to travel distances.
- Phase 2: Approximately Junction Avenue to approximately Oak Street – Des. No. 1382603. The detour will involve Joliet Street, US 30, US 41 and Main Street. The detour is anticipated to add 5.75 miles to travel distances.
- Phase 3: Approximately Oak Street to Main Street – Des. No. 1173760. The detour will involve Joliet Street, US 30, US 41 and Main Street. The detour is anticipated to add 5.75 miles to travel distances.
- Phase 4: Approximately US 30 to approximately Junction Avenue – Des. No. 1902000. Partial width construction will be used to connect off-alignment connections to existing Joliet Street and Kennedy Avenue. No detour is proposed at this time.

There will be closures/lane restrictions for the construction of the roadway improvements that will pose a temporary inconvenience to traveling motorists (including school busses and emergency services); however, no significant delays are anticipated, and all inconveniences will cease upon project completion. Delays would occur during construction but will cease with project completion.

Pedestrians will be detoured on existing trail or sidewalk, where possible.

ESTIMATED PROJECT COST AND SCHEDULE:

Phase 1: Approximately Division Street to approximately Scherland Drive (within the overall limits of Phase 2) - Grade Separation at the CN/NS Railroad Corridor – Des. Nos. 1801911 and 1900834.

Engineering: $ 857,304 (2021) Right-of-Way: $ 885,000 (2022) Construction: $ 7,744,200 (2023)

Anticipated Start Date of Construction: August 2023

Phase 2: Approximately Junction Avenue to approximately Oak Street – Des. No. 1382603.

Engineering: $ 1,915,005.00 (2021) Right-of-Way: $ 500,000.00 (2023) Construction: $ 10,248,384 (2024)

Anticipated Start Date of Construction: March 2024

Phase 3: Approximately Oak Street to Main Street – Des. No. 1173760.

Engineering: $ 895,785.00 (2022) Right-of-Way: $ 290,000.00 (2023) Construction: $ 5,258,090.00 (2025)

Anticipated Start Date of Construction: December 2025

Phase 4: Approximately US 30 to approximately Junction Avenue – Des. No. 1902000.

Engineering: $ 1,706,925.00 (2024) Right-of-Way: $ 430,500 (2026) Construction: $ 6,991,500.00 (2026)

Anticipated Start Date of Construction: December 2026

RIGHT OF WAY:

Land Use Impacts	Amount (acres) Permanent	Temporary
Residential	10.40	0.07
Commercial	11.39	0.06
Agricultural	0	0
Forest	0*	0*
Wetlands	0*	0*
Other: Industrial	5.27	0.38
Other: Railroad	1.66	0.67
Other: Municipal	5.64	0.02
Other: State of Indiana	0.15	0
TOTAL	34.51	1.20

*Note: The project will impact wooded area and wetlands; however, the wooded areas and wetlands are located within other land use types. Impact acreages are reported in the Terrestrial Habitat and Wetlands Sections of this document.

Describe both Permanent and Temporary right-of-way and describe their current use. Typical and Maximum right-of-way widths (existing and proposed) should also be discussed. Any advance acquisition, reacquisition or easements, either known or suspected, and their impacts on the environmental analysis should be discussed.

The existing typical and maximum widths of the Kennedy Avenue right of way in the project area are 60 feet and 70 feet, respectively. The existing right of way is centered on a section line which closely parallels the roadway centerline. The proposed typical and maximum widths of the Kennedy Avenue right of way in the project area are 85 feet and 105 feet, respectively. The proposed right of way is centered on the roadway centerline. Advance acquisition and/or reacquisition of existing right of way are not anticipated at this time.

The project will require acquisition of an approximate total of 35.71acres of adjacent land for right of way purposes, consisting of approximately 34.51 acres as new permanent right of way and 1.20 acre as temporary right of way.

The project will require acquisition of an approximate total of 10.47 acres of land from residential properties, consisting of 10.40 acres as new permanent right of way and 0.07 acre as temporary right of way. The involved residential properties are located on both sides of Kennedy Avenue throughout the project length.

The project will require acquisition of an approximate total of 11.45 acres of land from commercial properties, consisting of 11.39 acres as new permanent right of way and 0.06 acre as temporary right of way. The involved commercial properties are located primarily on the west side of Kennedy Avenue throughout the project length.

The project will require acquisition of an approximate total of 5.65 acres of land from industrial properties, consisting of 5.27 acres as new permanent right of way and 0.38 acre as temporary right of way. The involved industrial properties are located on both sides of Kennedy Avenue, between Junction Avenue and Oak Street.

The project will require acquisition of an approximate total of 2.33 acres of land from railroad-owned properties, consisting of 1.66 acres as new permanent right of way and 0.67 acre as temporary right of way. The involved railroad-owned properties are located at the CN/NS Railroad crossing and the former NS Railroad spur line south of along Junction Avenue, southeast of the realigned Junction Avenue at Kennedy Avenue intersection.

The project will require acquisition of an approximate total of 5.66 acres of land from municipally owned properties consisting of 5.64 acres as new permanent right of way and 0.02 acre as temporary right of way. The involved municipally owned properties are located at the along the west side of Kennedy Avenue opposite of 67th Avenue and Junction Avenue.

The project will require acquisition of an approximate total of 0.15 acres of land from state-owned properties as new permanent right of way. The involved state-owned properties are located north of Division Street, on the west side of Kennedy Avenue.

The project requires residential property and business relocations. Several of the involved parcels will not be left with economic

remnants and will be total acquisitions. It is anticipated that uneconomic remnants will be disposed of in some manner and will not be retained as right of way. It is estimated that the project will result in 8.41 acres of uneconomic remnants.

If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately.

Part III – Identification and Evaluation of Impacts of the Proposed Action

SECTION A - EARLY COORDINATION:

List the date(s) coordination was sent and all resource agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received.

Coordination with resource agencies for this project began on January 9, 2013 with an Early Coordination letter (Appendix C, pages 1 - 5). The Early Coordination letter was sent to the agencies listed in the table below, with indications of responses received and where the response may be found in Appendix C.

Agency	Date Sent	Date of Response	Appendix C Page #
Indiana Department of Environmental Management (IDEM)	1/9/2013	No Response	N/A
Indiana Department of Natural Resources Division of Fish and Wildlife (IDNR-DFW)	1/9/2013	2/14/20213	7
IDNR Federal Consistency Coordinator	1/9/2013	No Response	N/A
IDNR Division Nature Preserves	1/9/2013	No Response	N/A
IDNR Division of Outdoor Recreation	1/9/2013	No Response	N/A
Indiana Geological and Water Survey (IGWS)	1/9/2013	No Response	N/A
INDOT Office of Communications	1/9/2013	No Response	N/A
INDOT LaPorte District	1/9/201	1/23/2013	16
Natural Resource Conservation Service (NRCS)	1/9/2013	1/23/2013 1/24/2013	15 18
US Fish and Wildlife Service (USFWS)	1/9/2013	2/6/2013	21
National Parks Service (NPS)	1/9/2013	2/7/2013	17
US Army Corps of Engineers (USACE)	1/9/2013	1/18/2013	6
US Department of Housing and Urban Development (USHUD)	1/9/2013	No Response	N/A
Northwestern Indiana Regional Planning Commission (NIRPC)	1/9/2013	2/4/2013	19

Coordination with resource agencies for this project continued on March 21, 2014 with an invitation to attend Agency Meeting #1. The meeting was held on April 11, 2014 at the Schererville Town Hall. The agencies listed in the table below were invited to attend Agency Meeting #1.

IDEM	NRCS
IDNR-DFW	USFWS
IDNR-Division of Nature Preserves	USHUD
IDNR Federal Consistency Coordinator	NPS – Midwest Regional Office
INDOT LaPorte District	NPS – Indiana Dunes National Lakeshore
INDOT Office of Environmental Services	Lake County Surveyor's Office
USACE	NIRPC
U.S. Environmental Protection Agency (USEPA)	Lake County Soil and Water Conservation District
FHWA	

The purpose of Agency Meeting #1 was to provide an overview of the project, to explain the anticipated agency involvement in correlation with project milestones (Early Coordination, Preliminary Alternatives Screening and Preferred Alternative), to discuss the project's purpose and need and to discuss the nature of the expected social, economic and environmental impacts that could be expected. Minutes of this meeting are presented as Appendix C, pages 28 – 51.

Coordination with resource agencies for this project continued with Agency Meeting #2. The meeting was held on June 28, 2017 at the Schererville Town Hall and by telephone conference. The agencies that were invited to attend Agency Meeting #2 are listed in the table below, with indications of responses received and where the response may be found in Appendix C.

Agency	Date of Response	Appendix C Page #
IDEM	No Response	N/A
IDNR-DFW	5/24/2017 7/19/2017 7/20/2017	59 64 65
IDNR-Division of Nature Preserves	7/12/2017	60
IDNR Federal Consistency Coordinator	No Response	N/A
INDOT LaPorte District	No Response	N/A
INDOT Environmental Services Division	No Response	N/A
USACE	7/18/2017	63
USEPA	7/13/2017	61
FHWA	No Response	N/A
NRCS	No Response	N/A
USFWS	No Response	N/A
USHUD	No Response	N/A
NPS – Midwest Regional Office	No Response	N/A
NPS – Indiana Dunes National Lakeshore	No Response	N/A
Lake County Surveyor's Office	No Response	N/A
NIRPC	No Response	N/A
Lake County Soil and Water Conservation District	No Response	N/A

The purpose of Agency Meeting #2 was to review the project study area, to discuss the project's purpose and need and to discuss the preliminary alternatives and associated impacts. It was explained that of the 15 preliminary alternatives considered, Alternatives 2A and 2B appear to be most favorable. Large graphics of these alternatives were presented and discussed. Minutes of this meeting are presented as Appendix C, pages 52 – 58.

Coordination with resource agencies for this project continued with Agency Meeting #3. The meeting was held on-line, on November 16, 2020. The agencies listed in the table above were again invited to attend Agency Meeting #3.

The purpose of Agency Meeting #3 was to provide the agencies with an update regarding the status of the project. Graphics depicting the proposed design and project phasing were reviewed, and a summary of the Preferred Alternative alignment and constraints was provided. It was explained that a Preferred Alternative alignment was developed as a hybrid of Preliminary Alternatives 2A and 2B. Justification for development of a Preferred Alternative alignment versus continued analysis of Preliminary Alternatives 2A and 2B was based on the reduction in severity of impacts to residential parcels south of 67th Avenue while maintaining a south terminus at the existing Joliet Street/US 30 intersection, without any offsetting increases in other social, economic and environmental impacts. The project's impacts to social, economic and environmental impacts were then summarized. Lastly, the project team took questions from the attendees, provided some responses during the meeting and followed up with meeting minutes providing further responses. Minutes of this meeting, including a table of comments and responses, are presented as Appendix C, pages 66 – 82.

Early Coordination e-mails were sent to the Schererville Floodplain Coordinator and the Schererville MS4 Coordinator on January 7, 2021. Responses were received on January 7, 2021 (Appendix C, pages 83 and 84, respectively). The Schererville Floodplain Coordinator expressed no concerns regarding the project's potential floodplain impacts. The MS4 Coordinator indicated that the project will require replacement of the Town's water system within the existing alignment portion of the project. No unusual MS4 related conflicts have been identified to date. Coordination with the MS4 Coordinator will continue as this project is developed.

All applicable recommendations are included in the Environmental Commitments section of this EA document.

SECTION B – ECOLOGICAL RESOURCES:

	Presence	Impacts	
		Yes	No
Streams, Rivers, Watercourses & Other Jurisdictional Features	x	x	
Federal Wild and Scenic Rivers			
State Natural, Scenic or Recreational Rivers			
Nationwide Rivers Inventory (NRI) listed			
Outstanding Rivers List for Indiana			
Navigable Waterways			

Total stream(s) in project area: 1,076.5 Linear feet Total impacted stream(s): 856.5 Linear feet

Streams identified in DLZ Waters Report

Stream Name	Classification	Total Size in Project Area (linear feet)	Impacted linear feet	Comments (i.e. location, flow direction, likely Water of the US, appendix reference)
Schererville Ditch	R2UBFx	110	100	Perpendicular to Kennedy Avenue at approximately 67th Avenue (extended), likely Water of the US, Appendix F, page 29
Unnamed Tributary to Cady Marsh Ditch (DLZ UNT 1)	R4UBFx	300	90	South side of the gravel drive opposite Oak Street on the west side of Kennedy Avenue, likely Water of the US, Appendix F, page 36

Streams identified in CMT Waters Report

Stream Name	Classification	Total Size in Project Area (linear feet)	Impacted linear feet	Comments (i.e. location, flow direction, likely Water of the US, appendix reference)
CMT UNT 1 to Cady Marsh Ditch, also known as Spring Street Ditch and Seberger Ditch	R5UBFx	406	406	Approximately 80 feet south of the CN/NS Railroad crossing, likely Water of the US, Appendix F, pages 221 and 222
CMT UNT 2 to Cady Marsh Ditch	R4UBFx	260.5	260.5	Approximately 800 feet south of the CN/NS Railroad crossing, likely Water of the US, Appendix F, page 222

Describe all streams, rivers, watercourses and other jurisdictional features adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if the streams or rivers are listed on any federal or state lists for Indiana. Include if features are subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page 3), there are three streams, rivers, watercourse or other jurisdictional features within the 0.5 mile search radius. That number was updated by the site visit on July 9 and 10, 2020 by DLZ Indiana, LLC (DLZ). There are four streams, rivers, watercourses, or other jurisdictional features present within or adjacent to the project area.

A Waters of the U.S. Determination / Wetland Delineation Report was completed by DLZ for the project on August 14, 2020. This report covered portions of the project area from the south project terminus to approximately Division Street and from approximately Scherland Drive to the north project terminus. Please refer to Appendix F, page 1 for the DLZ Waters of the U.S. Determination / Wetland Delineation Report. It was determined that two streams recommended to be Waters of the U.S. are located in these portions of the project area. The USACE makes all final determinations regarding jurisdiction.

Schererville Ditch:
Field reconnaissance identified Schererville Ditch as an intermittent drainage feature in the study limits. Schererville Ditch is located perpendicular to Kennedy Avenue at approximately 67th Avenue (extended). This ditch is apparently a manmade feature and displays an ordinary high water mark (OHWM). To the west Schererville Ditch joins Dyer Ditch, which joins Hart Ditch, which joins

Calumet River, a traditional navigable water. Since Schererville Ditch displays an OHWM and connects to a traditional navigable water, it is considered a Water of the U.S. The typical width at the OHWM is approximately 28 feet. The depth at the OHWM is approximately three feet. The substrate consists of silt, sand, and muck. The stream quality of Schererville Ditch is considered poor since it is a manmade and maintained drainage feature. The project will construct a new at grade crossing of Schererville Ditch and will result in approximately 100 linear feet of permanent impact below Schererville Ditch's OHWM, 84 feet of which are for the proposed structure and 16 feet of which are for installation of scour protection measures at the structure's inlet and outlet.

DLZ UNT 1:
Field reconnaissance identified DLZ UNT 1 as an intermittent drainage feature in the study limits. DLZ UNT 1 is located along the south side of the gravel drive opposite Oak Street on the west side of Kennedy Avenue. DLZ UNT 1 is apparently a manmade feature and displays an OHWM. To the northwest it connects to Cady Marsh Ditch via another unnamed tributary, which joins Hart Ditch, which joins Calumet River, a traditional navigable water. Since DLZ UNT 1 displays an OHWM and connects to a traditional navigable water, it is considered a Water of the U.S. The typical width at the OHWM is approximately 8 feet. The depth at the OHWM is approximately 1.5 feet. The substrate consists of muck. The stream quality of DLZ UNT 1 is considered poor since it is a manmade and maintained drainage feature. The project will widen Kennedy Avenue and Oak Street and replace an existing culvert in this location and will result in approximately 90 linear feet of permanent impact below DLZ UNT 1's OHWM, 67 feet of which relate to installation of the new small structure and 23 feet of which are for installation of scour protection measures at the new culvert's inlet and outlet.

A Waters of the U.S. Determination / Wetland Delineation Report was completed by Crawford, Murphy & Tilly, Inc. (CMT) for the project on January 16, 2020. This report covered the portion of the project area from approximately Division Street to approximately Scherland Drive. Please refer to Appendix F, page 188 for the CMT Waters of the U.S. Determination / Wetland Delineation Report. It was determined that two streams recommended to be Waters of the U.S. are located in this portion of the project area. The USACE makes all final determinations regarding jurisdiction.

Unnamed Tributary to Cady Marsh Ditch (CMT UNT 1), also known as Spring Street Ditch and Seberger Ditch:
Field reconnaissance identified an unnamed tributary of Cady Marsh Ditch, (CMT UNT 1), also Known as Spring Street Ditch and Seberger Ditch, was located through the central portion of the study area. CMT UNT 1 is apparently a manmade feature and displays an OHWM. CMT UNT 1 flows to Cady Marsh Ditch to Hart Ditch, which is a direct tributary to the East Arm Little Calumet River. Since CMT UNT 1 displays an OHWM and connects to a traditional navigable water, it is considered a Water of the U.S. The width at the OHWM varies from 5 to 15 feet. The depth at the OHWM is approximately 15 inches. The substrate consists of gravel/sand. The stream quality of CMT UNT 1 is considered poor as the stream has a variety of substrates with moderate silting, minimal instream cover, moderate channel morphology, low erosion, narrow riparian width, and a moderate amount of pool and riffle complexes. CMT UNT 1 is mostly channelized through the study area. The project proposes construction of a grade separation bridge structure in this location and will remove the existing CMPs which convey CMT UNT 1 under Kennedy Avenue and construct an open stream channel. The project will result in approximately 406 linear feet of impact below CMT UNT 1's OHWM for removal of the existing CMPs and construction of the new open channel.

Unnamed Tributary to Unnamed Tributary to Cady Marsh Ditch (CMT UNT 2):
CMT UNT 2 is an unnamed tributary of CMT UNT 1 and is located along the east side of Kennedy Avenue. CMT UNT 2 originates out of an existing culvert underneath Kennedy Avenue. From the existing culvert, it flows north along the east side of Kennedy Avenue to CMT UNT 1, where CMT UNT 1 enters the culverts under Kennedy Avenue. CMT UNT 2 is not mapped on the USGS topographic quadrangle as a 'blue-line' feature and is not named. Because CMT UNT 2 is a direct tributary to CMT UNT 1, CMT UNT 2 is likely to fall under the jurisdiction of the USACE. Within the study area, CMT UNT 2 has perennial flow and silt, leaf pack, and muck substrate. The width of the OHWM ranges from four to nine feet with an average width of six and one-half feet within the study area. The depth of the OHWM ranges from nine to 13 inches with an average depth of 10 inches within the study area. Within the study area, the stream lacked a riffle/pool complex. Based on predominantly silt and leaf pack substrate, the lack of a riffle/pool complex, stream channel modifications from Kennedy Avenue and the adjacent railroad tracks to the east, 0% canopy cover, and 30% opacity, CMT UNT 2 is a poor-quality stream. The project will result in approximately 260.5 linear feet of permanent impact below CMT UNT 2's OHWM, 55 feet of which are within the existing CMP in this location and 205.5 feet are the result of roadway widening and new ditch construction.

A USACE Section 404 Permit will likely be required. In the event a Section 404 Permit is required, a Section 401 Water Quality Certification must also be obtained from the Indiana Department of Environmental Management (IDEM) Office of Water Quality. Mitigation is likely to be required and will be determined in the permitting process.

The USACE Early Coordination response dated January 18, 2013 (Appendix C, page 6) indicated that the project will require Section 404 permitting.

The IDNR-DFW Early Coordination response dated February 14, 2013 (Appendix C, page 7) indicated that stream channel relocations are not recommended, are difficult to design and have a high likelihood of failure. This response provided recommendations for any required channel relocation design, any required stream enclosure, stream crossings, bank stabilization, seasonal restrictions for working in waterways and sedimentation and erosion control.

In an E-mail dated July 12, 2017, the DNR-DRW provided comments subsequent to Agency Meeting #2 (Appendix C, page 60), expressing concerns regarding to hydrologic changes that may or may not occur at Hoosier Prairie during the construction phase and after completion of the project, noting that hydraulic modeling would be useful to try and determine these impacts. The project will perpetuate existing drainage conditions along the Hoosier Prairie frontage. Therefore, no hydrologic changes are anticipated.

The IDNR-DFW coordination response dated July 20, 2017 (Appendix C, page 65) recommended that replacement of existing culverts be achieved via a bridge or 3-sided culvert that is wide enough to allow wildlife passage. IDNR-DFW also indicated that if a new structure is proposed at the Spring Street Ditch (CMT UNT 1), a bridge or three-sided culvert that is large enough for wildlife passage would be preferred. IDNR-DFW made a similar comment during Agency Meeting #2, (Appendix C, page 55)

The USFWS Early Coordination response dated February 6, 2013 (Appendix C, page 21) noted that impacts to Spring Street Ditch (CMT UNT 1) would be subject to the requirements of Section 404 permitting.

All applicable recommendations are included in the Environmental Commitments section of this EA document.

Open Water Feature(s)	**Presence**	**Impacts** Yes	No
Reservoirs			
Lakes			
Farm Ponds			
Retention/Detention Basin	x		x
Storm Water Management Facilities			
Other:			

Describe all open water feature(s) identified adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if features are subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page 3) there are 24 open water feature(s) within the 0.5 mile search radius. That number was confirmed by the site visit on July 9 and 10, 2020 by DLZ. There is one open water feature present within or adjacent to the project area.

A detention basin is located on the east side of Kennedy Avenue, approximately 775 feet south of 61st Avenue. The basin is not within the proposed construction limits or right of way. No concerns for open water features were expressed in the Early Coordination responses received or in response to the Agency Meetings. Therefore, no impacts are expected.

Wetlands	**Presence**	**Impacts** Yes	No
	x	x	

Total wetland area: 18.778 Acre(s) Total wetland area impacted: 5.548 Acre(s)

(If a determination has not been made for non-isolated/isolated wetlands, fill in the total wetland area impacted above.)

Wetlands identified in DLZ Waters Report

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments (i.e. location, likely Water of the US, appendix reference)
DLZ A	PEM1	0.18	0.12	North of Lincoln Highway and west of Kennedy Avenue, likely Water of the US, Appendix F, page 27
DLZ B	PFO1	4.78	1.25	West of Kennedy Avenue and east of Wetland D, likely Water of the US, Appendix F, page 28
DLZ C	PFO1	0.21	0.21	North of Lincoln Highway and west of Kennedy Avenue, likely Water of the US, Appendix F, page 27
DLZ D	PEM1	0.77	0.08	Manmade ditch along the west edge of the study limits, likely Water of the US, Appendix F, page 28
DLZ E	PSS1	0.06	0.06	Manmade ditch to the north of Schererville Ditch, likely Water of the US, Appendix F, page 29
DLZ F	PEM1	0.04	0.04	Roadside ditch along the south side of Junction Avenue, likely Water of the US, Appendix F, page 31
DLZ G	PEM1	0.03	0.03	Along the Pennsy Trail at the intersection of Kennedy Avenue, likely Water of the US, Appendix F, page 30
DLZ H	PEM1	0.01	0.01	Roadside ditch along the west side of Kennedy Avenue, likely Water of the US, Appendix F, page 32
DLZ I	PEM1	0.06	0.06	Roadside ditch along the west side of Kennedy Avenue, likely Water of the US, Appendix F, page 32
DLZ J	PEM1	0.41	0.41	Roadside ditch along the east side of Kennedy Avenue, likely Water of the US, Appendix F, page 32
DLZ K	PEM1	5.75	0.39	West side of Kennedy Avenue and south of Division Street (extended), likely Water of the US, Appendix F, page 33
DLZ L	PEM1	0.03	0.03	Roadside ditch along the west side of Kennedy Avenue, likely Water of the US, Appendix F, page 37
DLZ M	PEM1	0.04	0.04	Roadside ditch along the west side of Kennedy Avenue, likely Water of the US, Appendix F, page 37
DLZ N	PEM1	0.11	0.02	West edge of the study limits, likely Water of the US, Appendix F, page 38
DLZ O	PEM1	0.04	0.04	Roadside ditch along the west side of Kennedy Avenue, likely Water of the US, Appendix F, page 38
DLZ P	PSS1	2.24	0.28	East side of Kennedy Avenue and north of Oak Street, likely Water of the US, Appendix F, page 37
DLZ Q	PSS1	1.54	0.22	East side of Kennedy Avenue and south of Main Street, likely Water of the US, Appendix F, page 38

Wetlands identified in CMT Waters Report

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments (i.e. location, likely Water of the US, appendix reference)
CMT A	PEM1	0.005	0.005	East side of Kennedy Avenue south of Scherland Drive, likely Water of the US, Appendix F, page 221
CMT B	PEM1	0.013	0.013	Drainage swale just south of Wetland A on the east side of Kennedy Avenue, likely Water of the US, Appendix F, page 221
CMT C	PEM1	0.10	0.10	East side of Kennedy Avenue approximately 100 feet north of the Norfolk Southern tracks, likely Water of the US, Appendix F, page 221
CMT D	PEM1	0.01	N/A	Eastern limits of the study area approximately 212 feet north of the Norfolk Southern tracks, likely Water of the US, Appendix F, page 221
CMT E	PEM1	0.020	0.020	Northern and eastern banks of the stream north of the Norfolk Southern tracks, likely Water of the US, Appendix F, page 221
CMT F	PEM1	2.07	1.92	Western side of Kennedy Avenue south of the Canadian National Railroad tracks, likely Water of the US, Appendix F, page 222
CMT G	PEM1	0.20	0.20	East side of Kennedy Avenue south of the Canadian National Railroad tracks, likely Water of the US, Appendix F, page 222
CMT H	PEM1	0.06	N/A	West side of Kennedy Avenue between the Norfolk Southern and Canadian National railroad tracks, likely Water of the US, Appendix F, page 222

Wetlands (*Mark all that apply*)	**Documentation**	**ESD Approval Dates**
Wetland Determination		
Wetland Delineation	x	**February 3, 2020 (Local TRAX)**
USACE Isolated Waters Determination		

Improvements that will not result in any wetland impacts are not practicable because such avoidance would result in (Mark all that apply and explain):

Substantial adverse impacts to adjacent homes, business or other improved properties;	
Substantially increased project costs;	
Unique engineering, traffic, maintenance, or safety problems;	
Substantial adverse social, economic, or environmental impacts, or	x
The project not meeting the identified needs.	x

Describe all wetlands identified adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if features are subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page 3) there are 46 National Wetlands Inventory (NWI) wetlands within the 0.5 mile search radius. That number was confirmed by the site visit on July 9 and 10, 2020 by DLZ. There are 25 wetlands present within or adjacent to the project area.

A Waters of the U.S. Determination / Wetland Delineation Report was completed by DLZ for the project on August 14, 2020. This report covered portions of the project area from the south project terminus to approximately Division Street and from approximately Scherland Drive to the north project terminus. Please refer to Appendix F, page 1 for the DLZ Waters of the U.S. Determination / Wetland Delineation Report. It was determined that 17 wetlands are located within the portions of the project area covered by this report. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

DLZ Wetland A:
DLZ Wetland A is located north of Lincoln Highway and west of Kennedy Avenue. DLZ Wetland A is dominated by wetland plants consisting of giant reed (*Phragmites australis*, FACW), horsetail (*Equisetum arvense*, FAC), and reed canarygrass (*Phalaris arundinacea*, FACW). These plants meet the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of Wetland A is considered poor due to its low species diversity and since it is dominated by giant reed and reed canarygrass, both invasive species. Wetland hydrology was evidenced by the primary indicators of Surface Water (A1), High Water Table (A2) and Saturation (A3) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 4/1 sand with 10YR 4/6 mottles from 0 to 20 inches. The presence of the hydric soil indicator of Sandy Redox (S5) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The boundary of DLZ Wetland A extends to the east beyond the study limits. The size of DLZ Wetland A within the study limits is approximately 0.18 acre. The boundary of DLZ Wetland A was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland A is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.12 acre of impact (total impact) to DLZ Wetland A. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment west to avoid/minimize impacts would result in poor intersection sight distances due to proximity to a US 30 railroad overpass and unfavorable intersection geometry at the project's south terminus. Shifting the Kennedy Avenue alignment east to avoid/minimize impacts would result in additional residential and business relocations.

DLZ Wetland B:
DLZ Wetland B is located in the wooded area west of Kennedy Avenue and east of Wetland D. DLZ Wetland B is dominated by wetland plants consisting of eastern cottonwood (*Populus deltoides*, FAC), green ash (*Fraxinus pennsylvanica*, FACW), glossy buckthorn (*Frangula alnus*, FAC), and poison ivy (*Toxicodendron radicans*, FAC). These plants meet the hydrophytic plant criteria. The plant community type is forested wetland. The quality of DLZ Wetland B is considered average since it is dominated by glossy buckthorn, an invasive species. Wetland hydrology was evidenced by the primary indicators of Sparsely Vegetated Concave Surface (B8) and Water Stained Leaves (B9), and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 4/1 sand with 10YR 4/6 mottles from 0 to 20 inches. The presence of the hydric soil indicator of Sandy Redox (S5) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The boundary of DLZ Wetland B extends to the east beyond the study limits. The size of DLZ Wetland B within the study limits is

approximately 4.78 acre. The boundary of DLZ Wetland B was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland B is considered a jurisdictional Water of the U.S.

The project will result in approximately 1.25 acre of impact to DLZ Wetland B. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment west to avoid/minimize impacts would result in additional impacts to DLZ Wetland D. Shifting the Kennedy Avenue alignment east to avoid/minimize impacts would result in additional impacts to DLZ Wetland B.

DLZ Wetland C:
DLZ Wetland C is located north of Lincoln Highway and west of Kennedy Avenue. DLZ Wetland C is dominated by wetland plants consisting of silver maple (*Acer saccharinum*, FACW), eastern cottonwood (*Populus deltoides*, FAC), glossy buckthorn (Frangula alnus, FAC), green ash (*Fraxinus pennsylvanica*, FACW), reed canarygrass (*Phalaris arundinacea*, FACW), sedge species. (*Carex* species, assumed FACW), and poison ivy (*Toxicodendron radicans*, FAC). These plants meet the hydrophytic plant criteria. The plant community type is forested wetland. The quality of DLZ Wetland C is considered average since it is dominated by reed canarygrass, an invasive species. Wetland hydrology was evidenced by the primary indicator of Water Marks (B1) and the secondary indicators of Microtopographic Relief (D4) and the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 3/1 muck from 0 to 10 inches and 10YR 3/1 clay loam with 10YR 4/6 mottles from 10 to 20 inches. The presence of the hydric soil indicator of Histic Epipedon (A2) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional DLZ Wetland Criteria. The size of DLZ Wetland C within the study limits is approximately 0.21 acre. The boundary of DLZ Wetland C was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland C is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.21 acre of impact (total impact) to DLZ Wetland C. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment west to avoid/minimize impacts would result in poor intersection sight distances due to proximity to a US 30 railroad overpass and unfavorable intersection geometry at the project's south terminus. Shifting the Kennedy Avenue alignment east to avoid/minimize impacts would result in additional residential and business relocations.

DLZ Wetland D:
DLZ Wetland D is located within a manmade ditch along the west edge of the study limits. No clear or consistent OHWM was distinguishable but flow was noted towards the north connecting to Schererville Ditch. DLZ Wetland D is dominated by wetland plants consisting of reed canarygrass (*Phalaris arundinacea*, FACW). This plant meets the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of DLZ Wetland D is considered poor due to its low species diversity and since it is dominated by reed canarygrass, an invasive species. Wetland hydrology was evidenced by the primary indicators of High Water Table (A2), Saturation (A3), and Sediment Deposits (B2) and the secondary indicators of Drainage Patterns (B10) and the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 2/1 clay loam with 10YR 5/6 mottles from 0 to 8 inches and 10YR 5/1 sand with 10YR 5/6 mottles from 8 to 20 inches. The presence of the hydric soil indicator of Redox Dark Surface (F6) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The boundary of DLZ Wetland D extends south and west beyond the study limits. The size of DLZ Wetland D within the study limits is approximately 0.77 acre. The boundary of DLZ Wetland D was determined by observing the change in plant community and corresponding change in topography. Wetland D is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.08 acre of impact to DLZ Wetland D. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment west would increase impacts to this wetland. Shifting the Kennedy Avenue alignment east to avoid/minimize impacts would result in additional impacts to DLZ Wetland B.

DLZ Wetland E:
DLZ Wetland E is located within a manmade ditch to the north of Schererville Ditch. No OHWM was distinguishable but the flow direction was noted towards the south connecting to Schererville Ditch. DLZ Wetland E is dominated by wetland plants consisting of white willow (*Salix alba*, FACW), dark-green bulrush (*Scirpus atrovirens*, OBL), soft rush (*Juncus effusus*, OBL), and Torry's rush (*Juncus torreyi*, OBL). These plants meet the hydrophytic plant criteria. The plant community type is scrub-shrub wetland. The quality of DLZ Wetland E is considered poor since it is a manmade ditch. Wetland hydrology was evidenced by the primary indicators of Saturation (A3) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 4/1 sand with 10YR 5/6 mottles from 0 to 20 inches. The presence of the hydric soil indicator of Sandy Redox (S5) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The boundary of DLZ Wetland E extends beyond the study limits to the north. The size of DLZ Wetland E within the study limits is approximately 0.06 acre. The boundary of DLZ Wetland E was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland E is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.06 acre of impact to DLZ Wetland E. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment west would impact the Schererville wastewater treatment plant. Shifting the Kennedy Avenue alignment east to avoid/minimize impacts would result in additional impacts to DLZ Wetland B.

DLZ Wetland F:
DLZ Wetland F is located within the roadside ditch along the south side of Junction Avenue. DLZ Wetland F is dominated by wetland plants consisting of reed canarygrass (*Phalaris arundinacea*, FACW) and purple loosestrife (*Lythrum salicaria*, OBL). These plants meet the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of DLZ Wetland F is considered poor since it is a manmade ditch since and is dominated by reed canarygrass and purple loosestrife, both invasive species. Wetland hydrology was evidenced by the primary indicator of Sparsely Vegetated Concave Surface (B8) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 3/1 mucky loam/clay with 10YR 5/6 mottles from 0 to 6 inches and 10YR 6/2 sand with 10YR 5/6 mottles from 6 to 20 inches. The presence of the hydric soil indicator of Redox Dark Surface (F6) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The boundary of DLZ Wetland F extends north beyond the study limits. The size of DLZ Wetland F within the study limits is approximately 0.04 acre. The boundary of DLZ Wetland F was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland F is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.04 acre of impact to DLZ Wetland F. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the realignment of Junction Avenue and the Pennsy Trail further to the southeast would increase encroachments onto residential properties. The wetland is located in a ditch and a new ditch will be constructed in its place.

DLZ Wetland G:
DLZ Wetland G is located along the Pennsy Trail at the intersection of Kennedy Avenue. DLZ Wetland G is dominated by wetland plants consisting of reed canarygrass (*Phalaris arundinacea*, FACW). This plant meets the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of DLZ Wetland G is considered poor since it is a manmade ditch and since and is dominated by reed canarygrass, an invasive species. Wetland hydrology was evidenced by the primary indicator of Sparsely Vegetated Concave Surface (B8) and the secondary indicators of Drainage Patterns (B10), Stunted or Stressed Plants (D1), Geomorphic Position (D2), and the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 3/1 sand with 10YR 5/6 mottles from 0 to 6 inches. The presence of the hydric soil indicator of Sandy Redox (S5) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The size of DLZ Wetland G within the study limits is approximately 0.03 acre. The boundary of DLZ Wetland G was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland G is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.03 acre of impact to DLZ Wetland G. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the realignment of Junction Avenue and the Pennsy Trail to the south would increase residential property relocations. The wetland is located in a ditch and a new ditch will be constructed in its place.

DLZ Wetland H:
DLZ Wetland H is located within the roadside ditch along the west side of Kennedy Avenue. DLZ Wetland H is dominated by wetland plants consisting of reed canarygrass (*Phalaris arundinacea*, FACW). This plant meets the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of DLZ Wetland H is considered poor since it is a manmade ditch and since and is dominated by reed canarygrass, an invasive species. DLZ Wetland Hydrology was evidenced by the primary indicators of Surface Water (A1), High Water Table (A2) and Saturation (A3) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 3/1 muck from 0 to 20 inches. The presence of the hydric soil indicator of Histosol (A1) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The size of DLZ Wetland H within the study limits is approximately 0.01 acre. The boundary of DLZ Wetland H was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland H is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.01 acre of impact to DLZ Wetland H. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase commercial property relocations. Shifting the Kennedy Avenue alignment to the east would increase impacts to an industrial property, including a detention basin. The wetland is located in a ditch and a new ditch will be constructed in its place.

DLZ Wetland I:
DLZ Wetland I is located within the roadside ditch along the west side of Kennedy Avenue. DLZ Wetland I is dominated by wetland plants consisting of spike rush (*Eleocharis palustris*, OBL) and sedge sp. (*Carex* sp., FACW). These plants meet the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of DLZ Wetland I is considered poor since it is a

manmade ditch. Wetland hydrology was evidenced by the primary indicators of Surface Water (A1), High Water Table (A2), Saturation (A3), and Algal Mat or Crust (B4) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 2/1 muck from 0 to 20 inches. The presence of the hydric soil indicator of Histosol (A1) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The boundary of DLZ Wetland I extends to the west beyond the study limits at the north end of this feature. The size of DLZ Wetland I within the study limits is approximately 0.06 acre. The boundary of DLZ Wetland I was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland I is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.06 acre of impact (total impact) to DLZ Wetland I. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to this wetland. Shifting the Kennedy Avenue alignment to the east would increase impacts to an industrial property, including a detention basin and railroad spur. The wetland is located in a ditch and a new ditch will be constructed in its place.

DLZ Wetland J:
DLZ Wetland J is located within the roadside ditch along the east side of Kennedy Avenue. DLZ Wetland J is dominated by wetland plants consisting of narrow-leaf cattail (*Typha angustifolia*, OBL) and giant reed (*Phragmites australis*, FACW). These plants meet the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of DLZ Wetland J is considered poor since it is a manmade ditch and dominated by giant reed, an invasive species. Wetland hydrology was evidenced by the primary indicators of Surface Water (A1), High Water Table (A2), Saturation (A3) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 3/1 mucky loam with 10YR 5/6 mottles from 0 to 20 inches. The presence of the hydric soil indicator of Redox Dark Surface (F6) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The size of DLZ Wetland J within the study limits is approximately 0.41 acre. The boundary of DLZ Wetland J was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland J is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.41 acre of impact (total impact) to DLZ Wetland J. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to this wetland. Shifting the Kennedy Avenue alignment to the east would increase impacts to an industrial property, including a detention basin and railroad spur. The wetland is located in a ditch and a new ditch will be constructed in its place.

DLZ Wetland K:
DLZ Wetland K is located along the west side of Kennedy Avenue and south of Division Street (extended). Wetland K is dominated by wetland plants consisting of narrow-leaf cattail (*Typha angustifolia*, OBL), (*Carex* sp., FACW), and reed canarygrass (*Phalaris arundinacea*, FACW). These plants meet the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of Wetland K is considered average since it is dominated by reed canarygrass, an invasive species. Wetland hydrology was evidenced by the primary indicators of Surface Water (A1), High Water Table (A2), and Saturation (A3) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 3/1 clay loam with 10YR 5/6 mottles from 0 to 20 inches. The presence of the hydric soil indicator of Redox Dark Surface (F6) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The boundary of Wetland K extends beyond the study limits. The size of Wetland K within the study limits is approximately 5.75 acres. The boundary of Wetland K was determined by observing the change in plant community and corresponding change in topography. Wetland K is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.39 acre of impact (total impact) to DLZ Wetland K. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase commercial property relocations. Shifting the Kennedy Avenue alignment to the east would increase impacts to an industrial property, including a detention basin and railroad spur.

DLZ Wetland L:
DLZ Wetland L is located within the roadside ditch along the west side of Kennedy Avenue. DLZ Wetland L is dominated by wetland plants consisting of narrow-leaf cattail (*Typha angustifolia*, OBL) and spike rush (*Eleocharis palustris*, OBL). These plants meet the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of DLZ Wetland L is considered poor since it is a manmade ditch. Wetland hydrology was evidenced by the primary indicators of High Water Table (A2) and Saturation (A3) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 3/1 clay loam from 0 to 6 inches and 10YR 4/1 clay loam with 10YR 5/6 mottles from 6 to 20 inches. The presence of the hydric soil indicator of Depleted Matrix (F3) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The size of DLZ Wetland L within the study limits is approximately 0.03 acre. The boundary of DLZ Wetland L was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland L is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.03 acre of impact (total impact) to DLZ Wetland L. Avoidance alternatives would not be

practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase residential and commercial property relocations. Shifting the Kennedy Avenue alignment to the east would impact protected Hoosier Prairie land holdings. The wetland is located in a ditch and a new ditch will be constructed in its place.

DLZ Wetland M:
DLZ Wetland M is located within the roadside ditch along the west side of Kennedy Avenue. DLZ Wetland M is dominated by wetland plants consisting of pickerelweed (Pontederia cordata, OBL) and narrow-leaf cattail (*Typha angustifolia*, OBL). These plants meet the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of DLZ Wetland M is considered poor since it is a manmade ditch. Wetland hydrology was evidenced by the primary indicators of High Water Table (A2) and Saturation (A3) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 4/1 sandy muck with 10YR 5/6 mottles from 0 to 20 inches. The presence of the hydric soil indicator of Sandy Mucky Mineral (S1) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The size of DLZ Wetland M within the study limits is approximately 0.04 acre. The boundary of DLZ Wetland M was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland M is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.04 acre of impact (total impact) to DLZ Wetland M. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase residential and commercial property relocations and would also increase impacts to DLZ Wetland N. Shifting the Kennedy Avenue alignment to the east would impact Hoosier Prairie land holdings. The wetland is located in a ditch and a new ditch will be constructed in its place.

DLZ Wetland N:
DLZ Wetland N is located west of Kennedy Avenue along the west edge of the study limits. DLZ Wetland N is dominated by wetland plants consisting of eastern cottonwood (Populus deltoides, FAC), American elm (Ulmus americana, FACW), red osier dogwood (Cornus alba, FACW), sandbar willow (Salix exigua, FACW), reed canarygrass (Phalaris arundinacea, FACW), touch me not (Impatiens capensis, FACW), and giant goldenrod (Solidago gigantea, FACW). These plants meet the hydrophytic plant criteria. The plant community type is forested wetland. The quality of DLZ Wetland N is considered average since it is dominated by reed canarygrass, an invasive species. Wetland hydrology was evidenced by the primary indicators of Saturation (A3) and Water Stained Leaves (B9) and the secondary indicators of Microtopographic Relief (D4) and the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 2/1 muck from 0 to 8 inches and 10YR 5/1 sand with 10YR 4/6 mottles from 8 to 20 inches. The presence of the hydric soil indicator of Histic Epipedon (A2) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The boundary of DLZ Wetland N extends to the west beyond the study limits. The size of DLZ Wetland N within the study limits is approximately 0.11 acre. The boundary of DLZ Wetland N was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland N is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.02 acre of impact to DLZ Wetland N. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to this wetland, as well as residential and commercial property relocations. Shifting the Kennedy Avenue alignment to the east would impact protected Hoosier Prairie land holdings.

DLZ Wetland O:
DLZ Wetland O is located within the roadside ditch along the west side of Kennedy Avenue. DLZ Wetland O is dominated by wetland plants consisting of reed canarygrass (*Phalaris arundinacea*, FACW) and narrow-leaf cattail (*Typha angustifolia*, OBL). These plants meet the hydrophytic plant criteria. The plant community type is emergent wetland. The quality of DLZ Wetland O is considered poor since it is a manmade ditch and dominated by reed canarygrass, an invasive species. Wetland hydrology was evidenced by the primary indicators of Surface Water (A1), High Water Table (A2), and Saturation (A3) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 2/1 muck from 0 to 20 inches. The presence of the hydric soil indicator of Histosol (A1) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The size of DLZ Wetland O within the study limits is approximately 0.04 acre. The boundary of DLZ Wetland O was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland O is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.04 acre of impact (total impact) to DLZ Wetland O. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase residential and commercial property relocations and would also increase impacts to DLZ Wetland N. Shifting the Kennedy Avenue alignment to the east would impact protected Hoosier Prairie land holdings. The wetland is located in a ditch and a new ditch will be constructed in its place.

DLZ Wetland P:
DLZ Wetland P is located along the east side of Kennedy Avenue and north of Oak Street. DLZ Wetland P is dominated by DLZ Wetland Plants consisting of sandbar willow (Salix interior, FACW), sensitive fern (Onoclea sensibilis, FACW), and sedge species. (Carex sp., FACW). These plants meet the hydrophytic plant criteria. The plant community type is scrub-shrub wetland. The quality of DLZ Wetland P is considered excellent since it is part of a large wetland complex and is within a protected nature preserve. Wetland hydrology was evidenced by the primary indicators of High Water Table (A2) and Saturation (A3) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 2/1 muck loam with 10YR 4/6 mottles from 0 to 20 inches. The presence of the hydric soil indicator of Redox Dark Surface (F6) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The boundary of DLZ Wetland P extends beyond the study limits to the east. The size of DLZ Wetland P within the study limits is approximately 2.24 acre. The boundary of DLZ Wetland P was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland P is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.28 acre of impact to DLZ Wetland P. The impacts are within an existing easement and not within the area protected under the Hoosier Prairie dedicated nature preserve. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to DLZ UNT 1, as well as residential and commercial property relocations. Shifting the Kennedy Avenue alignment to the east would impact protected Hoosier Prairie land holdings.

DLZ Wetland Q:
DLZ Wetland Q is located along the east side of Kennedy Avenue and south of Main Street. DLZ Wetland Q is dominated by wetland plants consisting of sandbar willow (*Salix interior*, FACW), narrow-leaf cattail (*Typha angustifolia*, OBL), and reed canarygrass (*Phalaris arundinacea*, FACW). The plant community type is scrub-shrub wetland. The quality of DLZ Wetland Q is considered excellent since it is part of a large wetland complex and is within a protected nature preserve. However, DLZ Wetland Q is dominated by reed canarygrass, an invasive species. Wetland hydrology was evidenced by the primary indicators of Surface Water (A1), High Water Table (A2) and Saturation (A3) and the secondary indicator of the FAC-Neutral Test (D5). The soil showed Munsell Soil Colors of 10YR 4/1 sandy loam with 10YR 5/6 mottles from 0 to 20 inches. The presence of the hydric soil indicator of Depleted Matrix (F3) demonstrates that the site contains hydric soils. Therefore, this area meets the three jurisdictional wetland criteria. The boundary of DLZ Wetland Q extends beyond the study limits to the east. The size of DLZ Wetland Q within the study limits is approximately 1.54 acre. The boundary of DLZ Wetland Q was determined by observing the change in plant community and corresponding change in topography. DLZ Wetland Q is considered a jurisdictional Water of the U.S.

The project will result in approximately 0.22 acre of impact to DLZ Wetland Q. The impacts are within an existing easement and not within the area protected under the Hoosier Prairie dedicated nature preserve. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to DLZ Wetland N, as well as residential and commercial property relocations. Shifting the Kennedy Avenue alignment to the east would increase impacts to this wetland and would also impact protected Hoosier Prairie land holdings.

A Waters of the U.S. Determination / Wetland Delineation Report was completed by Crawford, Murphy & Tilly, Inc. (CMT) for the project on January 16, 2020. This report covered the portion of the project area from approximately Division Street to approximately Scherland Drive. Please refer to Appendix F, page 188 for the CMT Waters of the U.S. Determination / Wetland Delineation Report. It was determined that there are eight wetlands within the portion of the project area covered by this report. The USACE makes all final determinations regarding jurisdiction.

CMT Wetland A:
CMT Wetland A is a 0.005-acre Palustrine Emergent Persistent (PEM1) wetland located in the drainage swale on the east side of Kennedy Avenue south of Scherland Drive. This wetland drains north through the non-wetland drainage swale and culverts to the north. The culvert system likely outlets to the Hoosier Prairie at the northeast corner of Kennedy Avenue and Oak Street. The Nature Preserve is assumed to outlet west under Kennedy Avenue to CMT UNT 1 to Cady Marsh Ditch to Hart Ditch, which is a tributary to the East Arm Little Calumet River, a Section 10 Traditional Navigable Water (TNW). Based on the connection to a downstream TNW, this wetland is likely federally jurisdictional. The vegetation was dominated by riverbank willow (*Salix interior*, FACW, 5%) in the sapling/shrub layer, and reed-canary grass (*Phalaris arundinacea*, FACW, 35%) and purple loosestrife *(Lythrum salicaria*, OBL, 20%) in the herbaceous layer. The vegetative community met the Rapid Test for Hydrophytic Vegetation, Dominance Test >50%, and Prevalence Index ≥ 3.0 indicators; therefore, the vegetation is considered to meet hydrophytic requirements. From the surface to 10 inches deep, the soil matrix had a color of 10YR 2/2. The soil at this site was Mucky Sand and met the Sandy Mucky Mineral (S1) hydric soil indicator. There was a gravel restrictive layer at 10 inches deep. Several soil pits were attempted and all of them hit a restrictive gravel layer at or above 10 inches. CMT Wetland A exhibited two primary hydrology indicators, including Surface Water (A1) of 1.5 inches deep and Saturation (A3) to the surface. CMT Wetland A also exhibited two secondary wetland hydrology indicators, including Drainage Patterns (B10) and FAC-Neutral Test (D5). All three wetland criteria including,

vegetation, soils, and hydrology were met at this data point; therefore, data point A1 is within a wetland. Based on soil, hydrology, and vegetation modifications from the construction of Kennedy Avenue, the vegetation being dominated by invasive species (*Phalaris arundinacea* and *Lythrum salicaria*), a lack of buffer, and the wetland developing in a roadside swale, CMT Wetland A is a poor quality wetland.

The project will result in approximately 0.005 acre of impact (total impact) to CMT Wetland A. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to CMT UNT 1, as well as commercial property relocations. Shifting the Kennedy Avenue alignment to the east would impact protected Hoosier Prairie land holdings.

CMT Wetland B:
CMT Wetland B is a 0.13-acre Palustrine Emergent Persistent (PEM1) wetland located in the drainage swale just south of Wetland A on the east side of Kennedy Avenue. CMT Wetland B drains north into a 12-inch corrugated metal pipe under a driveway which outlets into Wetland A to CMT UNT 1 to Cady Marsh Ditch to Hart Ditch, which is a tributary to the East Arm Little Calumet River, a Section 10 TNW. Based on the connection to a downstream TNW, CMT Wetland B is likely federally jurisdictional. The vegetation was dominated by silver maple (*Acer saccharinum*, FACW, 15%,) in the tree layer, and narrow-leaved cattail (*Typha angustifolia*, OBL, 80%) in the herbaceous layer. The vegetative community met the Rapid Test for Hydrophytic Vegetation, Dominance Test >50%, and Prevalence Index ≥ 3.0 indicators; therefore, the vegetation is considered to meet hydrophytic requirements. From the surface to 16 inches deep, the soil matrix had a color of 7.5 YR 2.5/1. The soil at the site was mucky Loam and met the Loamy Mucky Mineral (F1) hydric soil indicator. CMT Wetland B exhibited three primary hydrology indicators, including Surface Water (A1) of 3 inches, Saturation (A3) to the surface, and Inundation Visible on Aerial Imagery (B7). Two secondary hydrology indicators were also observed, including Crayfish Burrows (C8) and FAC-Neutral Test (D5). All three wetland criteria including, vegetation, soils, and hydrology were met at this data point; therefore, data point B1 is within a wetland. Based on soil, hydrology, and vegetation modifications from the construction of Kennedy Avenue, the vegetation being dominated by invasive species (*Typha angustifolia*), a lack of buffer, and the wetland developing in a roadside swale, CMT Wetland B is a poor quality wetland.

The project will result in approximately 0.013 acre of impact (total impact) to CMT Wetland B. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to CMT UNT 1, as well as commercial property relocations. Shifting the Kennedy Avenue alignment to the east would impact protected Hoosier Prairie land holdings.

CMT Wetland C:
Wetland C is a 0.10-acre Palustrine Emergent Persistent (PEM1) wetland located on the east side of Kennedy Avenue approximately 100 feet north of the Norfolk Southern tracks. Wetland C drains north into a 12-inch corrugated metal culvert. The culvert outlets north into a series of dry drainage swales and culverts, and eventually drains into Wetland B to Wetland A to CMT UNT 1 to Cady Marsh Ditch to Hart Ditch, which is a tributary to the East Arm Little Calumet River, a Section 10 TNW. Based on the connection to a downstream TNW, Wetland C is likely federally jurisdictional. The vegetation was dominated by red-osier dogwood (*Cornus stolonifera*, FACW, 10%), buckthorn (*Rhamnus cathartica*, FAC, 5%), and red mulberry (*Morus rubra*, FACU, 5%) in the sapling/shrub layer, and red-footed spikerush (*Eleocharis erythropoda*, OBL, 50%), reed-canary grass (*Phalaris arundinacea*, FACW, 20%), and purple loosestrife (*Lythrum salicaria*, OBL, 20%) in the herbaceous layer. The vegetative community met the Dominance Test >50% and Prevalence Index ≥ 3.0 indicators; therefore, the vegetation is considered to meet hydrophytic requirements. From the surface to 6 inches deep, the soil matrix had a color of 10YR 2/1 and contained 15% distinct redox concentrations in the matrix with a color of 2.5Y 4/3. The surface horizon has a mucky Loam texture. From 6 to 16 inches deep, the soil has a color of 10YR 2/1 and a texture of Loam. The soil met the Loamy Mucky Mineral (F1) and Redox Dark Surface (F6) hydric soil indicators. Wetland C exhibited two primary hydrology indicators, including Surface Water (A1) of 2 inches and Saturation (A3) to the surface. Wetland C also exhibited two secondary wetland hydrology indicators, including Drainage Patterns (B10), and FAC-Neutral Test (D5). All three wetland criteria including, vegetation, soils, and hydrology were met at this data point; therefore, data point C1 is within a wetland. Based on soil, hydrology, and vegetation modifications from the construction of Kennedy Avenue, the diversity of the vegetation and its position on the landscape, Wetland C is an average quality wetland.

The project will result in approximately 0.010 acre of impact (total impact) to CMT Wetland C. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to CMT UNT 1, as well as commercial property relocations. Shifting the Kennedy Avenue alignment to the east would impact protected Hoosier Prairie land holdings.

CMT Wetland D:
Within the study area, CMT Wetland D is a 0.01-acre Palustrine Emergent Persistent (PEM1) wetland that has developed in a shallow, closed depression or micro-low along the eastern limits of the study area approximately 212 feet north of the Norfolk Southern tracks. There were no obvious hydrologic connections between CMT Wetland D and any other visible drainage ways,

wetlands, or other aquatic resources. Based on a lack of connection to a downstream TNW, this wetland is likely not federally jurisdictional and is an isolated wetland. The vegetation was dominated by cottonwood (*Populus deltoides*, FAC, 10%) and silver maple (*Acer saccharinum*, FACW, 5%) in the tree layer, and bent grass (Agrostis stolonifera, OBL, 30%), common water horehound, (*Lycopus americanus*, OBL, 20%), and yellow nut-sedge (*Cyperus esculentus*, FACW, 20%) in the herbaceous layer. The vegetative community met the Dominance Test >50% and Prevalence Index ≥ 3.0 indicators; therefore, the vegetation is considered to meet hydrophytic requirements. From the surface to 12 inches deep, the soil matrix had a color of 10YR 2/1 with 20% common 2.5Y 3/2 depletions in the matrix, and a loamy sand texture. Additional soil was not able to be described below 12 inches due to the presence of water in the pit and above the surface. The soil met the Dark Surface (S7) hydric soil indicator. CMT Wetland D exhibited two primary hydrology indicators, including Surface Water (A1) of 3 inches deep and Saturation (A3) to the surface. CMT Wetland D also exhibited two secondary wetland hydrology indicators, including Geomorphic Position (D2) and FAC-Neutral Test (D5). Geomorphic position was determined by the elevation of the standing water in the area and observations of the surrounding area. All three wetland criteria including, vegetation, soils, and hydrology were met at this data point; therefore, data point D1 is within a wetland. Due to the lack of vegetative species diversity, and the appearance that it is maintained as mowed turf grass when not inundated, CMT Wetland D is a poor quality wetland.

No impacts to CMT Wetland D are proposed.

CMT Wetland E:
Within the study area, CMT Wetland E is a 0.02-acre Palustrine Emergent Persistent (PEM1) fringe wetland of CMT UNT 1 located along the northern and eastern banks of the stream north of the Norfolk Southern tracks. Portions of the wetland contain riprap armoring of the stream bank. CMT Wetland E extends off-site to the east. CMT Wetland E directly abuts CMT UNT 1, which flows to Cady Marsh Ditch to Hart Ditch, which is a tributary to the East Arm Little Calumet River, a Section 10 TNW. Based on the connection to a downstream TNW, this wetland is likely federally jurisdictional. The vegetation was dominated by common reed (*Phragmites australis*, FACW, 50%) in the herbaceous layer. The vegetative community met the Dominance Test >50% and Prevalence Index ≥ 3.0 indicators; therefore, the vegetation is considered to meet hydrophytic requirements. Due to the presence of riprap bank armoring, the soil sample for data point E1 was taken approximately ten feet from the actual data point; vegetation and hydrology at this point was similar. From the surface to 6 inches deep, the soil color was 10YR 2/1 and the texture was silt loam. From six to 16 inches deep, the color of the soil was 2.5Y 3/1 with 20% 5YR 4/6 prominent redox concentrations in the matrix. The soil met the Depleted Below Dark Surface (A11) hydric soil indicator. CMT Wetland E exhibited one primary hydrology indicator, including Drift Deposits (B3). CMT Wetland E also exhibited three secondary wetland hydrology indicators, including Drainage Patterns (B10), Geomorphic Position (D2), and FAC-Neutral Test (D5). All three wetland criteria including, vegetation, soils, and hydrology were met at this data point; therefore, data point E1 is within a wetland. CMT Wetland E is a poor quality wetland based on the vegetation being dominated by invasive species (*Phalaris arundinacea*), a lack of buffer, poor vegetative cover, presence of riprap armor, and limited hydrology.

The project will result in approximately 0.020 acre of impact (total impact) to CMT Wetland E. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to CMT UNT 1, as well as commercial property relocations. Shifting the Kennedy Avenue alignment to the east would impact protected Hoosier Prairie land holdings.

CMT Wetland F:
Within the study area, CMT Wetland F is a 2.07-acre Palustrine Emergent Persistent (PEM1) wetland abutting CMT UNT 1 located along the western side of Kennedy Avenue south of the Canadian National Railroad tracks. CMT Wetland F is a portion of the larger wetland complex (estimated to be 23.7 acres based on aerial imagery) within Hoosier Prairie land holdings, but not within the dedicated state nature preserve. The on-site portion of CMT Wetland F appears to drain north along Kennedy Avenue into CMT UNT 1 to Cady Marsh Ditch to Hart Ditch, which is a tributary of the East Arm Little Calumet River, a Section 10 TNW. Based on the connection to a downstream TNW, CMT Wetland F is likely federally jurisdictional. The vegetation was dominated by red-osier dogwood (*Cornus alba*, FACW, 15%) and sandbar willow (*Salix interior*, FACW, 5%) in the sapling/shrub layer, and by fox sedge (*Carex vulpinoidea*, OBL, 40%), common reed (*Phragmites australis*, FACW, 25%), and purple loosestrife (*Lythrum salicaria*, OBL, 20%) in the herbaceous layer. The vegetative community met the Rapid Test for Hydrophytic Vegetation, Dominance Test >50%, and Prevalence Index ≥ 3.0 indicators; therefore, the vegetation is considered to meet hydrophytic requirements. From the surface to 18 inches deep, the sandy loam soil had a color of 10YR 2/1 with 10% common, prominent redox concentrations with a color of 10YR 5/8 in the matrix. The soil met the Sandy Redox (S5) hydric soil indicator. CMT Wetland F exhibited two primary hydrology indicators, including Surface Water (A1) of two inches depth, and Saturation (A3) to the surface. CMT Wetland F also exhibited two secondary hydrology indicators, including Drainage Patterns (B10) and FAC-Neutral Test (D5). All three wetland criteria including, vegetation, soils, and hydrology were met at this data point; therefore, data point F1 is within a wetland. Due to the vegetative species diversity and being part of a larger off-site wetland complex, CMT Wetland F is an average quality wetland.

The project will result in approximately 1.92 acre of impact to CMT Wetland F. Avoidance alternatives would not be practicable due

to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to this wetland. Shifting the Kennedy Avenue alignment to the east would increase impacts to CMT UNT 1 and impact an industrial railroad spur.

CMT Wetland G:
CMT Wetland G is a 0.20-acre Palustrine Emergent Persistent (PEM1) linear wetland abutting CMT UNT 1 and CMT UNT 2 along the east side of Kennedy Road south of the Canadian National Railroad tracks. CMT Wetland G is located within a roadside swale and is also a fringe wetland of UNT 2 which outlets into CMT UNT 1 to Cady Marsh Ditch to Hart Ditch, which is a tributary to the East Arm Little Calumet River, a Section 10 TNW. Based on the connection to a downstream TNW, CMT Wetland G is likely federally jurisdictional. The vegetation was dominated by path rush (*Juncus tenuis*, FAC, 25%), white grass (*Leersia virginica*, FACW, 20%), and purple loosestrife (*Lythrum salicaria*, OBL, 20%) within the herbaceous layer. The vegetative community met the Dominance Test >50% and Prevalence Index ≥ 3.0 indicators; therefore, the vegetation is considered to meet hydrophytic requirements. From the surface to 16 inches deep, the sandy clay loam soil had a color of 10YR 4/1 with 15% distinct, common 10YR 5/6 redox concentrations in the matrix. The soil met the Sandy Redox (S5) hydric soil indicator. CMT Wetland G exhibited three primary wetland hydrology indicators, including Surface Water (A1) of 5 inches depth, Saturation (A3) to the surface, and Aquatic Fauna (B13). CMT Wetland G also exhibited three secondary hydrology indicators, including Drainage Patterns (B10), Geomorphic Position (D2), and FAC-Neutral Test (D5). All three wetland criteria including, vegetation, soils, and hydrology were met at this data point; therefore, data point G1 is within a wetland. Due to soil, hydrology, vegetation modifications from the construction of Kennedy Avenue, and lack of vegetative species diversity in the wetland and buffer, CMT Wetland G is an average quality wetland.

The project will result in approximately 0.20 acre of impact (total impact) to CMT Wetland G. Avoidance alternatives would not be practicable due to limited space within the right of way. Shifting the Kennedy Avenue alignment to the west would increase impacts to CMT Wetland F. Shifting the Kennedy Avenue alignment to the east would increase impacts to CMT UNT 1 and impact an industrial railroad spur.

CMT Wetland H:
Within the study area, CMT Wetland H is a 0.06-acre Palustrine Emergent Persistent (PEM1) wetland abutting CMT UNT 1 on the west side of Kennedy Avenue between the Norfolk Southern and Canadian National railroad tracks. CMT Wetland H is part of the low-lying area between the tracks that drains east directly into CMT UNT 1 to Cady Marsh Ditch to Hart Ditch, which is a tributary to the East Arm Little Calumet River, a Section 10 TNW. Based on the connection to a downstream TNW, CMT Wetland H is likely federally jurisdictional. The vegetation was dominated by elderberry (*Sambucus nigra*, FACW, 15%) in the sapling/shrub layer, late boneset (*Eupatorium serotinum*, FAC, 20%), big blue stem (*Andropogon gerardii*, FACU, 20%), common reed (Phragmites australis, FACW, 15%) and red op (*Agrostis gigantea*, FACW, 15%) in the herbaceous layer, and riverbank grape (*Vitis riparia*, FAC, 5%) in the woody vine layer. The vegetative community met the Dominance Test >50% and Prevalence Index ≥ 3.0 indicators; therefore, the vegetation is considered to meet hydrophytic requirements. From the surface to 5 inches deep, the sandy loam soil matrix had a color of 10YR 2/1. The silty sand horizon below the surface horizon from 5 to 16 inches deep had a color of 10YR 4/2 with 20% common faint 10YR 3/2 redox depletions in the matrix, 10% common prominent 10YR 5/8 redox concentrations in the matrix, and 10% common prominent 10YR 5/6 redox concentrations in the pore linings. The soil meets the Depleted Below Dark Surface (A11) and Sandy Redox (S5) hydric soil indicators. CMT Wetland H exhibited three secondary CMT Wetland Hydrology indicators, including Drainage Patterns (B10), Geomorphic Position (D2), and FAC-Neutral Test (D5). All three wetland criteria including, vegetation, soils, and hydrology were met at this data point; therefore, data point H1 is within a wetland. Due to soil, hydrology, and vegetation modifications from the construction of the railroads and the diversity of the vegetation community, CMT Wetland H is an average quality wetland.

No impacts to CMT Wetland H are proposed.

Mitigation relating to the above-described wetland impacts will likely be required and will be determined during permitting. IDEM Section 401 and USACE Section 404 permitting is anticipated to be required.

The USACE Early Coordination response dated January 18, 2013 (Appendix C, page 6) indicated that the project will require Section 404 permitting.

The IDNR-DFW Early Coordination response dated February 14, 2013 (Appendix C, page 7) recommended that wetland delineations be conducted, coordination with appropriate agencies should occur and impacts should be mitigated at the appropriate ratio. The IDNR-DFW recommended that erosion control fabric or silt fencing should be installed along wetlands near the project, and that riparian wetlands should not be filled or excavated.

The USFWS Early Coordination response dated February 6, 2013 (Appendix C, page 21) indicated that wetland impacts would likely result from roadway widening and/or construction of an overpass at the CN/NS railroad crossing.

During Agency Meeting #1, IDNR Division of Nature Preserves noted that NWI wetland mapping may underrepresent the actual extent of wetlands in the project area. The USFWS indicated that wetlands are difficult to delineate in the project area due to the sandy soils present. The USEPA asked if the project team had a sense of the accuracy of MWI mapping. It was explained that wetland delineations will occur, and the use of functional quality assessments would be considered (Appendix C, page 33).

During Agency Meeting #2, IDNR Division of Nature Preserves noted that NWI mapped wetlands near the project's north terminus do not appear to be large enough. It was explained that accurate wetland delineation will be performed. No impacts to wetlands within protected Hoosier Prairie land holdings are proposed.

Subsequent to Agency Meting #2, the USACE indicated that its primary concern is potential impact to high quality wetlands, and any such impacts would need to be justified during permitting. The USACE also recommended mitigation via wetland restoration near the project area (Appendix C, page 63).

During Agency Meeting #3, IDEM asked if IDNR Division of Nature Preserves is agreeable to use of the In-Lieu Fee Program. The IDNR Division of Nature Preserves indicated that other mitigation methods may be considered (Appendix C, page 71). Currently, mitigation is expected to be achieved via payments to the IDNR In-Lieu Fee Program.

Presidential Executive Order (EO) 11990, entitled Protection of Wetlands, was issued in 1977 with the purpose to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands." To meet these objectives, the EO requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided.

Based upon the above considerations, it has been determined that there is no practicable alternative to the proposed new construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. All applicable recommendations are included in the Environmental Commitments section of this EA document.

	Presence	Impacts	
		Yes	No
Terrestrial Habitat	x	x	

Total terrestrial habitat in project area: 23.16 Acre(s) Total tree clearing: 8.5 Acre(s)

Describe types of terrestrial habitat (i.e. forested, grassland, farmland, lawn, etc.) adjacent or within the project area. Include whether or not impacts will occur to habitat identified. Include total terrestrial habitat impacted and total tree clearing that will occur. Discuss measure to avoid, minimize, and mitigate if impacts will occur.

Based on a desktop review, a site visit on July 9 and 10 by DLZ and the aerial map of the project area (Appendix B, page 3), there are roadside slopes vegetated with grass species and some street side trees within the existing Kennedy Avenue portion of the project area (north of Junction Avenue). The dominant grass species present in the affected roadside slopes are smooth brome (*Bromus inermis*), giant foxtail (*Setaria faberi*) and tall fescue (*Schedonorus arundinaceus*). The dominant tree species to be removed is silver maple (*Acer saccharinum*). In the new Kennedy Avenue alignment portion of the project area (south of Junction Avenue) there is a manicured sports field, hay fields dominated by Kentucky bluegrass (*Poa pratensis*) and tall fescue (*Schedonorus arundinaceus*) and a wooded area dominated by cottonwood (*populus deltoides*) and green ash (*Fraxinus pennsylvanica*). The project involves roadway widening, new alignment roadway construction and construction of an overpass at the CN/NS railroad crossing. The project requires disturbance to approximately 23.16 acres of terrestrial habitat, consisting of approximately 14.66 acres vegetated by grass species (roadway slope, manicured lawn, sports field and hay field) and approximately 8.5 acres of tree clearing.

The IDNR-DFW Early Coordination response dated February 14, 2013 (Appendix C, page 7) recommended that a mitigation plan should be developed if riparian habitat impacts will occur. IDNR provided information regarding the required mitigation ratios and requirements. IDNR-DFW also recommended that no digging or excavation occur along the stretch of Hoosier Prairie until after May 1 to allow all species adequate time to emerge from hibernation. Any logs, debris, or other ground cover should be removed from the construction area before March 1. Any vegetation that will be removed in the construction area should also be removed prior to March 1. Grass along the roadway should be kept short and cut frequently.

In an E-mail dated July 12, 2017, the DNR-DRW provided comments subsequent to Agency Meeting #2 (Appendix C, page 60), expressing concerns regarding to noise and lighting impacts to Hoosier Prairie. Increasing traffic volumes along Kennedy Avenue may increase noise levels on Hoosier Prairie. In accordance with 23 CFR 772 and the INDOT Traffic Noise Analysis Procedure, land uses within the study area must be identified based on the FHWA Noise Abatement Criteria which separates land uses into seven activity categories (A-G). The INDOT Traffic Noise Analysis Procedure identifies the study area as 500 feet from the outside edge of the travel lane. Since the portion of the Hoosier Prairie located within the study area is undeveloped and did not contain any areas where frequent human use occurs, this portion of the Hoosier Prairie was identified as undeveloped land and assigned an activity category classification "G". In accordance with 23 CFR 773 and the INDOT Traffic Noise Analysis procedure, a determination and evaluation of the traffic noise impacts are not required for land uses identified with an activity category classification "G". With regard to lighting impacts, streetlights exist along Kennedy Avenue near the project's north terminus. In Addition, the intersections of Kennedy Avenue with Main Street and Oak Street have traffic signals. The existing streetlights will be perpetuated, and the traffic signals will be upgraded. No new streetlights are proposed.

During Agency Meeting #3, the USEPA asked about impacts to trees. It was explained that trees will be removed in compliance with seasonal tree clearing restrictions and that no trees would be removed from April 1 through September 30 (Appendix C, page 72). It should be noted that coordination with USFWS has concluded that trees suitable to support bat species of concern are not present in the project area. The USEPA also asked about mitigation relating to tree clearing (Appendix C, page 75). It was explained that trees removed from floodway areas will likely require mitigation.

These impacts are necessary to achieve the proposed construction; therefore, avoiding the impacts is not practicable. Rehabilitation of disturbed areas shall be accomplished per the current INDOT Standard Specifications. In addition, mitigation for trees removed from floodway areas is anticipated to be required, per IDNR Construction in a Floodway permitting requirements. All applicable recommendations are included in the Environmental Commitments section of this EA document.

Protected Species

Federally Listed Bats	**Yes**	**No**
Information for Planning and Consultation (IPaC) determination key completed		x
Section 7 informal consultation completed (IPaC cannot be completed)	x	
Section 7 formal consultation Biological Assessment (BA) required		x

Determination Received for Listed Bats from USFWS: NE [ ] NLAA [x] LAA [ ]

Other Species not included in IPaC	**Yes**	**No**
Additional federal species found in project area (based on IPaC species list)	x	
State species (not bird) found in project area (based upon consultation with IDNR)	x	

Migratory Birds	**Yes**	**No**
Known usage or presence of birds (i.e. nests)		x
State bird species based upon coordination with IDNR		x

Discuss IDNR coordination and species identified. Describe USFWS Section 7 consultation and determination received for Indiana bat and northern long-eared bat impacts. Discuss if other federally listed species were identified. If so, include consultation that has occurred and the determination that was received. Discuss if migratory birds have been observed and any impacts.

Based on a desktop review and the RFI report (Appendix E, page 8), completed by DLZ on December 18, 2019, the IDNR Lake County Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR coordination letter dated February 14, 2013 (Appendix C, page 7), which provided comments from the Division of Fish and Wildlife (IDNR-DFW), the Natural Heritage Program's Database has been checked. IDNR-DFW noted the presence of Franklin's ground squirrel (*Poliocitellus franklinii*) in the project area and indicated that no impacts to this species were foreseen as long as the project proposed no impacts within Hoosier Prairie. The project will not impact Hoosier Prairie. IDNR-DFW also indicated that there does not appear to be least bittern (*Ixobrychus exilis*) nesting habitat in the project area and no impacts to this species were foreseen. IDNR-DFW recommended that exclusion/drift fencing be installed along the length of Hoosier Prairie abutting the proposed construction, from March 1 through June 30, to prevent reptiles and amphibians from entering the construction area. IDNR-DFW recommended that any reptiles or amphibians encountered in the project area should be removed unharmed and placed outside the construction area.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, page 85). The project is within range of the federally endangered Indiana bat *(Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). The Karner blue butterfly (*Lycaeides melissa samuelis*) was also found to be present within or adjacent to the project area along with the Indiana bat and northern long-eared bat.

Because this project involves roadway construction more than 300 feet from existing roadways, this project does not qualify for the Range-wide Programmatic Informal Consultation for the Indiana bat and NLEB. On June 18, 2020 further coordination occurred with INDOT on how to proceed with determining impacts to bats. USFWS was contacted on July 21, 2020 (Appendix C, Page 92) and informed that the project does not qualify for the Range-wide Programmatic Informal Consultation for the Indiana bat and NLEB. USFWS was requested to indicate what information should be provided to USFWS to facilitate a determination of the project's potential effects upon the Indiana bat and NLEB. USFWS responded on August 14, 2020 (Appendix C, Page 94) indicating that a habitat assessment should be prepared to document whether the project area contains adequate habitat structure for the Indiana bat and NLEB. The requested habitat assessment (Appendix C, Page 97) was provided to USFWS on October 5, 2020. The USFWS responded on October 20, 2020 (Appendix C, Page 118) and concurred with the recommendation contained in the habitat assessment, that the woodland habitat which would be affected/removed by project construction is not suitable to support either the Indiana bat or NLEB. USFWS concluded that the proposed project is not likely to adversely affect these listed species.

The official species list generated from IPaC indicated one other species present within the project area. The Karner blue butterfly was found in the project area. The project does not qualify for the USFWS Interim Policy. The USFWS e-mail dated August 31, 2020 (Appendix C, Page 95) indicated that the Karner blue butterfly no longer occurs within the project area. USFWS also noted that potential habitat near Kennedy Avenue is too wet to support lupine plants, the only species eaten by the Karner blue butterfly larvae; therefore, there is no habitat for the Karner blue butterfly species in the project area.

USFWS' e-mail dated August 14, 2020 (Appendix C, Page 94) indicated that the project area south of the CN tracks is within the Primary Dispersal Zone for the endangered rusty patched bumblebee (*Bombus affinis*). USFWS provided a link to the website (https://www.fws.gov/midwest/endangered/insects/rpbb/rpbbid.html) to be used in evaluating potential impacts to this species. The Rusty Patched Bumble Bee Map was reviewed on-line and it was determined the project is within a Low Potential Zone (yellow shaded area). The website indicated, "If your project or action is in a Low Potential Zone (yellow or blue areas on the map), Section 7 consultation is not needed. Conclude "rusty patched bumble bee not present" and document your finding for your files. No further consultation required." This information was relayed to USFWS on August 18, 2020 (Appendix C, Page 95). USFWS' August 31, 2020 e-mail (Appendix C, Page 95) indicated that because IPaC found that the rusty patched bumblebee isn't in the project area, this species is not a concern.

On November 4, 2020, USFWS was requested to indicate whether the determination pertaining to the Indiana bat and NLEB, that no further coordination is required, is also appropriate for the Karner blue butterfly and rusty patched bumblebee. The USFWS responded on November 4, 2020 and indicated that no further coordination is required. (Appendix C, Page 119).

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act, as amended. If new information on endangered species at the site becomes available, or if project plans are changed, USFWS will be contacted for consultation.

All applicable recommendations are included in the Environmental Commitments section of this EA document.

Geological and Mineral Resources	**Yes**	**No**
Project located within the Potential Karst Features Area of Indiana		x
Karst features identified within or adjacent to the project area		x
Oil/gas or exploration/abandoned wells identified in the project area		x

Date Karst Study/Report reviewed by INDOT EWPO (if applicable): N/A

Discuss if project is located in Potential Karst Features Area of Indiana and if any karst features have been identified in the project area (from RFI). Discuss response received from IGWS coordination. Discuss if any mines, oil/gas, or exploration/abandoned wells were identified and if impacts will occur. Describe if any impacts will occur to any karst features. Include discussion of karst

study/report was completed and results. (Karst investigation must comply with the current Karst MOU and coordinated and reviewed by INDOT EWPO)

Based on a desktop review, the project is located outside the designated karst region of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU). According to the topo map of the project area (Appendix B, page 2) and the RFI report (Appendix E, page 3), there are no karst features identified within or adjacent to the project area.

In the early coordination response (January 7, 2021), the Indiana Geological Survey (IGS) did not indicate that karst features exist in the project area (Appendix C, page 120). The IGS environmental assessment indicated the following resources within the general project area:

- Geological Hazards: high liquefaction potential, floodway
- Mineral Resources: bedrock resource - high potential, sand and gravel resource - low potential
- Active or abandoned mineral resource extraction sites: petroleum exploration wells

The features will not be affected because soils investigations will be performed to ensure appropriate designs will be developed. The project is not located in an area where mineral resource extraction occurs. Refer to the Floodplains section of this document for discussion of floodplain/floodway effects. There are no petroleum exploration wells in the project area.

Response from IGS has been communicated with the designer on January 7, 2021. No impacts are expected.

SECTION C – OTHER RESOURCES

	Presence	Impacts	
Drinking Water Resources		Yes	No
Wellhead Protection Area(s)			
Source Water Protection Area(s)			
Water Well(s)	x	x	
Urbanized Area Boundary	x	x	
Public Water System(s)	x	x	

	Yes	No
Is the project located in the St. Joseph Sole Source Aquifer (SSA):		x
If Yes, is the FHWA/EPA SSA MOU Applicable?		
If Yes, is a Groundwater Assessment Required?		

Check the appropriate boxes and discuss each topic below. Provide details about impacts and summarize resource-specific coordination responses and any mitigation commitments. Reference responses in the Appendix.

The project is located in Lake County, which is not located within the area of the St. Joseph Sole Source Aquifer, the only legally designated sole source aquifer in the state of Indiana. Therefore, the FHWA/EPA/INDOT Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project, a detailed groundwater assessment is not needed, and no impacts are expected.

The IDEM Wellhead Proximity Determinator website (http://www.in.gov/idem/cleanwater/pages/wellhead/) was accessed on January 7, 2021 by DLZ Indiana, LLC. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

The IDNR Water Well Record Database website (https://www.in.gov/dnr/water/3595.htm) was accessed on January 7, 2021 by DLZ Indiana, LLC. Wells are present along Kennedy Avenue throughout the project area. The features will be affected because the project requires up to 40 residential and 6 business relocations. With regard to wells on properties that are among the required relocations, impacts are unavoidable. With regard to properties that are impacted but not among the required relocations, wells will be avoided where practicable. In the event such a well must be impacted, a cost to cure will be included in the appraisal to restore the wells.

Based on a desktop review of the INDOT MS4 website (https://entapps.indot.in.gov/MS4/) by DLZ Indiana, LLC on January 7, 2021 and the RFI report; this project is located in an Urban Area Boundary (UAB) location. An early coordination letter was sent on January 7, 2021, to the Schererville MS4 coordinator. The MS4 Coordinator responded on January 7, 2021 (Appendix C, page 84), indicating that the project will require replacement of the Town's water system within the existing alignment portion of the project. No unusual MS4 related conflicts have been identified to date. The project will make improvements to the Town's storm water drainage system. Coordination with the MS4 Coordinator will continue as this project is developed.

Based on a desktop review, a site visit on July 9 and 10, 2020 by DLZ Indiana, LLC, the aerial map of the project area (Appendix B, page 3), and coordination with the Town of Schererville's Director of Public Works (Appendix C, page 84), this project is located where there is a public water system. The public water system will be affected. The Town operates its own water main network with services to businesses and residences throughout the project area along Kennedy Avenue. The proposed work along the existing Kennedy Avenue alignment (Phases 1 – 3) will require replacement of the water system. Utility coordination has been initiated and will continue during project development to ensure water service is maintained during construction.

Floodplains	**Presence**	**Impacts**	
		Yes	**No**
Project located within a regulated floodplain	x	x	
Longitudinal encroachment			
Transverse encroachment	x	x	
Homes located in floodplain within 1000' up/downstream from project	x		x

If applicable, indicate the Floodplain Level?

Level 1	Level 2	Level 3	Level 4	Level 5
				x

Use the IDNR Floodway Information Portal to help determine potential impacts. Include floodplain map in appendix. Discuss impacts according to the classification system. If encroachment on a flood plain will occur, coordinate with the Local Flood Plain Administrator during design to insure consistency with the local flood plain planning.

Based on a desktop review of The IDNR Indiana Floodway Information Portal website (http://dnrmaps.dnr.in.gov/appsphp/fdms/) by DLZ on January 6, 2021 and the RFI report, this project is located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix B, page 4). An early coordination letter was sent on January 7, 2021 to the local Floodplain Administrator. The floodplain administrator responded on January 7, 2021 (Appendix C, page 83) and expressed no concern regarding the project's potential floodplain impacts.

This project qualifies as a Category 5 – Projects on New Alignment per the current INDOT CE Manual. A hydraulic design study is required for all major drainage structures (opening larger than 100 square feet) during the preliminary design phase. INDOT's public involvement manual requires that the public be offered the opportunity to request a hearing if the project results in substantial floodplain impacts.

There will be no substantial impacts on natural and beneficial floodplain values; there will be no substantial change in flood risks; and there will be no substantial increase in potential for interruption or termination of emergency service or emergency evaluation routes; therefore, it has been determined that this encroachment is not substantial. A hydraulic design study that addresses various structure size alternatives will be completed during the preliminary design phase. A summary of this study will be included with the Field Check Plans.

The IDNR-DFW Early Coordination response dated February 14, 2013 (Appendix C, page 7) indicated that the project will require Construction in a Floodway permitting.

All applicable recommendations are included in the Environmental Commitments section of this EA document.

	Presence	Impacts	
Farmland		Yes	No
Agricultural Lands			
Prime Farmland (per NRCS)			

Total Points (from Section VII of CPA-106/AD-1006*) **N/A**
**If 160 or greater, see CE Manual for guidance.*

Discuss existing farmland resources in the project area, impacts that will occur to farmland, and mitigation and minimization measures considered.

Based on a desktop review, site visits on July 9 and 10, 2020 by DLZ and the aerial map of the project area (Appendix B, page 3), there is no land that meets the definition of farmland under the Farmland Protection Policy Act (FPPA) within or adjacent to the project area. The requirements of the FPPA do not apply to this project; therefore, no impacts are expected. An early coordination letter was sent on November 13, 2020, to the Natural Resources Conservation Service (NRCS). The NRCS response dated November 30, 2020 (Appendix C, page 126) indicated that the project would not cause a conversion of prime farmland.

SECTION D – CULTURAL RESOURCES

	Category(ies) and Type(s)	INDOT Approval Date(s)	N/A
Minor Projects PA			x

Full 106 Effect Finding
No Historic Properties Affected [x] No Adverse Effect [ ] Adverse Effect [ ]

Eligible and/or Listed Resources Present
NRHP Building/Site/District(s) [ ] Archaeology [ ] NRHP Bridge(s) [ ]

Documentation Prepared (mark all that apply)		ESD Approval Date(s)	SHPO Approval Date(s)
APE, Eligibility and Effect Determination	x	1/25/2021	2/15/2021
800.11 Documentation	x	1/25/2021	2/15/2021
Historic Properties Short Report	x	8/7/2019 (Local TRAX)	9/4/2019
Historic Property Report	x	3/26/2014 (Kenn. Ave.)	4/8/2014
Historic Property Report Update 1	x	8/22/2019(Kenn. Ave.)	9/5/2019
Historic Property Report Update 2	x	10/1/2020 (Kenn. Ave)	10/27/2020
Archaeological Records Check and Assessment			
Archaeological Phase Ia Survey Report	x	4/3/2020 (Local TRAX)	5/1/2020
Archaeological Phase Ia Survey Report	x	5/4/2020 (Kenn. Ave.)	6/3/2020
Archaeological Phase Ic Survey Report			
Other:			

		MOA Signature Dates (List all signatories)
Memorandum of Agreement (MOA)		

If the project falls under the MPPA, describe the category(ies) that the project falls under and any approval dates. If the project requires full Section 106, use the headings provided. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of the paper(s) and the comment period deadline. Include any further Section 106 work which must be completed at a later date, such as mitigation from a MOA or avoidance commitments.

Area of Potential Effect (APE):
The Area of Potential Effects (APE) for this project extends approximately 600 feet south, 1,200 feet east, and 1,200 feet west beyond the project limits at the southern terminus at US 30, and approximately 650 feet north, and 600 feet east and west of the

northern terminus at Main Street. In proximity to the Canadian National/Norfolk Southern (CN/NS) railroad crossing, the APE extends approximately 1,600 feet east of Kennedy Avenue. In proximity to Junction Avenue, the APE extends approximately 2,600 feet east of Kennedy Avenue. A graphic depicting the APE is presented as Appendix D, page 36.

Coordination with Consulting Parties:
Section 106 consultation began for the Kennedy Avenue Improvements project (Des. Nos. 1173760, 1382603 and 1902000) in 2014. On March 12, 2014, an Early Coordination Letter (ECL) was sent to the Indiana State Historic Preservation Officer (SHPO) and the other consulting parties listed below:

- Indiana Landmarks – Northwest Field Office
- Griffith Historical Society, Inc.
- Indiana Lincoln Highway Association, Inc.
- Lake County Historic Preservation Coalition
- Schererville Main Street
- Lake County Commissioners
- Lake County Historian
- Dyer Historical Society

The Indiana Landmarks – Northwest Field Office, Schererville Main Street, Indiana Lincoln Highway Association, Inc. and Lake County Historian accepted the invitation to participate as consulting parties. On April 8, 2014, the SHPO responded to the Kennedy Avenue ECL, noting that Indiana bridge historian Dr. James L. Cooper and the Indiana Historic Spans Task Force were not included in the list of invited consulting parties. These parties were sent early coordination letters on April 8, 2014.

On June 13, 2019, an ECL was distributed for the Local TRAX project (Des. Nos. 1801911 and 1900834). The ECL was sent to the SHPO and the agencies/parties listed below:

- Eastern Shawnee Tribe of Oklahoma
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Forest County Potawatomi Community
- Northwestern Indiana Regional Planning Commission
- Lake County Board of Commissioners
- Lake County Highway Department
- Town Council of Schererville, Indiana
- Indiana Landmarks Northwestern Regional Office
- Lake County Historian
- Lake County Historical Society
- Schererville Historical Society
- Schererville Main Street
- Schererville Planning Commission
- Lincoln Highway Association – Indiana
- Decay Devils, Inc.

On June 24, 2019, the Pokagon Band of Potawatomi Indians accepted this consulting party invitation. On July 15, 2019, the SHPO responded to the Local TRAX ECL and advised that both the CN and NS Railroads should be invited to participate in consultation. The railroads were invited to participate as consulting parties on August 7, 2019. On August 9, 2019, the CN Railroad accepted this consulting party invitation.

On August 22, 2019, due to the passage of time since the Kennedy Avenue Historic Properties Report (HPR) was prepared, DLZ sent a second consulting party invitation and an HPR update letter prepared by H&H Associates (H&H, 2019) to the following consulting parties:

- Indiana State Historic Preservation Officer
- Indiana Landmarks – Northwest Field Office
- Indiana Lincoln Highway Association, Inc.
- Schererville Main Street
- Lake County Historian
- Griffith Historical Society, Inc.
- Lake County Historic Preservation Coalition
- Mr. James L. Cooper, Ph.D.

- Lake County Commissioners
- Dyer Historical Society
- Indiana Historic Spans Task Force
- Eastern Shawnee Tribe of Oklahoma
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Forest County Potawatomi Community

On August 28, 2019, the Pokagon Band of Potawatomi Indians accepted the second consulting party invitation.

On October 1, 2020, due to changes in the project scope, a consulting party invitation/consultation letter was sent to all consulting parties previously invited for both the Kennedy Avenue Improvements project and the Local TRAX project. This letter explained that the Kennedy Avenue project and the Local TRAX project had been combined, additional work was proposed along Junction Avenue, a composite APE had been developed and that no NRHP-listed or NRHP-eligible properties had been identified within the APE established for the combined project.

On October 6, 2020, the Miami Tribe of Oklahoma accepted this consulting party invitation.

Archaeology:
NS Services, LLC (NS Services) completed a Phase Ia archaeological survey and report (2020) for the Kennedy Avenue project (Des. Nos. 1173760, 1382603 and 1902000) that provided recommendations regarding the presence of archaeological resources within the APE. As a result of identification and evaluation efforts for this project, no archaeological sites listed in or recommended as eligible for listing in the National Register of Historic Places (NRHP) were identified within the project APE. The INDOT Cultural Resources Office (INDOT-CRO) reviewed the archaeological report and released it for distribution to the consulting parties via IN SCOPE (http://erms.indot.in.gov/Section106Documents/) on May 4, 2020. In a letter dated June 3, 2020, the SHPO concurred with the archaeological report's recommendations (Appendix D, pages 252 and 253).

Weintraut and Associates, Inc. (W&A) prepared an archaeological report (2020) for the Local TRAX project (Des. Nos. 1801911 and 1900834). As a result of identification and evaluation efforts, no archaeological sites listed in or recommended as eligible for listing in the NRHP were identified within the APE. The INDOT Cultural Resources Office (INDOT-CRO) reviewed the archaeological report and released it for distribution to the appropriate consulting parties via IN SCOPE on April 3, 2020. In a letter dated May 1, 2020 the SHPO concurred with the archaeological report's recommendations (Appendix D, pages 294 and 295).

Historic Properties:
H&H completed an HPR (2013) for the Kennedy Avenue project (Des. Nos. 1173760, 1382603 and 1902000) that provided recommendations regarding the presence of historic properties within the APE. As a result of identification and evaluation efforts for this project, no properties listed in the NRHP were identified within the APE and one property recommended as eligible for NRHP listing (a Pennsylvania Petit-Through-Truss metal bridge - IHSSI No. 089-275-60002, rated outstanding) was identified along the west boundary of the APE. The INDOT Cultural Resources Office (INDOT-CRO) reviewed the HPR and it was sent to the SHPO on March 26, 2014. The HPR was sent to the other consulting parties on July 31, 2014. In a letter dated April 8, 2014, the SHPO concurred with the HPR's recommendations regarding the presence of historic properties within the APE (Appendix D, pages 228 and 229).

Due to the passage of time since the Kennedy Avenue HPR had been prepared, H&H prepared an update to the Kennedy Avenue HPR (2019). As a result of identification and evaluation efforts for this project, it was found that the NRHP-eligible Pennsylvania Petit-Through-Truss metal bridge located along the west boundary of the APE had been demolished; therefore, it was recommended that no NRHP-listed or eligible properties were located within the APE. The INDOT Cultural Resources Office (INDOT-CRO) reviewed the HPR update and it was made available to the consulting parties via IN SCOPE on August 22, 2019. In a letter dated September 5, 2019, the SHPO concurred with the archaeological assessment's recommendations (Appendix D, pages 243 - 245).

W&A prepared a Historic Property Short Report (HPSR) (2019) for the Local TRAX project that found there are no NRHP-listed properties in the APE established for the Local TRAX project and recommended there are no NRHP-eligible properties in the APE. The INDOT Cultural Resources Office (INDOT-CRO) reviewed the HPR and it was made available to the consulting parties via IN SCOPE on August 7, 2019. In a letter dated September 4, 2019, the SHPO concurred with the HPSR's recommendations regarding the presence of historic properties within the APE (Appendix D, pages 285 and 286).

Due to changes in the project scope, H&H prepared an HPR update (2020) for the Kennedy Avenue project (including the grade separation at the CN/NS Railroad crossing). This HPR update explained that the Kennedy Avenue project and the Local TRAX

project had been combined, additional work was proposed along Junction Avenue and a composite APE had been developed to encompass the APEs previously established for the Kennedy Avenue project and the Local TRAX project, as well as additional area along Junction Avenue. The additional area along Junction Avenue was assessed by H&H. As a result of identification and evaluation efforts, no properties listed in, or eligible for listing in the NRHP were identified within the APE established for the combined project. The INDOT Cultural Resources Office (INDOT-CRO) reviewed the HPR update and it was made available to the consulting parties via INSCOPE on October 1, 2020. In a letter dated October 27, 2020, the SHPO concurred with the HPR update's recommendations regarding the presence of historic properties within the APE established for the combined project (Appendix D, pages 259 and 260).

Documentation Finding:
INDOT-CRO, acting on the FHWA's behalf, issued a finding of "No Historic Properties Affected" on January 25, 2021 for this undertaking. The SHPO concurred with the finding in a letter dated February 15, 2021 (Appendix D, pages 301 and 302).

Public Involvement:
Views of the public pertaining to the INDOT CRO/FHWA Finding of "No Historic Properties Affected" were sought through publication of a legal notice in the Times of Northwest Indiana newspaper (February 22, 2021). Comments were requested on or before March 25, 2021. No comments were received. The affidavit for publication of the legal notice is presented as Appendix D, Pages 303 and 304.

This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

SECTION E – SECTION 4(f) RESOURCES/ SECTION 6(f) RESOURCES

	Presence	Use	
Parks and Other Recreational Land		**Yes**	**No**
Publicly owned park			
Publicly owned recreation area			
Other (school, state/national forest, bikeway, etc.)			
Wildlife and Waterfowl Refuges			
National Wildlife Refuge	x		x
National Natural Landmark	x		x
State Wildlife Area			
State Nature Preserve	x		x
Historic Properties			
Site eligible and/or listed on the NRHP			

	Evaluations Prepared
Programmatic Section 4(f)	
"De minimis" Impact	
Individual Section 4(f)	
Any exception included in 23 CFR 774.13	

Discuss Programmatic Section 4(f) and "de minimis" Section 4(f) impacts in the discussion below. Individual Section 4(f) documentation must be included in the Appendix and summarized below. Discuss proposed alternatives that satisfy the requirements of Section 4(f). FHWA has identified various exceptions to the requirement for Section 4(f) approval. Refer to 23 CFR § 774.13 - Exceptions.

Section 4(f) of the U.S. Department of Transportation Act of 1966 prohibits the use of certain public and historic lands for federally funded transportation facilities unless there is no feasible and prudent alternative. The law applies to significant publicly owned parks, recreation areas, wildlife / waterfowl refuges, and NRHP eligible or listed historic properties regardless of ownership. Lands subject to this law are considered Section 4(f) resources.

Based on a desktop review, site visits on July 9 and 10, 2020 by DLZ, the aerial map of the project area (Appendix B, page 3) and the RFI report (Appendix E, page 13), there are nine potential 4(f) resources located within the 0.5 mile search radius. There are two located within the project area; the Hoosier Prairie and the Pennsy Greenway Trail.

The Hoosier Prairie is within the project area near the north project terminus, with holdings east and west of Kennedy Avenue. The IDNR and National Parks Service are the officials with jurisdiction (OWJ). The Indiana Dunes National Lakeshore is a National Natural Landmark. Please note, in February 2019 the Indiana Dunes National Lakeshore was redesignated as Indiana Dunes National Park.

Hoosier Prairie is a large remnant of the prairie landscape that was once common in northwest Indiana. This tract preserves the topographic and biotic diversity of the sand plains north of the Valparaiso Moraine. Plant diversity is exceptionally high due to a wide range of moisture conditions. Sand rises support dry black oak savannas. Mesic sand prairie openings can be found on slopes between the rises and swales. Wet prairies, sedge meadows and marshes are scattered throughout the preserve in depressions and flats. Its size and plant diversity make Hoosier Prairie an excellent place to view native birds and other animals. A one-mile, self-guided trail leads into the prairie from a parking lot located on the south side of Main Street, approximately one-quarter mile east of Kennedy Avenue. As a publicly owned state nature preserve, the Hoosier Prairie is eligible for protection under Section 4(f). The project involves roadway reconstruction and widening along the Hoosier Prairie's Kennedy Avenue frontage.

The portion of Hoosier Prairie east of Kennedy Avenue is part of the dedicated nature preserve and therefore is eligible for protection under Section 4(f). In this area, all construction will take place in an existing roadway easement. The project will not encroach upon the property, require permanent or temporary acquisition of land, nor will it affect access. Coordination with the OWJ has been undertaken and the OWJ concur that the project's impacts along the east side of Kennedy Avenue do not constitute a Section 4(f) use as all work will be performed within the existing easement (Appendix I, pages 1 and 2). The project will not use this resource by taking permanent right of way and will not alter the environment in such a way as to constitute constructive use of this resource. Therefore, no use is expected.

A parcel of land referred to as the "Reichelt Tract" is located on the west side of Kennedy Avenue, north of Division Street and south of the CN/NS Railroad. This parcel of land is owned by the IDNR and is part of the overall Hoosier Prairie holdings; however, it is not part of the dedicated state nature preserve. The parcel is the location of a wetland mitigation site. The proposed roadway reconstruction and widening will require encroachment onto, and acquisition of permanent right of way from, this parcel. Coordination with the OWJ has been undertaken and the OWJ has confirmed that the Reichelt Tract is not eligible for protection under Section 4(f) (Appendix I, page 1).

The Town of Schererville's Pennsy Greenway Trail crosses Kennedy Avenue at Junction Avenue, and portions of the trail east and west of Kennedy Avenue will be realigned. The Town of Schererville is the OWJ. Because this trail is publicly owned, its potential eligibility for protection under Section 4(f) was assessed. Through coordination with the OWJ it was determined the trail's primary purpose is to provide opportunities for pedestrian and bicycle transportation to points within the Town of Schererville and points beyond (Appendix I, page 5). Per CFR 774.13 (f)(4), the project's involvement with this trail does not require approval under Section 4(f) because the trail is part of the local transportation system and functions primarily for transportation.

While not identified in the RFI, there are two Town of Schererville-owned parcels on the west side of Kennedy Avenue, between 67th Avenue and Kaeser Boulevard, that are the currently the location of a Pop Warner Youth Football League facility. The Town of Schererville is the OWJ. Through coordination with the OWJ it was determined that these parcels have not been designated for park or recreational use and are not considered part of the Town's park system. The parcels are not available to the general public for recreational use. Use of the parcels is limited to those affiliated with the Pop Warner Youth Football League (Appendix I, page 6). The OWJ indicated that these parcels do not play an important role in meeting the community's overall park and recreation objectives. Therefore, these parcels do not meet the definition of a publicly owned park or recreation area and are not eligible for protection under Section 4(f).

The project will not use the above-described resources by taking permanent right of way and will not indirectly use the resources in such a way that protected activities, features, or attributes that qualify the resources for protection under Section 4(f) are substantially impaired. Therefore, no 4(f) use is expected.

Section 6(f) Involvement	Presence	Use	
		Yes	No
Section 6(f) Property	x		x

Discuss Section 6(f) resources present or not present. Discuss if any conversion would occur as a result of this project. If conversion will occur, discuss the conversion approval.

The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation resources. Section 6(f) of this Act prohibits conversion of lands purchased with LWCF monies to a non-recreation use.

A review of 6(f) properties listed on the INDOT Environmental Services Environmental Policy website page at https://www.in.gov/indot/2523.htm revealed a total of 58 properties in Lake County (Appendix I, page 8). The Hoosier Prairie is located within the project area. The IDNR Division of Outdoor Recreation is the state liaison for managing the LWCF program.

Coordination with the IDNR Division of Outdoor Recreation has been undertaken and the IDNR Division of Outdoor Recreation concurs that the project's impacts along the east side of Kennedy Avenue do not constitute a Section 6(f) use as all work will be performed within the existing easement (Appendix I, pages 1 - 3). The project will not use this resource by taking right of way or converting land in recreational use to a non-recreational use. Additionally, coordination with the IDNR Division of Outdoor Recreation determined that the Reichelt Tract does not carry Section 6(f) designation. Therefore, there will be no impacts to 6(f) resources as a result of this project.

SECTION F – Air Quality

STIP/TIP and Conformity Status of the Project	Yes	No
Is the project in the most current STIP/TIP?	x	
Is the project located in an MPO Area?	x	
Is the project in an air quality non-attainment or maintenance area?	x	
If Yes, then:		
Is the project in the most current MPO TIP?	x	
Is the project exempt from conformity?		x
If No, then:		
Is the project in the Transportation Plan (TP)?	x	
Is a hot spot analysis required (CO/PM)?		x

Location in STIP: 2020-2024 STIP Project Listing pages 347, 348, 359 and 364.

Name of MPO (if applicable): Northwestern Indiana Regional Planning Commission (NIPRC)

Location in TIP (if applicable): N/A

Level of MSAT Analysis required?

Level 1a [ ] Level 1b [x] Level 2 [ ] Level 3 [ ] Level 4 [ ] Level 5 [ ]

Describe if the project is listed in the STIP and if it is in a TIP. Describe the attainment status of the county(ies) where the project is located. Indicate whether the project is exempt from a conformity determination. If the project is not exempt, include information about the TP and TIP. Describe if a hot spot analysis is required and the MSAT Level.

This project is included in the Fiscal Year (FY) 2020-2024 Northwestern Indiana Regional Planning Commission Transportation Improvement Program (NIRPC TIP) and Statewide Transportation Improvement Program (STIP) (Appendix H, pages 1 – 8). Note that Des. No. 1900834 has been kinned to Des. No. 1801911, and the project phasing and Des. Nos. described in the TIP and STIP do not match the project phasing and Des. Nos. as described in the Project Description section of this document. NIRPC has revised the current Administrative Modification #22-55 to correct the Des. Nos., project phasing and years of expenditure. This

Administrative Modification will be incorporated into the FY 2020-2024 STIP.

This project is located in Lake County, which is currently a “marginal” nonattainment area for Ozone under the 2015 8-Hour Ozone Standard (0.070 ppm), a "serious" nonattainment area for the 2008 8-Hour Ozone Standard (0.075 ppm) and a nonattainment area for the 2010 1-Hour SO2 Standard.

The project’s design concept and scope are accurately reflected in both the NIRPC Transportation Plan (TP) and the Transportation Improvement Program (TIP) and both conform to the State Implementation Plan (SIP). Therefore, the conformity requirements of 40 CFR 93 have been met.

This project is located in Lake County. This county is currently a nonattainment area for PM2.5. Under 40 CFR 93.123, this is not a project of air quality concern. Therefore, a hot spot analysis for PM2.5 is not required.

The purpose of this project is to improve Kennedy Avenue’s operational capacity, system linkage, and roadway deficiencies within the project area by constructing additional travel lanes, turning lanes at intersections and a grade separated crossing at the CN/NS Railroad. This project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special mobile source air toxic (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with USEPA’s MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

SECTION G - NOISE

Noise	**Yes**	**No**
Is a noise analysis required in accordance with FHWA regulations and INDOT’s traffic noise policy?	x	

Date Noise Analysis was approved/technically sufficient by INDOT ESD: 11/12/2020 (Kenn. Ave.), 8/27/2020 (Local TRAX)

Describe if the project is a Type I or Type III project. If it is a Type I project, describe the studies completed to date and if noise impacts were identified. If noise impacts were identified, describe if abatement is feasible and reasonable and include a statement of likelihood.

This project is a Type I project. In accordance with 23 CFR 772 and the current Indiana Department of Transportation Traffic Noise Analysis Procedure, this action requires a formal noise analysis.

Local TRAX Traffic Noise Analysis:
A traffic noise analysis was conducted by CMT for the portion of the project area between Division Street and Scherland Drive. This study identified 17 receptor locations consisting of 28 dwelling units (DU). These receptors were assigned either an Activity Category B or Activity Category C noise abatement criteria (NAC) classification. Activity Category B includes the exterior impact criteria for single-family and multifamily residences. Activity Category C includes the exterior impact criteria for a variety of land use facilities. The NAC for such receptors is 67 dBA.

Existing noise levels for these receptors ranged from 49.6 dBA to 62.5 dBA. Future predicted noise levels for these receptors ranged from 55.0 dBA to 69.4 dBA. One impacted receptor was identified. Existing and future predicted noise levels for each receptor are presented in tabular form, in the CMT Noise Analysis Report (Appendix J, page 13).

Noise abatement measures were evaluated at the above locations based upon preliminary design costs and design criteria. Construction of effective noise barriers was determined to be feasible. Noise abatement was not found to be reasonable based on a

cost per benefitted receptor exceeding $25,000 for identified feasible barriers meeting the noise reduction design goal. The least expensive barrier meeting the feasibility and design goals had a projected cost of $35,521 per benefitted receptor.

Kennedy Avenue Improvements Traffic Noise Analysis:
A traffic noise analysis was conducted by DLZ Indiana, LLC for the entire project area between US 30 and Main Street. This study identified 172 receptors representing 179 DU. Of the 179 DU, 176 DU were assigned an Activity Category B NAC classification. The remaining 3 DU were commercial businesses that were assigned an Activity Category C NAC Classification. The NAC for such receptors is 67 dBA. This analysis included evaluation of the 17 receptor locations evaluated in the CMT Noise Analysis Report; therefore, there are 172 receptor locations, representing 179 DU, within the project area from US 30 to Main Street.

Existing noise levels for these receptors ranged from 44.2 dBA to 63.9 dBA. Future predicted noise levels for these receptors ranged from 50.4 dBA to 70.5 dBA. Based on the predicted noise levels, there are 17 impacted receptor locations, representing 21 DU, with an Activity Category B classification and 1 impacted receptor location, representing 1 dwelling unit, with an Activity Category C classification. Existing and future predicted noise levels for all receptor locations within the project area are presented in tabular form, in the DLZ Traffic Noise Study and Abatement Analysis (Appendix J, pages 132 - 137).

Based on the studies thus far accomplished, DLZ Indiana, LLC has not identified any locations where noise abatement is likely. Noise abatement at these locations is based upon preliminary design costs and design criteria. Noise abatement at impacted receptors located along the proposed Kennedy Avenue alignment has not been found to be feasible based on engineering and acoustical reasons due to the lack of access control resulting from existing driveway access points. Noise abatement at impacted receptors situated along the south side of the existing US 30 alignment has not been found to be feasible based on engineering and acoustical reasons since the primary source of traffic noise impacting these receptors is related to the US 30 roadway and not Kennedy Avenue. A reevaluation of noise analysis will occur during final design. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, the abatement measures might be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes.

SECTION H – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors	**Yes**	**No**
Will the proposed action comply with the local/regional development patterns for the area?	x	
Will the proposed action result in substantial impacts to community cohesion?		x
Will the proposed action result in substantial impacts to local tax base or property values?		x
Will construction activities impact community events (festivals, fairs, etc.)?		x
Does the community have an approved transition plan?	x	
If No, are steps being made to advance the community's transition plan?		
Does the project comply with the transition plan? (explain in the discussion below)	x	

Discuss how the project complies with the area's local/regional development patterns; whether the project will impact community cohesion; and impact community events. Discuss how the project conforms with the ADA Transition Plan.

The project will require up to 40 residential and six business relocations. Aside from these impacts, no negative community impacts are expected to occur as a result of this project. Relocation impacts to the densely settled residential neighborhood occupying the southern portion of the project area between US 30 and Junction Avenue have been minimized to greatest extent possible. The project area between Junction Avenue and the north project terminus at Main Street is less densely residential, with commercial and industrial properties present. The Cal-Ridge Moose Family Center is located on the west side of Kennedy Avenue near the project's north terminus. This facility is used by members as well as the public. The project will acquire a strip of land along the property's frontage and will reestablish both existing driveways. The existing parking lot and facilities will not be impacted. Between Junction Avenue and Main Street, construction will take place within and immediately adjacent to existing Kennedy Avenue. Access to properties in the project area will be maintained; therefore, Kennedy Avenue neighborhoods will still be able to access Downtown Schererville. The roadway will be closed in phases, and traffic will be detoured during construction. Refer to the Maintenance of Traffic Section of this document for additional information. Aside from short-term inconveniences during construction, the project will not affect linkages between neighborhoods, nor will it affect community cohesion.

The Town of Schererville has an approved ADA Transition Plan (2013). The project includes provision of ADA compliant pedestrian

facilities where feasible; therefore, the project complies with the Transition Plan by providing new ADA compliant pedestrian facilities between the project's south terminus at US 30 and Junction Avenue, and by reconstructing the Pennsy Trail at Junction Avenue.

Public Facilities and Services

Discuss what public facilities and services are present in the project area and impacts (such as MOT) that will occur to them. Include how the impacts have been minimized and what coordination has occurred. Some examples of public facilities and services include health facilities, educational facilities, public and private utilities, emergency services, religious institutions, airports, transportation or public pedestrian and bicycle facilities.

Based on a desktop review, the aerial map of the project area (Appendix B, page 3) and the RFI report (Appendix E, page 2), there are three managed lands located within the 0.5 mile of the project. There are four trail facilities located within the 0.5 mile of the project. There are four recreational facilities located within the 0.5 mile of the project. There are two schools located within the 0.5 mile of the project. There is one cemetery located within the 0.5 mile of the project. There are three religious facilities located within the 0.5 mile of the project. That number was confirmed by the site visit on July 9 and 10, 2020 by DLZ. The Hoosier Prairie and Pennsy Greenway trail are within or adjacent to the project area.

The Hoosier Prairie is accessed from the north along Main Street, approximately one-quarter mile east of Kennedy Avenue. Hoosier Prairie will not be encroached upon and access will not be affected. The Pennsy Greenway Trail will be crossed by the project. The project involves realignment of a portion of this trail and Junction Avenue; however, access to the trail will be maintained during construction. Therefore, no impacts are expected.

Utility coordination has been initiated and will continue as the project is developed.

It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access.

Environmental Justice (EJ) (Presidential EO 12898)	**Yes**	**No**
During the development of the project were EJ issues identified?		x
Does the project require an EJ analysis?	x	
If YES, then:		
Are any EJ populations located within the project area?		x
Will the project result in adversely high and disproportionate impacts to EJ populations?		x

Indicate if EJ issues were identified during project development. If an EJ analysis was not required, discuss why. If an EJ analysis was required, describe how the EJ population was identified. Include if the project has a disproportionately high and adverse effect on EJ populations and explain your reasoning. If yes, describe actions to avoid, minimize and mitigate these effects.

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that requires the preparation of an Environmental Assessment. The project will require up to 40 residential and six business relocations and will require acquisition of approximately 33.76 acres of new permanent right of way. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Lake County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is comprised of Census Tracts 405.02, 427.02 and 427.04. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the American Community Survey (ACS) 5-year estimates (2019) was obtained from the US Census Bureau Website (https://data.census.gov/cedsci/) on May 11, 2021 by DLZ. The data collected for minority and low-income populations within the AC are summarized in the below tables.

B03002: HISPANIC OR LATINO ORIGIN BY RACE - Universe: Total population				
	COC - Lake County	AC 1 - Census Tract 405.02	AC 2 - Census Tract 427.02	AC 3 - Census Tract 427.04
Total:	485,707	3,244	5,215	4,094
White alone	262,879	2,575	4,065	3,238
% Minority	45.88%	20.62%	22.05%	20.91%
125% COC	57.35%			
AC Greater than 50% or Greater than 125% COC?		No	No	No
Minority EJ Population of Concern?		No	No	No

AC-1, Census Tract 405.02 has a percent minority of 20.62% which is below 50% and is below the 125% COC threshold. AC-2, Census Tract 427.02 has a percent minority of 22.05% which is below 50% and is below the 125% COC threshold. AC-3, Census Tract 427.04 has a percent minority of 20.91% which is below 50% and is below the 125% COC threshold. Therefore, the ACs do not contain minority populations of EJ concern.

B17001: POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE - Universe: Population for whom poverty status is determined				
	COC - Lake County	AC 1 - Census Tract 405.02	AC 2 - Census Tract 427.02	AC 3 - Census Tract 427.04
Total:	479,398	3,244	5,193	3,928
Income in the past 12 months below poverty level:	74,629	323	296	257
% Low Income	15.57%	9.96%	5.70%	6.54%
125% COC	19.46%			
AC Greater than 50% or Greater than 125% COC?		No	No	No
Low Income EJ Population of Concern?		No	No	No

AC-1, Census Tract 405.02 has a percent low-income of 9.96% which is below 50% and is below the 125% COC threshold. AC-2, Census Tract 427.02 has a percent low-income of 5.70% which is below 50% and is below the 125% COC threshold. AC-3, Census Tract 427.04 has a percent low-income of 6.54% which is below 50% and is below the 125% COC threshold. Therefore, the ACs do not contain low-income populations of EJ concern.

The CAC, including representatives of the Town of Schererville, were requested to inform the project team of any EJ or otherwise underserved populations that may be affected by the project via e-mail on April 20, 2021 (Appendix G, page 19). Neither the CAC nor town representatives provided any information relating to EJ populations or otherwise underserved populations.

Conclusion:
The census data sheets, map, and calculations can be found in Appendix I, pages 9 - 11. No further environmental justice analysis is warranted.

Relocation of People, Businesses or Farms	**Yes**	**No**
Will the proposed action result in the relocation of people, businesses or farms?	x	
Is a BIS or CSRS required?	x	

Number of relocations: Residences: 40 Businesses: 6 Farms: 0 Other: 1

Discuss any relocations that will occur due to the project. If a BIS or CSRS is required, discuss the results in the discussion below.

The project will require up to 40 residential and six business relocations within 27 parcels. There are more relocations than parcels because there can be multiple Uniform Act (49 CFR Part 24) relocations within a single parcel. For example, a tenant-occupied residence would result in two eligible relocations: one for the tenant and one for the landlord. A parcel occupied by two tenant

businesses would require that relocation entitlements be offered to the landlord and both businesses, resulting in three eligible relocations. In addition, the project will require relocation of the Pop Warner Youth Football League facility located on the west side of Kennedy Avenue, between 67th Avenue and Kaeser Boulevard within two parcels owned by the Town of Schererville. The locations of the relocations are indicated in the Conceptual Stage Relocation Study (CSRS) that was prepared for this project (Appendix K, page 16).

Within the northern portion of the project area between the CN/NS Railroad and Main Street, opportunities to avoid and/or minimize relocation impacts are limited due to the presence of the Hoosier Prairie on the east side of Kennedy Avenue, and the Hartsdale Pond regional detention basin on the west side of Kennedy Avenue. Hoosier Prairie is protected by state law and may not be encroached upon; therefore, the proposed roadway widening was shifted to the west side of the Kennedy Avenue alignment in this area. Shifting the alignment further west to avoid some of these relocations was considered but such an alternative would severely impact the Hartsdale Pond regional detention basin. Maintaining the basin's capacity is critical as it serves a regional purpose, and the project relies on this basin to manage roadway drainage. Measures were taken to minimize relocations within the project area south of the CN/NS Railroad. Between Junction Avenue and Division Street, a proposed multi-use trail has been removed from the project, thereby reducing the project's right of way needs in this area. Between US 30 and 67th Avenue, a new Kennedy Avenue alignment, west of the current alignment, was selected to avoid multiple residential relocations.

The project exceeds INDOT's relocation threshold (10 or more relocations) requiring preparation of a CSRS. A CSRS has been prepared for this project (Appendix K). The purpose of a CSRS is to inventory the characteristics and needs of residents and businesses that may be displaced by a project, analyze potential problems caused by the displacement, and propose solutions to those problems. Ultimately, the CSRS can serve as a basis for determining the extent of hardship to displaced residents and businesses and to those who remain in the project area once the work is completed.

The CSRS concluded that there appears to be an adequate number of replacement properties available for sale or rent near the project area to accommodate displaced residents; however, since the acquired homes are in the lower range of value for the area, it appears that higher than average price differential payments for owners and rental assistance payments for tenants will be required to make the transition affordable. A recreational vehicle sales business and a landscaping company are the largest businesses among the possible relocations and would likely be the most difficult to relocate, but there is the potential for them both to reestablish on the remaining (unacquired) property. The other four businesses are small and should be able to find adequate replacements relatively easily. The CSRS noted that Several people voiced strong feelings about the project and the timeline. They said they have been hearing about this project for "10 or 12 or 30 or etc." years now and are somewhat skeptical about it actually happening. Because of this, they wanted very specific timelines/timeframe details and are very eager for more concrete information to be shared.

It is difficult to measure the impact a project such as this will have on the surrounding area, but it is likely that the net effect of this project would be positive. As the area becomes more populated, Indianapolis Avenue and Calumet Avenue, which are the major existing north-south routes, are becoming ever busier. Making Kennedy Avenue continuous from US 30 to Main Street should alleviate traffic congestion along other nearby north-south roadways.

Some long-term residents will be displaced but should be able to relocate nearby or on their property that remains after acquisition. Most homes and businesses along Kennedy Avenue will remain. Upon completion of the project, traffic flow will be improved to allow better faster, and safer access between US 30, Ridge Rd., I-94, and the Indiana Toll Road and access to the new road will be made safer for the homes remaining in the project area.

The acquisition and relocation program will be conducted in accordance with 49 CFR 24 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Relocation resources are available to all residential and business relocatees without discrimination. No person displaced by this project will be required to move from a displaced dwelling unless comparable replacement housing is available to that person.

SECTION I – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)	**Documentation**
Red Flag Investigation (RFI)	x
Phase I Environmental Site Assessment (Phase I ESA)	
Phase II Environmental Site Assessment (Phase II ESA)	
Design/Specifications for Remediation required?	

Date RFI concurrence by INDOT SAM (if applicable): 12/18/2019

Include a summary of the potential hazardous material concerns found during review. Discuss in depth sites found within, directly adjacent to, or ones that could impact the project area. Refer to current INDOT SAM guidance. If additional documentation (special provisions, pay quantities, etc.) will be needed, include in discussion. Include applicable commitments.

Based on a review of GIS and available public records, a RFI was concurred by INDOT SAM on December 18, 2019 (Appendix E). Nine RCRA Generator/TSD sites are located within 0.5 mile of the project area. Four state cleanup sites are located within 0.5 mile of the project area. Eight underground storage tank (UST) sites are located within 0.5 mile of the project area. Sixteen leaking underground storage tank (LUST) sites are located within 0.5 mile of the project area. One waste transfer station site is located within 0.5 mile of the project area. Four institutional control sites are located within 0.5 mile of the project area. Ten NPDES facility sites are located within 0.5 mile of the project area. Ten NPDES pipe location sites are located within 0.5 mile of the project area.

One NPDES facility site is located adjacent to, and could affect, the project area. The NPDES facility is located at Midwest Pipe Coating Inc., 925 Kennedy Ave., Schererville, IN 46375. Coordination with Midwest Pipe Coating has been initiated and will continue as the project is developed. No unusual conflicts have been identified to date.

Due to the passage of time since the RFI was prepared, the GIS data were reviewed by DLZ on May 18, 2021 to determine whether new RFI features have been added to the template. The only change noted is the number of NPDES facilities within the search radius, which has increased from 10 to 21. There are now five NPDES facilities mapped within/adjacent to the project area (one was indicated in the original RFI). However, only one of these facilities has a currently active permit, which is Midwest Pipe Coating (permit #INRM00098, valid until 8/22/2024). This is the facility cited in the original RFI text. The other four facilities have expired/terminated permits; therefore, no impacts are expected with the other four facilities. As noted above, coordination with Midwest Pipe Coating has been initiated and will continue as the project is developed.

Part IV – Permits and Commitments

PERMITS CHECKLIST

Permits (mark all that apply)	**Likely Required**
Army Corps of Engineers (404/Section10 Permit)	
Nationwide Permit (NWP)	
Regional General Permit (RGP)	
Individual Permit (IP)	x
Other	
IN Department of Environmental Management (401/Rule 5)	
Nationwide Permit (NWP)	
Regional General Permit (RGP)	
Individual Permit (IP)	x
Isolated Wetlands	
Rule 5	x

Other	
IN Department of Natural Resources	
Construction in a Floodway	x
Navigable Waterway Permit	
Other	
Mitigation Required	x
US Coast Guard Section 9 Bridge Permit	
Others (Please discuss in the discussion below)	

List the permits likely required for the project and summarize why the permits are needed, including permits designated as "Other."

The project will impact more than one acre of surface area; therefore, IDEM issuance of a Rule 5 is likely required. The project will impact Waters of the US; therefore, IDEM Section 401/USACE Section 404 permitting is likely required. The project will impact floodway areas; therefore, IDNR Construction in a Floodway permitting is likely required.

Applicable recommendations provided by IDNR (Appendix C, pages 7 – 11, 59 and 65) are included in the Environmental Commitments section of this document. If permits are found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

It is the responsibility of the project sponsor to identify and obtain all required permits.

ENVIRONMENTAL COMMITMENTS

List all commitments and include the name of agency/organization requesting/requiring the commitment(s). Listed commitments should be numbered.

Firm:

1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD)
2. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)
3. A hydraulic analysis will be completed to determine if detention or retention ponds will be necessary at the northwest or southeast corner of Junction Avenue at Kennedy Avenue. (INDOT ESD)
4. The intersection traffic control at Kennedy Avenue, Division Street and Oak Street will be analyzed for stop control or traffic signal warrants. (INDOT ESD)
5. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, the abatement measures might be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes. (INDOT ESD)
6. Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30. (IDNR-DFW)

For Further Consideration:

1. Exclusion/drift fencing should be installed along the length of Hoosier Prairie abutting the proposed construction from March 1 through June 30, to prevent reptiles and amphibians from entering the construction area. Any reptiles or amphibians encountered in the project area should be removed, unharmed, and placed outside the construction area. (IDNR-DFW)
2. Prior to construction, an accredited herpetologist should be hired to translocate state or federally listed herpetiles from current locations within the construction area to an area of suitable habitat. Sarabeth Klueh, Division of Fish and Wildlife herpetologist,

at (812) 334-1137 or sklueh@dnr.in.gov may be contacted for guidance regarding development of herpetile removal plans. (IDNR-DFW)

3. No digging or excavation should occur along the stretch of Hoosier Prairie until after May 1 to allow all species adequate time to emerge from hibernation. Any logs, debris, or other ground cover should be removed from the construction area before March 1. Any vegetation that will be removed in the construction area should also be removed prior to March 1. Grass along the roadway should be kept short and cut frequently. (IDNR-DFW)

4. The removal of any state endangered species will require a permit issued by the Division of Fish and Wildlife. (IDNR-DFW)

5. Stream channel relocations are not recommended, are difficult to design, and have a high likelihood of failure or permanent loss of habitat and function. If relocation remains the best option after a complete examination of the possible alternatives and avoidance of impacts, mitigation plans should be developed. (IDNR-DFW)

6. Mitigation for channel relocations should include replacement of an equal or greater length of channel with equivalent or higher quality habitat, enhancing habitat along an additional length of stream equal to the length of impact, and protection of the relocated channel. Habitat improvements should include enhancing (e.g. invasive species removal) or replanting a minimum 35-foot wide woody or herbaceous riparian buffer strip using a mixture of grasses, sedges, wildflowers, vines, shrubs, and trees native to the area and specifically for stream bank/floodway stabilization purposes. (IDNR-DFW)

7. The relocated portion of a stream channel should include the following: similar cross-section; similar or better channel morphology (sinuosity, riffle, run, pool assemblages); similar velocity through the length of the stream; and similar substrate characteristics as the existing channel. (IDNR-DFW)

8. Stream enclosure is detrimental to wildlife resources and if proposed, alternative project designs should be sought. The IDNR-DFW typically requests that a bridge or a three-sided culvert be used. These structures maintain the natural stream bottom, which is critical for wildlife use of the stream. Natural stream bottoms allow for easier wildlife movement, maintain essential habitat, and provide resting and feeding locations. IDNR-DFW noted that if 150 feet or more of stream length is enclosed, mitigation to offset the in-stream and riparian habitat impacts will be required. This level of mitigation can include restoration or enhancement of habitat along the stream near the area of impact equal to the length of the impact. Bioengineering along the streambank to reduce erosion, creating and protecting the floodplain for overbank flow, planting riparian vegetation along the top of the bank, creating in-stream habitat similar to what was lost, and other habitat improvements are possible examples of mitigation (IDNR-DFW)

9. For purposes of maintaining fish passage through a crossing structure, the IDNR-DFW Environmental Unit prefers bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culverts are better than narrow culverts, and culverts with shorter through lengths are better than culverts with longer through lengths. If box or pipe culverts are used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow &natural streambed to form within or under the crossing structure. (IDNR-DFW)

10. Stream crossings should: span the entire channel width (a minimum of 1.2 times the bank-full width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width / length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel. (IDNR-DFW)

11. The new, replacement, or rehabbed structure, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. A level area of natural ground under the structure is ideal for wildlife passage. If hard armoring is needed, IDNR-DFW prefers a smooth-surfaced material such as articulated concrete mats (or riprap at the toe and turf reinforcement mats above the riprap toe protection) be placed on the side-slopes instead of riprap. Such materials will not impair wildlife movement along the banks under the bridge. (IDNR-DFW)

12. Riprap must not be placed in the active thalweg channel or placed in the streambed in a manner that precludes fish or aquatic organism passage (riprap must not be placed above the existing streambed elevation). Riprap may be used only at the toe of the sideslopes up to the OHWM. The banks above the OHWM should be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Northern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. (IDNR-DFW)

13. A post-construction inspection should be conducted to verify that riprap placed in the active thalweg channel or streambed conforms to the streambed elevation and channel grade and does not impair upstream fish or aquatic organism passage. (IDNR-DFW)

14. Vegetation, especially deep rooting species, should be planted immediately behind the riprap and continued up the slope to greatly increase the stability of the slope and provide additional habitat, food supply, and hiding spaces for a greater variety of species. (IDNR-DFW)

15. Impacts to non-wetland forest over one acre should be mitigated at a minimum 2:1 ratio. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10 inches dbh or greater (5:1 mitigation based on the number of large trees). (IDNR-DFW)

16. Native riparian forest mitigation plans should use at least 5 canopy trees and 5 understory trees or shrubs selected from the Woody Riparian Vegetation list or an approved equal. A native riparian forest mitigation plan for impacts of less than one acre in an urban area may involve fewer numbers of species and sizes of trees, depending on the level of impact. Additionally, a native herbaceous seed mixture should be planted consisting of at least 10 species of grasses, sedges, and wildflowers selected from the Herbaceous Riparian Vegetation list or an approved equal. (IDNR-DFW)

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

18. Do not construct any temporary runarounds, causeways, or cofferdams. (IDNR-DFW)

19. Inspect structural erosion and sediment control practices daily and repair as necessary until all construction is complete and disturbed areas are permanently stabilized. (IDNR-DFW)

Environmental Assessment
Kennedy Avenue Improvements, US 30 to Main Street
Des. Nos. 1173760, 1382603, 1902000, 1801911 and 1900834
Town of Schererville, Lake County, Indiana

APPENDICES TABLE OF CONTENTS

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J: Traffic Noise Analysis

K: Conceptual Stage Relocation Study

APPENDIX A

Preliminary Alternatives Development And Screening Document

Preliminary Alternatives Development and Screening Document

Project Name:	Kennedy Avenue Scoping Study
County:	Lake
Town:	Schererville
Location:	Kennedy Avenue from US 30 to Main Street
Des. Nos.:	1173760 and 1382603
Document Preparer:	DLZ Indiana, LLC 900 Ridge Road, Suite L Munster, IN 46321 (219) 836-5884 telephone (219) 836-6013 fax

August 2017

DLZ #: 1264-2194-70

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Kennedy Avenue Improvements
US 30 to Main Street
Town of Schererville, Indiana
Preliminary Alternatives Development and Screening

I. Introduction:

The Town of Schererville is undertaking an engineering and environmental assessment for a project involving improvements to the Kennedy Avenue corridor, between US 30 and Main Street. Graphics depicting the general location of the project study area are presented in Figure 1, below. Various planning efforts have confirmed that the extension and improvements of Kennedy Avenue will have an impact on traffic throughout the region. It is the intent that further project development and construction will make use of Federal-aid Highway funds which will trigger compliance with the documentation requirements of the National Environmental Policy Act of 1970 (NEPA).

This document describes the development and screening of Preliminary Alternatives under the NEPA review process. The intent of the preliminary alternatives development and screening effort was an incremental process to:

1. Establish Project need and purpose
2. Develop potential alternatives in response to Project need and purpose
3. Identify alternatives that possess "fatal flaws"
4. Compare measurable social, economic and environmental effects of remaining alternatives
5. Recommend alternatives for further detailed analysis
6. Identify next steps in evaluation.

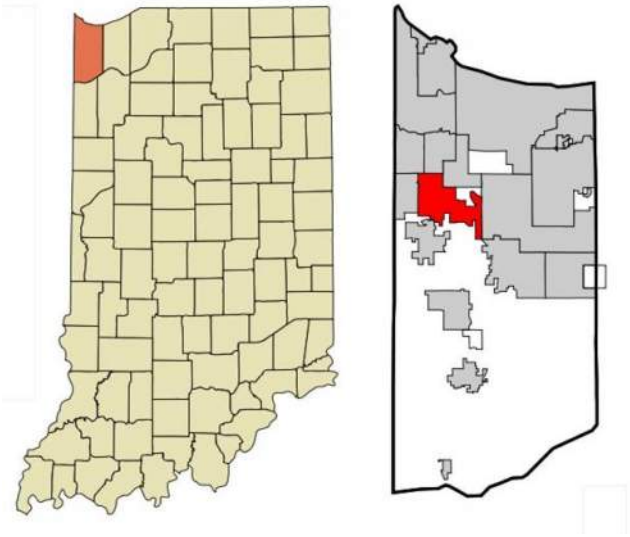

Figure 1 – Project Location Map, Lake County, Indiana

As described in greater detail in the following sections, 15 Preliminary Alternatives were developed for the project study area. These Preliminary Alternatives were based upon assumed uniform right of way widths as opposed to engineered rights of way.

The social, economic and environmental effects of the Preliminary Alternatives were assessed, based upon reviews of available geographic information system (GIS) resource data, early coordination with environmental resource agencies and local officials, and technical field studies. The environmental effects of the Preliminary Alternatives were then compared, with the objective of eliminating some of the alternatives from further consideration based on their degree of environmental effects, costs, or relative ability to satisfy the project's purpose and need. This screening process culminated in the recommendation that Alternatives 2A and 2B should be carried forward for detailed analysis in the development of the required NEPA document.

Based upon the identified environmental effects associated with the alternatives recommended to be carried forward, it is anticipated that an Environmental Assessment (EA) will be the appropriate NEPA document. The EA process has two possible outcomes: a Finding of No Significant Impact (FONSI) made by the Federal Highway Administration (FHWA) which would complete the NEPA review process, or, a

FHWA Finding of Significant Impacts which would require preparation of an Environmental Impact Statement (EIS).

II. Project Description:

This project is located in Sections 4, 9, and 16 of Township 35 North, Range 9 West and in Section 33 of Township 36 North, Range 9 West in the Town of Schererville, in Lake County, Indiana. Within the project area, Kennedy Avenue extends from Joliet Street (Old US 30) to just south of the abandoned Norfolk Southern Railroad and then from north of the abandoned Norfolk Southern Railroad to Main Street. A graphic which provides an aerial view of the project area is presented as Figure 2, below. Kennedy Avenue is not continuous from Joliet Street to Main Street and does not provide connectivity to US 30. It has long been the desire of the Town of Schererville to make Kennedy Avenue continuous between US 30 and Main Street. North of Main Street, Kennedy Avenue is predominantly a 4 and 5 lane facility that provides connection to I-80/94 and points beyond.

<u>Existing Conditions</u>

Currently, Kennedy Avenue terminates at the point where the abandoned Norfolk Southern (NS) Railroad (formerly the Penn Central Railroad) crosses the study area; continuous north-south travel along Kennedy Avenue between the project termini is not possible.

Figure 2 – Kennedy Avenue Area Location Map

Existing Kennedy Avenue provides one travel lane in each direction; travel lanes are 10 feet to 11 feet wide. The Kennedy Avenue pavement is in generally poor condition. Concrete curb and gutter is present south of the intersection at Main Street for approximately 300 feet. No paved shoulders are present except those just south of the curb and gutter at Main Street for approximately 200 feet. Left-turn lanes are present only at the Kennedy Avenue/Main Street intersection, which is the project's north terminus. Sidewalks (5 feet wide) are present along the east side of Kennedy Avenue, along the frontage of clustered residential properties in the portion of the project area south of the abandoned Norfolk Southern Railroad (formerly Penn Central).

Land uses in the project study area include residential, municipal (waste water treatment plant), commercial, railroad, and industrial development. A portion of the Indiana Dunes National Lakeshore / Hoosier Prairie State Nature Preserve (United States Fish and Wildlife Service and the Indiana Department of Natural Resources) is located at the north end of the study area.

The legal drain system and the regional detention basin are important assets in the management and conveyance of stormwater for not only the study area but areas outside the study area. The portion of the study area between the abandoned Norfolk Southern Railroad and Main Street drains by way of roadside ditches and swales to Spring Street Ditch, which makes use of the Hartsdale Pond (Regional Detention Basin). There are many man-made and natural detention basins within the study area that may allow for expansion and detention for the proposed increase in impervious area for the project.

All potential alignments for this project would cross three railroad corridors. A fourth railroad corridor is adjacent to the west study area boundary. Railroads crossed by the project are identified in Figure 2, above. These railroad corridors are as follows:

1. Proceeding northerly from the south project terminus, the first rail corridor is the abandoned Norfolk Southern Railroad (formerly Penn Central) that runs northwest and southeast through the project area. The Town is proposing construction of the second and third phases of their Pennsy Greenway Trail along this abandoned rail corridor and construction is expected in 2017-2018.
2. The second rail corridor is the active Canadian National Railroad (CN), a Class I, interstate railroad which runs southwest and northeast. The CN crossing is on a list with the other top 15 crossings in the northwestern Indiana region to be considered for grade separation. This is a very active railroad corridor and the Northwestern Regional Planning Commission (NIRPC) has completed a study of delays caused by at-grade roadway crossings and the railroad gate down data for 25 railroad crossings throughout the region[1].

Figure 3 – Kennedy Avenue At-grade Crossing of CN and NS Railroads

3. The third rail corridor is the Norfolk Southern Railroad, a Class I railroad that runs parallel and adjacent to the north side of the Canadian National Railroad (Figure 3). This railroad has suspended service on this rail corridor.
4. The fourth rail corridor is the Norfolk Southern's active, intra-state rail corridor, which runs north and south just beyond the study area's westerly boundary.

The Kennedy Avenue extension and improvement project is currently included in the NIRPC 2040 Comprehensive Regional Plan[2]. The project will likely be incorporated into the NIRPC Transportation Improvement Program (TIP) in three phases, as follows: Phase 1 – US 30 to Junction Avenue; Phase 2 – Junction Avenue to Oak Street, and; Phase 3 – Oak Street to Main Street. Phase 1 and Phase 2 of the Kennedy Avenue project are currently in the NIRPC TIP (Des. Nos. 1173760 and 1382603).

Proposed Improvements

[1] Northwest Indiana At-Grade Rail Crossing Study, DRAFT, Thomas Vander Woude, August 14, 2012,
[2] Comprehensive Regional Plan 2040 For Northwest Indiana, Northwestern Regional Planning Commission, 2015, http://www.nirpc.org/2040-plan/2040-crp-update-companion.aspx

The project is for full reconstruction of Kennedy Avenue along the existing and/or new alignment between US 30 and Main Street, a distance of approximately 2.2 miles. The Preliminary Alternatives considered in this document are primarily based on a right of way width of 110 feet, which is adequate to contain a five-lane typical section that would provide two 12-foot lanes in each direction with a 14-foot two-way center turn lane. The project will include non-motorized transportation elements, such as sidewalk/multi-use path facilities separated from the roadway by grass tree lawns, which would be accommodated on both sides of the roadway. The Preliminary Alternatives include an area that was widened to 320 feet to accommodate the widest option for a grade separated crossing of the active CN/NS railroad corridor.

III. Project Need:

Three distinct needs have been identified for the Town of Schererville's proposed project for improvements to Kennedy Avenue, between US 30 and the intersection of Kennedy Avenue and Main Street and they are operational capacity, system linkage, and roadway deficiencies. The needs for this project have been identified through local planning efforts within the Town, and from a regional perspective by NIRPC. The Town has identified Kennedy Avenue as an important north-south roadway with linkage to US 30, as noted in its Comprehensive Plan.

Figure 4 - Kennedy Avenue south of Main Street

NIRPC has identified potential improvements to the Kennedy Avenue corridor from US 30 to Main Street as having a positive local and regional significance in previous and current documented programs and initiatives including; *"Northwest Indiana At-Grade Crossing Study,"* "*2040 Comprehensive Regional Plan" (CRP) and "NIRPC Regional Corridor Study*[3]*".*

Various contributing factors for congestion were cited in the CRP along the Kennedy Avenue corridor. These factors include; lack of intersection turn lanes, the number of vehicular crashes, at-grade railroad crossings, and lack of connectivity.

The "NIRPC Regional Corridor Study" evaluated various roadway corridors throughout the NIRPC's planning area. A total of 22 roadway segments were selected for evaluation in Lake, Porter and LaPorte counties. The roadway corridors that were selected for the study were those determined to have "missing links" in the transportation system. The results of this study were produced over a 1½ year period, involved various local public agency stakeholders who identified regional roadways that met the criteria for further evaluation and could potentially have a positive impact upon the regional transportation system. After selection of the roadways for the study, a set of criteria were developed to evaluate each roadway's capability to address factors such as:

1. Located in an area that has Level of Service (LOS) for travel times of D, E or F identified in the NIRPC 2040 CRP.
2. Regional significant impact to relieve vehicle congestion (based upon NIRPC's regional transportation model).
3. Located in an area that has a significant number of crashes.
4. Improve connectivity to between existing urban areas and activity centers.

[3] Regional Corridor Study (Lake, Porter and LaPorte counties), Northwestern Indiana Regional Planning Commission, 2016

5. Improve connectivity to state highway system, major principal roadways and existing/proposed significant regional corridors.
6. Serve high employment and population centers.

Of all of the roadways examined by the NIRPC corridor study, the Kennedy Avenue corridor ranked 5th overall for currently meeting the criteria and/or having the potential to be a regionally significant project in the NIRPC planning area. The Kennedy Avenue corridor received a rating of 81 points on a scale 0 to 100 points, with 100 meeting 100% of the criteria. In comparison with the other roadway segments evaluated, the 22 identified regional corridors were rated between a range of 34 to 85 points, reflecting the lowest and highest rated corridors, respectively, within the NIRPC planning area.

The NIRPC 2040 CRP identified that Kennedy Avenue's crash rate (from US 30 to US 12) ranks third highest out the top 25 evaluated corridors in Lake County. The NIRPC corridor study indicated that the immediate roadway network surrounding the Kennedy Avenue corridor had LOS values of F.

Operational Capacity

The first need for the proposed project relates to the operational capacity of Kennedy Avenue and the immediate surrounding roadway system. Most notably, there are frequent traffic back-ups and delays observed at various locations along the Kennedy Avenue corridor and the surrounding roadway network, especially during peak hours. The NIRPC corridor study indicated that the roadways within the immediate surrounding network possess a LOS value of F.

Traffic congestion/backups occur on Kennedy Avenue at the Division Street intersection, the Main Street intersection, the US 30 intersection and the at-grade crossing of the CN Railroad and NS Railroad. Of further note are the number of vehicle crashes at these locations, most predominantly the rear-end type collision. The Kennedy Avenue corridor was listed with a crash rank of 3 among the top 25 crash corridors in Lake County.

The CN and NS railroad crossings are parallel and adjacent to each other. While the NS Railroad is currently inactive, the CN Railroad currently has traffic of 34 trains/day at the at-grade crossing of Kennedy Avenue. Backups in traffic are noted, especially during the peak periods of the day. The Northwest Indiana Rail Vision At-Grade Crossing Study identified the Kennedy Avenue at-grade crossing as one of the 15 High Priority Grade Separations within the NIRPC planning area. As stated in the report… "Analysis of traffic volumes, train volumes, Federal Railroad Administration (FRA) accident prediction index and stakeholder input refined the list (of 80 railroad crossings) to 15 high priority areas, some with multiple crossings."

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System Linkage

The second need for the project relates to system linkage with respect to local travel demands along the Kennedy Avenue corridor, as well as regional travel demands extending to I-80/94, US 12/US 20, and US 30 (see Figure 5). Northern Lake County currently provides numerous east-west roadways that provide linkages between communities; however, there is a lack of north-south roadways that provide similar connections. Over the years, the Town of Highland has made improvements to the Kennedy Avenue corridor across the length of their jurisdiction from I-80/94 to the north project terminus at Main Street. North of Highland, Kennedy Avenue is an important roadway and is a 4–lane facility through Hammond and East Chicago. Improvements south of Main Street to US 30 would further enhance system linkage and improve north-south connectivity, particularly given the existing connectivity break within the Kennedy Avenue corridor at the Norfolk Southern Railroad, just south of Junction Avenue.

Figure 5 – Kennedy Avenue Existing Connectivity

Roadway Deficiencies

The third need for the proposed project relates to Kennedy Avenue's existing roadway deficiencies. These deficiencies include inadequate shoulder width, insufficient storm water management, lack of access control, absence of auxiliary lanes (i.e., left turn lanes) and deteriorated pavement. Additionally, the Kennedy Avenue at-grade crossing of the CN Railroad exhibits daily traffic delays and has been identified by NIRPC to be a high-priority location in need of mitigation.

IV. Project Purpose:

The purpose of the project is to: correct the existing roadway deficiencies; to improve the operational capacity of Kennedy Avenue within the project area; and, to improve Kennedy Avenue's linkage to local east-west arterials, additional arterials beyond the immediate area such as 45th Street, Ridge Road and 165th Street, as well as regional facilities such as I-80/94, US 12/US 20, and US 30. These connections are identified in Figure 5, above. Additionally, improvements along the Kennedy Avenue corridor will moderate existing and future congestion/backups within the corridor, as well as along nearby roadways (with LOS values of F), with related benefits including reduced emissions, reduction in travel time delays and vehicular crashes within the immediate region.

V. Study Area

The project study area's north terminus is just north of Main Street, which is the dividing line between the Town of Schererville and the Town of Highland. Kennedy Avenue has been improved by the Town of Highland north of Main Street. The southern terminus is just south of US 30. The study area is essentially

centered on the Kennedy Avenue corridor and measures approximately 2,700 feet wide by 14,900 feet long. A graphical depiction of the study area is presented as Exhibit 1, Project Study Area. The westerly limit of the study area was defined by the active, north-south running Norfolk Southern Railroad located approximately 1,350 feet west of Kennedy Avenue. The easterly limit of the study area was established by incorporating a similar amount of land area on the east side of Kennedy Avenue. It was judged that the study area is sufficiently wide to allow development of a reasonable range of alternatives that could satisfy the project's stated purpose and need for improvements within the Kennedy Avenue corridor. The northerly and southerly limits of the study area were drawn to encompass land beyond the project termini, sufficient to identify impacts/conflicts upstream or downstream of the preliminary alternatives.

VI. Preliminary Alternatives Development

The development of Preliminary Alternative alignments may be defined as having a five-step process:

1. The first step is to define the basic elements of the project including: the beginning and ending points of the project, the geometric design criteria, the typical section(s) of the roadway, and the initial anticipated right of way width. These items are essential for defining the area that would be impacted by any alignment.
2. The second step is to determine points of access to the new roadway, and the need for grade separations.
3. The third step is to define and locate all the environmental resources that might affect the roadway location. Environmental resources for the development of Preliminary Alternatives were: historic properties, wetlands, streams and legal drains, floodplains, ponds, hazardous materials, forests, agricultural lands, prime farmland, managed properties, undeveloped land, and developed properties.
4. The fourth step is a screening process. Preliminary Alternatives that are judged to be fatally flawed, or that would result in an inordinate amount of environmental impacts when compared to the other alternatives, may be eliminated. Remaining preliminary alternatives are then presented to the resource agencies and the general public and are then modified or eliminated in response to the input received.
5. The fifth step is the continued development and refinement of the remaining alternatives to be carried forward for detailed analysis.

The No Build alternative will be carried through the NEPA process. The primary goal of the Preliminary Alternatives analysis (potential build alternatives) was to eliminate those that were identified through the "red flag" analysis as being infeasible as well as those that presented barriers that were impractical and/or too costly to develop.

From a geometric perspective, the alternative alignments developed for consideration were further refined utilizing both the Indiana Department of Transportation's (INDOT's) Design Manual (IDM) and the American Association of Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets*. Additionally, during subsequent phases of project development, modifications of the criteria may be applied on a case by case basis, in response to the alternative's ability to meet the requirements of the purpose and need and to minimize overall impacts It is the intent that the application of these standards will aid in improving traffic flow on the Kennedy Avenue and immediate roadway system which will result in improved air quality impacts and reduction of potential for vehicular crashes. The design criteria used to determine the corridor criteria are presented in tabular form as Exhibit 2, Roadway Design Criteria.

If a continuous connection between US 30 and Main Street were implemented, Kennedy Avenue is expected to have an Average Daily Traffic (ADT) between 13,000 to over 25,000 vehicles/day in the year 2040. These traffic ADT ranges are based upon preliminary NIRPC regional transportation model results. Furthermore, it is the goal to provide left turn lanes for key intersections (e.g., US 30, Joliet Street, Junction Avenue, Division Street, Main Street) as well as provisions for left turn access to existing properties along the alignment. In consideration of the ADT ranges and ability to perform left turns along potential Kennedy Avenue alignment alternatives, a uniform right of way width was established for assessment of impacts associated with the Preliminary Alternatives. This uniform width would contain a five-lane typical roadway section consisting of two northbound lanes, two southbound lanes, a two-way left turn lane, curb and gutter on both sides, a separation area for each side between a sidewalk on one side and a multi-use path on the other side, and area to complete proposed grading to the right of way. A right of way width of 110 feet wide was established for the Preliminary Alternatives, with areas widened to 320 feet wide for above-grade separation railroad crossings to accommodate the slopes from the approximately 160-foot wide bridge with at least 23 feet of clearance over the existing railroad and small ditches to help drain storm water runoff from the proposed slopes to existing drainage outlets. A conceptual rendering of the roadway section is shown in Exhibit 3, Conceptual Roadway Sections. During later phases of project development, the prudence of reducing the typical roadway section will be considered as appropriate, as a means to reduce project impacts and costs.

The Preliminary Alternatives share a common north terminus at the Kennedy Avenue Main Street intersection. Four south terminus locations were developed for linkage to US 30 and Joliet Street. In all, fifteen Preliminary Alternatives were developed around the following three alignment alternatives:

1. Alternative 1 is primarily a new location alternative located west of the existing location of Kennedy Avenue.
2. Alternative 2 is primarily an existing location alternative which follows the existing Kennedy Avenue alignment.
3. Alternative 3 is primarily a new location alternative located east of the existing location of Kennedy Avenue.

The four basic US 30 south termini options are described as follows:

1. First - as far west as possible within the study area, adjacent to the east side of the north-south running Norfolk Southern railroad.
2. Second - between the Norfolk Southern railroad and the existing Joliet Street/US 30 intersection.
3. Third – at the existing Joliet Street/US 30 intersection.
4. Fourth - the extension of existing Kennedy Avenue alignment north of Joliet Street to US 30.

Eight variants of Alternative 1 (A through H) were developed south of Junction Avenue to allow for new alignment and existing alignment (Kennedy Avenue via Junction Avenue) connections to US 30 and Joliet Street. Four variants of Alternative 2 (A through D) were developed south of Junction Avenue to allow for new alignment and existing alignment (Kennedy Avenue) connections to US 30 and Joliet Street. Three variants of Alternative 3 (A through C) were developed south of 67th Street to allow for new alignment and existing alignment (Kennedy Avenue) connections to US 30 and Joliet Street.

To assist in the calculation of impacts, Preliminary Alternative segments were established. End-to-end Preliminary Alternatives are the product of various assemblages of segments. Some Preliminary Alternatives share common segments. The Preliminary Alternative segments are depicted in Exhibit 4 and are also identified in Table 1, below.

Table 1: Preliminary Alignment Segments - Alternative 1, Variants A through H

Alignment	1A	1B	1C	1D	1E	1F	1G	1H
Segments in Alignment	C1, C5, E1, N1, S1	C1, C5, E2, N1, S1, S2	C1, C5, E3, N1, S3	C1, C5, E4, N1, S4	C1, C7, E2, N1, S13	C1, C7, E3, N1, S14	C1, C7, E4, N1, S15	C1, C7, C10, E4, N1

Table 2: Preliminary Alignment Segments - Alternative 2, Variants A through D

Alignment	2A	2B	2C	2D
Segments in Alignment	C2, C3, C9, E2, N1, 2A	C2, C3, C9, E3, N1, S14	C2, C3, C9, E4, N1, S15	C2, C3, C9, C10, E4, N1

Table 3: Preliminary Alignment Segments - Alternative 3, Variants A through C

Alignment	3A	3B	3C
Segments in Alignment	C4, E4, N1, S11	C4, N1, E5, S12	C4, N1, E6, S12

VII. Preliminary Alternatives Screening

The following environmental and community resources located within the study area were identified as primary screening factors in the assessment of the Preliminary Alternatives based on their associated costs (including mitigation costs), regulatory status as well as significance to natural, human, and other environmental factors. Information about the primary screening factors was obtained from the available GIS data, coordination with environmental resource agencies and local officials, and technical field inventories.

Business and Residential Relocations

Business or residential properties exist throughout the entire study area. Relocations are instances where the required encroachment onto a given parcel warranted removal of the primary business or residential structure, based on consideration of factors including access, setback widths and lot size per the applicable Town zoning category.

Wetlands

The location of these sites is based upon available GIS data and field reconnaissance of the study area to confirm the presence of wetland areas. Wetland impacts require permitting through Indiana Department of Environmental Management (IDEM) and the United States Army Corps of Engineers (USACE) and may also require mitigation.

Undeveloped Land

Undeveloped land, including land that has reverted from a past use to an undeveloped state, exists in various locations throughout the study area. Many of these parcels have wetland or other contributing factors that are undesirable for roadway construction.

Pipeline Impacts and other High Value Infrastructure Asset Impacts

Pipelines that carry petroleum products are particularly prevalent within the study area. Pipeline locations were based upon available GIS data. The High Value Infrastructure Assets are pipeline pumping stations and other distribution hub facilities. Such facilities are very costly to relocate or replace.

Managed Lands / Section 4(f) of the United States Department of Transportation (USDOT) Act / Section 6(f) of the Land and Waters Conservation Fund Act

One managed land property is located within the study area. This property is known as the Indiana Dunes National Lakeshore / Hoosier Prairie State Nature Preserve. The property is managed by the United States Fish and Wildlife Service (USFWS) and the Indiana Department of Natural Resources (IDNR).

A portion of this property along the east side of Kennedy Avenue is a Dedicated Nature Preserve. Under State law (IC 14-31-1), such properties are to be held in trust for the benefit of the people of Indiana of present and future generations. The approval of the Governor is required for the release of such designated property for any other public use. The release of such property is only possible when the proposed alternative public use is determined by a commission to be of imperative and unavoidable public necessity.

Land and Water Conservation Fund (LWCF) monies were used in the acquisition of the Hoosier Prairie State Nature Preserve in 1976; therefore, this property falls under the protections of Section 6(f) of the LWCF Act which prohibits the conversion of LWCF lands unless the National Park Service approves substitution property of reasonably equivalent usefulness and location and of at least equal fair market value. Additionally, this property falls under the protections of Section 4(f) of the USDOT Act. For projects using Federal-aid transportation funds, Section 4(f) requires avoidance of such properties, unless it is shown that there is no feasible and prudent alternative that would avoid the use of the property. If avoidance is determined not feasible or prudent, Section 4(f) requires selection of the project alternative that would result in the least overall harm to the Section 4(f) resource.

Legal Drains

Flooding is an issue of primary concern within and around the study area, and an extensive system of legal drains is present. Spring Street Ditch and Hartsdale Pond are drainage features that are regulated and maintained by the Lake County Drainage Board. The location of these features is based upon available GIS data and field reconnaissance of the study area to confirm the presence of drainage features. Impacts upon legal drains require approval of the Lake County Drainage Board, as well as IDEM and the USACE.

Regional Detention Basin

The Hartsdale Pond, a regional detention basin, was construction by Lake County in response to flooding events upstream of the project and is an integral part of the legal drain system in this area.

Environmental Justice[4]

The project will utilize Federal-aid transportation funds. The FHWA is required by legislation and executive order to ensure that such projects would not exclude persons from participation in, deny persons the benefits of, or subject persons to discrimination because of their race, color or national origin. Environmental Justice (EJ) populations are defined as concentrations of minority or low-income individuals. Special consideration for avoidance, minimization and mitigation is required when impacts upon EJ populations are determined to be adverse and disproportionately high. Based upon review of Census data (ACS 5-year estimates, 2011-2015), a low-income EJ population was identified within the study area, south of Main Street and west of Kennedy Avenue.

[4] Preliminary Alternatives would result in residential relocations within the low-income EJ population south of Main Street and west of Kennedy Avenue. However, the number of relocations within the EJ population required under any Preliminary Alternative would not be disproportionately higher than the relocations required outside of the EJ Population. Therefore, while EJ impact was among the primary screening factors, it did not factor into the recommendation of alternatives to be carried forward for detailed analysis, and is not listed in the table summarizing the alternatives screening by primary screening factors.

Hazardous Materials Sites

Hazardous materials sites consist of the recorded locations of a number of hazardous materials concerns, such as leaking underground storage tanks, industrial waste sites, state cleanup sites, brownfields sites, etc. The location of these sites is based upon available GIS data.

A. Screening Step 1: Fatal Flaw Analysis:

The first step in the screening of the Preliminary Alternatives was to determine whether any of the alternatives would appear to incur a level of impact such that the alternative(s) would be considered "fatally flawed". This determination was based primarily on the degree of encroachment upon the Indiana Dunes National Lakeshore/Hoosier Prairie State Nature Preserve. As noted above, the project's use of this property would require approval of the Governor, and would need to be judged to be of imperative and unavoidable public necessity. Additionally, any alternative that would use land from this property would also need to be determined to be the feasible and prudent alternative that would result in the least overall harm to this Section 4(f) property.

Alternatives 1 and 2 would follow the existing Kennedy Avenue alignment in proximity to the Indiana Dunes National Lakeshore / Hoosier Prairie State Nature Preserve, making possible the continued development of alternatives to avoid and/or minimize impacts. Alternative 3 would result in a bisection impact upon this property between Oak Street and Main Street. The continued development of alternatives to avoid impacts upon this property is not possible with Alternative 3. Alternatives 1 and 2 would not cause inordinately higher levels of other environmental impacts when compared to Alternative 3, making it unlikely that Alternative 3 would be judged as imperative and of unavoidable public necessity. Additionally, Alternative 3 would not withstand the Section 4(f) test (it could not be determined to be the feasible and prudent alternative that would result in the least overall harm to Section 4(f) property). Accordingly, it was determined that Alternative 3, including its variants, are fatally flawed and Alternative 3 was eliminated from further consideration. No other alternatives were judged to be fatally flawed. With the elimination of Alternative 3, Alternative 1 and 2 and their variants (12 alignments total) remain for continued additional screening.

B. Screening Step 2: Primary Screening Factor Analysis

Each of the remaining alignments would satisfy the purpose and need for this project similarly. They each have similar linkages at termini, similar lengths, provide similar Levels of Service for Kennedy Avenue and the immediate roadway network and would also address the existing Kennedy Avenue roadway deficiencies. GIS Resource data layers for hazardous materials sites, infrastructure, managed lands and water resources, are depicted in Exhibits 5 – 7.

As noted above, environmental and community resources located within the study area were identified as primary screening factors for the Preliminary Alternatives based on their associated costs, regulatory status as well as perceived significance to natural, human, and other environmental factors. The second step in the screening process was to identify which of the remaining Preliminary Alternatives would incur the highest levels of impacts upon the primary screening factors, with the objective of possibly eliminating certain of the remaining Preliminary Alternatives from further consideration.

Impacts to these resources and issues associated with the remaining 12 Preliminary Alternatives were ranked for the purpose of comparison. Given the inexact nature of the determination of impacts for the Preliminary Alternatives, similar levels of impact were assigned the same rank: alternatives with the lowest levels of impacts were assigned a rank of 1 (most favorable rank); alternatives with moderate levels

of impacts were assigned a rank of 2; and, alternatives with the highest levels of impacts were assigned a rank of 3 (least favorable rank). To facilitate interpretation of these ranks, which are identified in Table 4, below, they have also been color-coded as follows: rank 1 (green); rank 2 (yellow); and, rank 3 (red).

For example, relocation impacts associated with the 12 Preliminary Alternatives ranged from 11 to 81. Alternatives 1A, 1B and 1C resulted in fewer than 14 relocation impacts and were assigned a rank of 1 (green). Alternatives 1D, 1E, 1F, 2A and 2B resulted in between 27 and 40 relocation impacts and were assigned a rank of 2 (yellow). Alternatives 1G, 1H, 2C and 2D resulted in between 55 and 81 relocation impacts and were assigned a rank of 3 (red). The ranks of the primary screening factors were summed to generate an overall rank for each of the remaining alternatives.

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Table 4: Preliminary Alternative Rankings by Primary Screening Factors

Impacts	1A		1B		1C		1D		1E		1F		1G		1H		2A		2B		2C		2D	
Primary Screening Factors	**#**	**Rank**	**#**	**Rank**	**#**	**Rank**	**#**	**Rank**	**#**	**Rank**	**#**	**Rank**	**#**	**Rank**	**#**	**Rank**	**#**	**Rank**	**#**	**Rank**	**#**	**Rank**	**#**	**Rank**
Residential and Business Relocations	11	1	11	1	14	1	37	2	27	2	31	2	55	3	73	3	36	2	40	2	64	3	81	3
Wetland Impacts (Ac)	12.70	2	13.03	2	12.34	2	11.94	2	11.00	2	11.02	2	11.00	2	11.00	2	1.69	1	1.71	1	1.69	1	1.69	1
Undeveloped Land (Ac)	10.85	3	11.76	3	13.78	3	14.18	3	10.23	3	15.19	3	13.37	3	11.46	3	3.13	1	8.09	2	6.27	2	4.37	1
Total # High Value Infrastructure Impacts	6	3	6	3	5	3	5	3	4	2	3	2	3	2	3	2	1	1	0	1	0	1	0	1
Total # Pipeline Impacts	45	3	45	3	46	3	46	3	38	2	31	2	31	2	35	2	31	2	24	1	24	1	26	1
Managed Land – Section 4f Property(Ac)	3.61	3	3.61	3	3.61	3	3.61	3	3.61	3	3.61	3	3.61	3	3.61	3	1.97	1	1.97	1	1.97	1	1.97	1
Legal Drain (Linear Feet)	1532	3	1532	3	1535	3	1589	3	242	1	256	1	253	1	1463	3	701	2	715	2	712	2	1923	3
Regional Detention Pond (Ac)	1.89	2	1.89	2	1.89	2	1.89	2	1.89	2	1.89	2	1.89	2	1.89	2	0.00	1	0.00	1	0.00	1	0.00	1
Total # of Hazardous Materials Impacts	1	1	1	1	1	1	1	1	3	2	3	2	3	2	3	2	8	3	8	3	8	3	8	3
Rank Total		**21**		**21**		**21**		**22**		**19**		**19**		**20**		**22**		**14**		**14**		**15**		**15**
Overall Rank		**5**		**5**		**5**		**6**		**3**		**3**		**4**		**6**		**1**		**1**		**2**		**2**

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Table 5: Preliminary Alternative Rankings by Secondary Screening Factors

Impacts	1A		1B		1C		1D		1E		1F		1G		1H		2A		2B		2C		2D	
	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank
Right of Way to be Acquired (Ac)	45.07	2	45.89	2	46.58	2	47.98	3	46.97	2	50.39	3	51.57	3	48.88	3	28.01	1	31.43	1	32.62	1	29.92	1
Involved Parcels	86	1	86	1	102	2	118	2	93	1	114	2	128	2	151	3	121	2	142	3	156	3	179	3
Total Parcel Acquisitions	11	1	13	1	15	2	26	3	15	2	18	2	29	3	39	3	7	1	10	1	21	2	31	3
IDNR Trail (LF)	126	1	126	1	126	1	126	1	177	3	177	3	177	3	177	3	154	2	154	2	154	2	154	2
Wetland Impact Locations	5	3	5	3	4	2	4	2	4	2	3	1	3	1	3	1	4	2	3	1	3	1	3	1
Undeveloped	10.85	2	11.76	2	13.78	3	14.18	3	10.23	2	15.19	3	13.37	3	11.46	2	3.13	1	8.09	1	6.27	1	4.37	1
Developed(Ac)	27.45	2	26.34	2	24.58	1	24.6	1	24.62	1	23.55	1	24.96	2	26.68	2	30.28	3	29.21	3	30.62	3	32.34	3
EXMP-Exempt County Owned(Ac)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0.4	3	0.4	3	0.4	3	0.4	3
Highway Commercial(Ac)	8.6	3	8.7	3	7.2	3	5.31	2	7.79	3	7.54	3	5.69	2	5.31	2	4.55	1	4.31	1	2.45	1	2.07	1
General Industry(Ac)	6.67	2	6.67	2	6.67	2	6.67	2	7.11	3	7.11	3	7.11	3	7.11	3	2.96	1	2.96	1	2.96	1	2.96	1
Open Space(Ac)	1.06	1	1.06	1	1.06	1	1.06	1	1.06	1	1.06	1	1.06	1	1.06	1	2.36	3	2.36	3	2.36	3	2.36	3
Light Industrial(Ac)	12.45	3	12.45	3	12.45	3	12.47	3	9.58	2	11.22	2	11.22	2	10.29	2	4.44	1	6.08	1	6.08	1	5.15	1
Residential(Ac)	3.93	1	4	1	5.52	2	6.4	3	4.03	1	5.29	2	5.8	2	3.93	1	6.45	3	7.71	3	8.22	3	6.35	3
Professional Office(Ac)	0	1	0	1	0.01	2	0.43	3	0	1	0.01	2	0.43	3	0.43	3	0	1	0.01	2	0.43	3	0.43	3
UTIL-State Assess Railroad	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0.01	3	0.01	3	0.01	3	0.01	3
UTIL-State Railroad	3.45	3	3.42	3	3.42	3	3.42	3	3.15	2	3.15	2	3.15	2	3.15	2	3	1	3	1	3	1	3	1
Total # of Zoning Impacts	87	1	87	1	103	2	119	2	94	1	115	2	129	3	152	3	121	2	142	3	156	3	179	3
State Pipeline Impacts	20	3	19	3	19	3	19	3	21	3	14	2	14	2	13	2	16	2	9	1	9	1	9	1
Local Pipeline Impacts	25	3	26	3	27	3	27	3	17	2	17	2	17	2	22	3	15	1	15	1	15	1	17	2
Legal Drain Impacts	3	3	3	3	3	3	3	3	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
RR Track Impacts	5	1	5	1	5	1	5	1	7	2	7	2	7	2	5	1	12	3	12	3	12	3	7	2
Floodplain (Ac)	38	3	38	3	38	3	39	3	35	1	39	3	38	3	38	3	33	1	37	2	37	2	37	2
Secondary Rank Total		42		42		46		49		38		44		47		46		39		41		43		44
Overall Secondary Rank		2		2		3		3		1		2		3		3		1		2		2		3

As can be seen in Table 4, above, Alternatives 2A and 2B had the lowest (most favorable) overall rank of 14. These alternatives were each assigned five ranks of 1 (green), three ranks of 2 (yellow) and only one rank of 3 (red).

Alternatives 2C and 2D had the next lowest (second most favorable) overall rank of 15. While this overall rank is not markedly different than the overall rank of Alternatives 2A and 2B, it should be noted that Alternatives 2C and 2D would result in substantially higher relocation impacts than Alternatives 2A and 2B.

Alternatives 1A through 1H had the least favorable overall ranks, which ranged from 19 to 22. In general, these alternatives incurred the highest levels of impacts upon the primary screening factors. Most notable among these are impacts to high value infrastructure impacts, undeveloped lands, managed lands (Section 4(f) resources) and legal drains.

The conclusions drawn from Screening Step 2 are that Alternatives 2A and 2B appear most worthy of carrying forward for detailed environmental analysis, and that Alternatives 1A through 1H, 2C and 2D appear least worthy of carrying forward for detailed environmental analysis.

C. Screening Step 3: Overall Screening Factor Analysis

The third step in the screening process was to determine whether, in addition to the primary screening factors, the favorability rankings obtained in Step 2 would be affected, when impacts upon the remaining, secondary screening factors were considered. Preliminary Alternative ranking by the secondary screening factors is depicted in Table 5, above. A summary of the secondary screening factors depicting the least and most impacted alternatives is shown in Table 6 below.

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Table 6: Summary of Secondary Screening Factors

Impact	Most Impact	Least Impact
Right of Way to be Acquired (Ac)	1D, 1F thru 1H	2A thru 2D
No. of Involved Parcels	1H, 2B thru 2D	1A thru 1C, 1E
No. of Total Parcel Acquisitions	1D, 1G, 1H, 2D	1A, 1B, 2A, 2B
IDNR Trail (LF)	1E thru 1H	1A thru 1D
Total # of Wetland Impacts	1A, 1B	1F thru 1H, 2B thru 2D
Undeveloped	1C, 1D, 1F, 1G	2A thru 2D
Developed	2A thru 2D	1C thru 1F
EXMP-Exempt County Owned	1A thru 1H	2A thru 2D
Highway Commercial	1A thru 1C, 1E, 1F	2A thru 2D
General Industry	1E thru 1H	2A thru 2D
Open Space	2A thru 2D	1A thru 1H
Light Industrial	1A thru 1D	2A thru 2D
Residential	1D, 2A thru 2D	1A, 1B, 1E, 1H
Professional Office	1D, 1G, 1H, 2C, 2D	1A, 1B, 1E
UTIL-State Assess Railroad	2A thru 2D	1A thru 1H
UTIL-State Railroad	1A thru 1D	2A thru 2D
Total # of Zoning Impacts	1H, 2B thru 2D	1A, 1B, 1E
# of State Pipeline Impacts	1A thru 1E	2B thru 2D
# of Local Pipeline Impacts	1A thru 1D, 1H	2A thru 2D
# of Legal Drain Impacts	1A thru 1D	1E thru 1H, 2A thru 2D
# of Railroad Track Impacts	2A thru 2C	1A thru 1D, 1H
Floodplain (Ac)	1A thru 1D, 1F thru 1H	1E, 2A

Screening Step 2 determined that Alternatives 2A and 2B are most worthy of carrying forward for detailed analysis. In general, there was not a wide range in overall Step 3 rankings. While Alternative 1E received the most favorable overall Step 3 score summation, it scored only slightly more favorably than Alternative 2A. Other alternatives performed nearly as well as Alternatives 2A and 2B. It should be noted that all Alternative 1 variants result in impacts to the Hartsdale Pond regional detention basin and an IDNR-owned parcel that is part of the Hoosier Prairie State Nature Preserve (a Section 4(f) resource), which are among the most significant resources in the project area. The conclusions drawn from Screening Step 3 is that consideration of the secondary screening factors in combination with the primary screening factors does not warrant advancing alternatives in addition to Alternatives 2A and 2B for detailed environmental analysis.

D. Alternatives Recommended to be Carried Forward for Detailed Environmental Analysis

Based upon the above-described impact analyses, it is recommended that Preliminary Alternatives 2A and 2B are carried forward for detailed environmental analysis and that Preliminary Alternatives 1A through 1H, 2C and 2D are eliminated from further consideration.

VIII. Scoping Process

The scoping process defines the range of alternatives to be considered and the process to be used to address potential environmental impacts. The following sections summarize these opportunities.

Resource Agency Coordination

Many of the issues to be addressed in the evaluation of alternatives and selection of a preferred alternative are mandated by various laws, regulations, and environmental resource agency guidelines. To ensure the scope of study for these issues would be adequate, meetings with resource agencies, FHWA and INDOT are planned to coincide with important decision-making milestones. They are described below. Three combined agency coordination meetings are planned and will coincide with the following project development milestones:

1. Early Coordination – to discuss the project's purpose and need and the identification of preliminary alternatives
2. Preliminary Alternatives Screening – to receive comments on the preliminary alternatives screening document
3. Preferred Alternative and Mitigation Package (PAMP)[5] – to receive comments on the PAMP document.

In addition, up to four individual agency coordination meetings are anticipated for ongoing communication with the environmental resource agencies. Individual agency meetings may pertain to issues such as data acquisition, resource assessment methodologies, various agency concurrences and other issues raised by the agencies. One or more of the combined agency coordination meetings may include a tour of the project area, and there is flexibility in the process to add combined or individual meetings, as necessary.

Initial Agency Meeting – Early Coordination

On April 11, 2014, the initial meeting with federal and state review agencies was held. The purpose of the meeting was to familiarize the environmental review agencies with the scope and status of engineering and environmental activities associated with the project, to discuss a draft project purpose and need, planned agency and public involvement efforts and project schedules, and to identify major issues to be addressed in the study. Subsequent to this meeting, the project's need was refined based upon input received. Materials from this meeting are presented in Appendix A, pages A1-A24.

Second Agency meeting – Preliminary Alternatives Development and Screening

On June 28, 2017, the second meeting with federal and state review agencies was held. The purpose of the meeting was to receive agency input on the Preliminary Alternatives Development and Screening document. No agency objected to the document's recommendations for carrying forward Preliminary

[5] The Preferred Alternative Mitigation Package (PAMP) documents the mitigation measures that are proposed for the preferred alternative. The PAMP contains a summary of the preferred alternative and explains the rationale for choosing the preferred alternative over the other alternatives. It also summarizes public and agency concerns and explains how these concerns will be addressed. Each project element that requires mitigation and the proposed mitigation measures are described. Proposed mitigation measures are grouped by those that are firmly committed and those that are held for further evaluation.

Alternatives 2A and 2B for detailed study. The USEPA requested additional justification regarding the recommendation for eliminating Preliminary Alternative 1E from further consideration. As noted above, this alternative has been eliminated due to impacts to the Hartsdale Pond regional detention basin and an IDNR-owned parcel that is part of the Hoosier Prairie State Nature Preserve (a Section 4(f) resource). Materials from this meeting are presented in Appendix A, pages A25-A38.

Public Involvement

Planned Public involvement activities include meetings with local public officials, a project newsletter, hotline, website, outreach meetings, Community Advisory Committee meetings, and other means will be implemented to solicit input. Public input will be sought at the same key decision-making milestones indicated above for agency coordination.

Public Information Meetings will be held to share project information with the public and receive feedback.

A Community Advisory Committee (CAC) will be developed to facilitate communication between project team members and representatives of potentially impacted and key constituent groups in the project area. Representation on the committee has been requested from among such constituencies as local elected officials, major employers, neighborhood representatives, civil organizations, schools and churches, social service providers, etc.

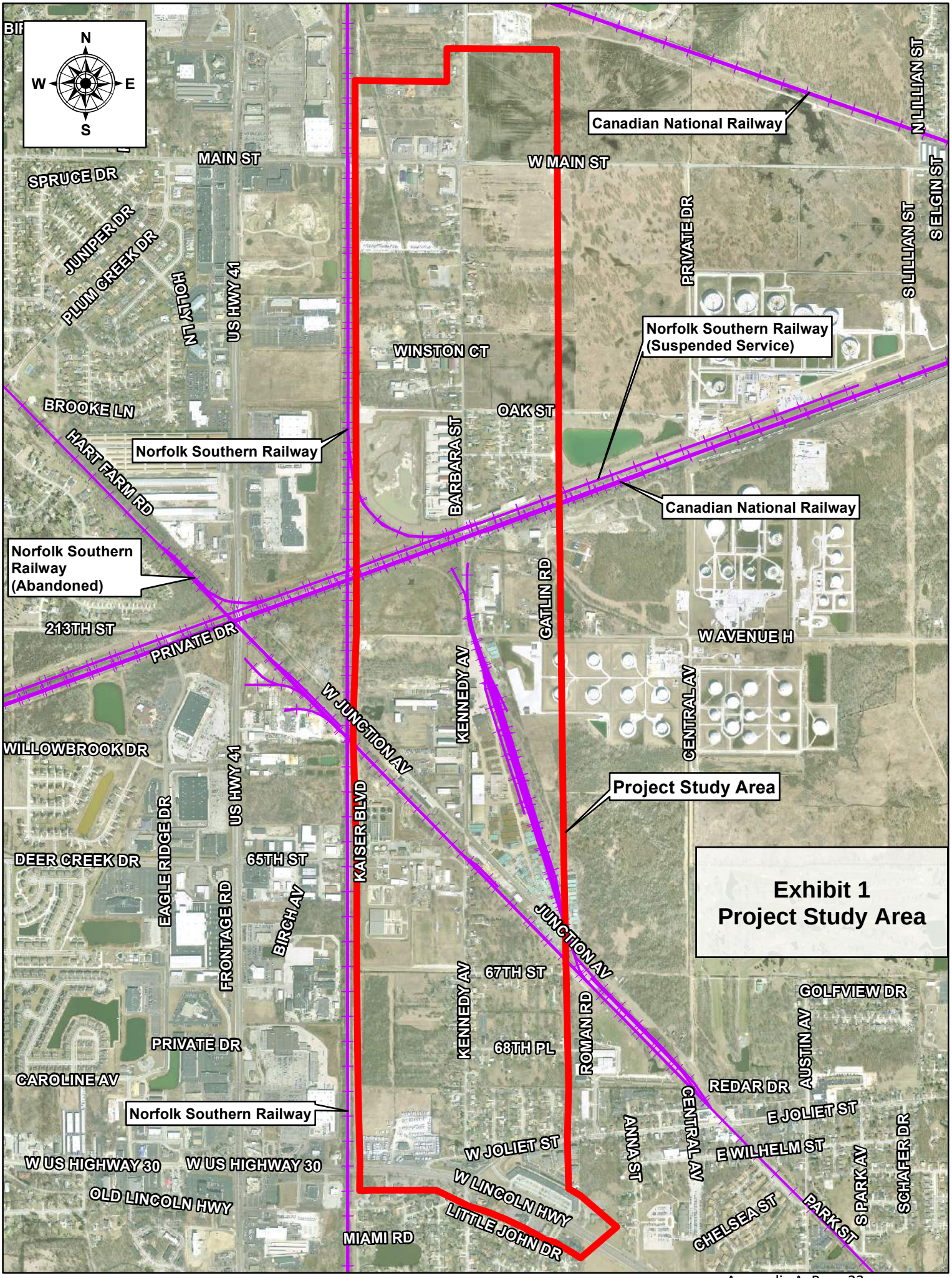
A Public Hearing will be held to present and receive input on the Environmental Assessment (EA) and potentially, the preferred alternative identified therein. Responses will be provided to all substantive comments; including oral comments made at the public hearing and written comments provided during a 30-day public comment period following the hearing. All comments and responses will be appended to the EA document.

IX. Conclusions and Recommendations

It is recommended that Alternatives 2A and 2B be advanced for further detailed analysis in the Engineering and Environmental Assessment process. It is believed that an Environmental Assessment (EA) is appropriate to document this review process. The EA process has two possible outcomes: a Finding of No Significant Impact (FONSI) made by the FHWA which would complete the NEPA review process, or, a FHWA Finding of Significant Impacts which would require preparation of an Environmental Impact Statement (EIS).

Engineering components of the analysis would include, but not are limited to: more detailed traffic forecasting/modeling to compare and measure the overall impact on congestion and delay for the “do nothing” and proposed alternatives, access control, further development of conceptual design parameters, right of way impacts and rail crossing alternatives.

Environmental components of the analysis will include assessments of the alternatives’ effects upon a wide range of social economic and environmental resources. In the comparison of impacts associated with these alternatives, input from Federal and State natural resource and regulatory agencies, as well as the public (through the CAC process and other facets of public involvement) will be sought and considered in the recommendation of a Preferred Alternative that would be advanced to the project’s construction phases. The process would continue to make use of the Project Management Team and the CAC to provide consultation and input in the process.


N
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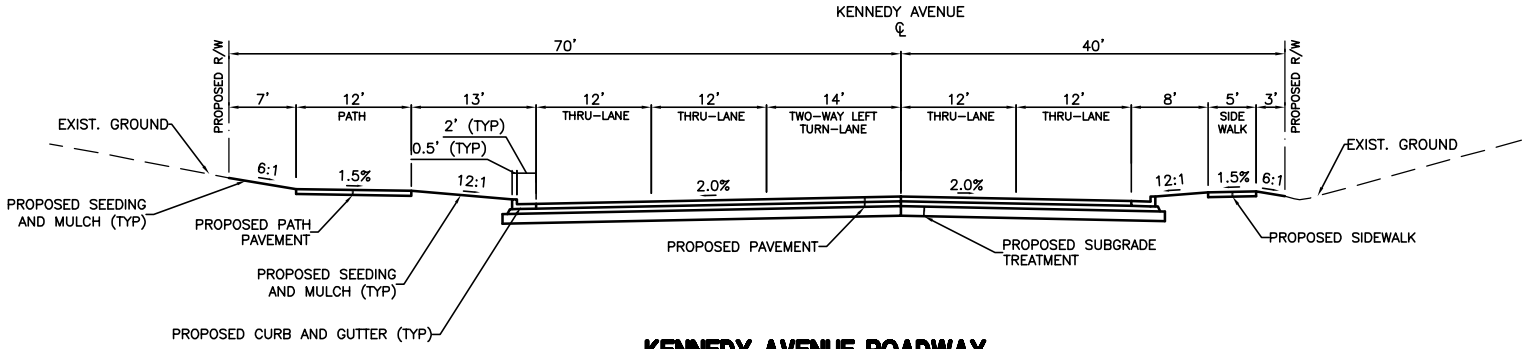
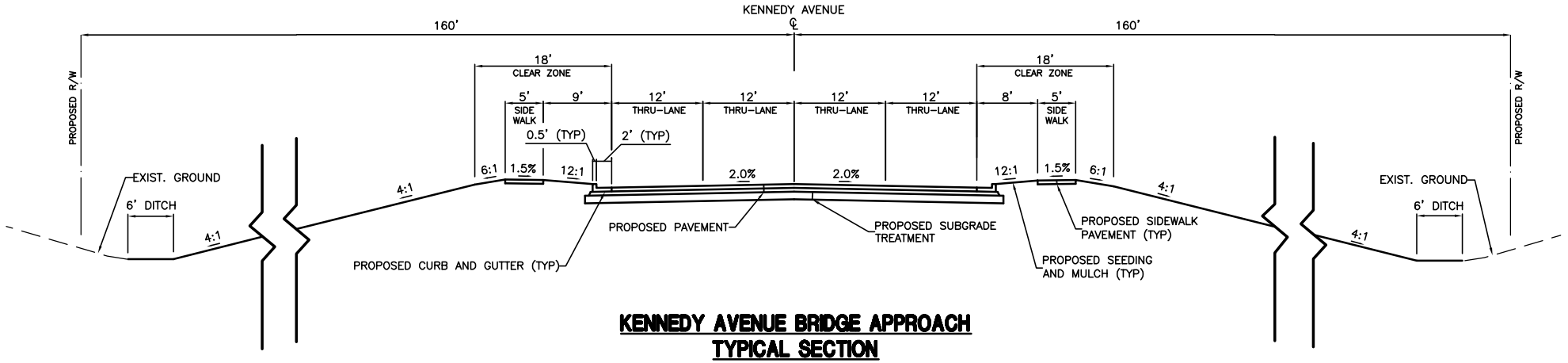
Canadian National Railway
N LILLIAN ST
MAIN ST
W MAIN ST
SPRUCE DR
JUNIPER DR
PLUM CREEK DR
HOLLY LN
US HWY 41
PRIVATE DR
S LILLIAN ST
S ELGIN ST
Norfolk Southern Railway
(Suspended Service)
WINSTON CT
BROOKE LN
OAK ST
HART FARM RD
Norfolk Southern Railway
BARBARA ST
Canadian National Railway
Norfolk Southern
Railway
(Abandoned)
GATLIN RD
213TH ST
PRIVATE DR
W AVENUE H
KENNEDY AV
CENTRAL AV
W JUNCTION AV
WILLOWBROOK DR
US HWY 41
Project Study Area
EAGLE RIDGE DR
KAISER BLVD
DEER CREEK DR
65TH ST
FRONTAGE RD
BIRCH AV
JUNCTION AV
KENNEDY AV
67TH ST
GOLFVIEW DR
ROMAN RD
AUSTIN AV
PRIVATE DR
68TH PL
CAROLINE AV
REDAR DR
CENTRAL AV
ANNA ST
E JOLIET ST
Norfolk Southern Railway
W JOLIET ST
E WILHELM ST
SPARK AV
SCHAFER DR
W US HIGHWAY 30
W US HIGHWAY 30
W LINCOLN HWY
OLD LINCOLN HWY
CHELSEA ST
PARK ST
LITTLE JOHN DR
MIAMI RD
Exhibit 1
Project Study Area

Exhibit 2
Roadway Design Criteria

Design Variable	Selected Value	Minimum	Desirable	Maximum	Basis for Design Values
Roadway Classification	4R; Minor Arterial				
Design Speed	45 mph	40 mph		50 mph	IDM Figure 53-6
Travel Lane Width	12 ft	11 ft	12 ft	-	IDM Figure 53-6
Shoulder Width	2 ft	2 ft	4 ft LT, 8 ft RT		IDM Figure 53-6
Cross Slope	2%	-	-	-	IDM Figure 53-6
Auxiliary Lane Width	12 ft	11 ft	12 ft	-	IDM Figure 53-6
TWLTL Width	14 ft	14 ft	16 ft	-	IDM Figure 53-6
Median Width: Raised Island	14 ft	4 ft	18 ft	-	IDM Figure 53-6
Sidewalk Width	5 ft				IDM Figure 53-6
Sidewalk Buffer	5 ft				IDM Figure 53-6
Pathway Width	12 ft	8 ft	10 ft	14 ft	IDM 51-7.05(02)4
Pathway Separation	10 ft				IDM Fig 51-7E
					IDM Fig 51-7F
					IDM 49-2.03(03)
Clear-Zone Width (w/Barrier Curb)	10 ft	10 ft			IDM 49-2.03(03)
Appurtenance-Free Area	1.5 ft	1.5 ft			IDM Chap 49-2.03(04)
Shelf Behind Curb	6 ft	6 ft			IDM Fig 53-6 not 19
Stoppng Sight Distance	360 ft				IDM Fig 53-6
Intersection Sight Distance	P: 500 ft				IDM Fig 46-10G
	SUT: 630 ft				IDM Fig 46-10G
	CT: 760 ft				IDM Fig 46-10G
emax	6%				IDM Chap 43-3.02(01)
Roadway Curve	2% SE				IDM Fig 43-3C
					IDM Fig 43-3D
Maximum Grade	6.5%				IDM Figure 53-6
Minimum Grade	0.5%	0.5%			IDM Figure 53-6
Intersection Spacing	Signalized: 1,300 ft				IDM Chap 46-1.06
	New: 400 ft				IDM Chap 46-1.06
Offset Construction from R/W	3 ft	3 ft			IDM Chap 85-4.01(03)



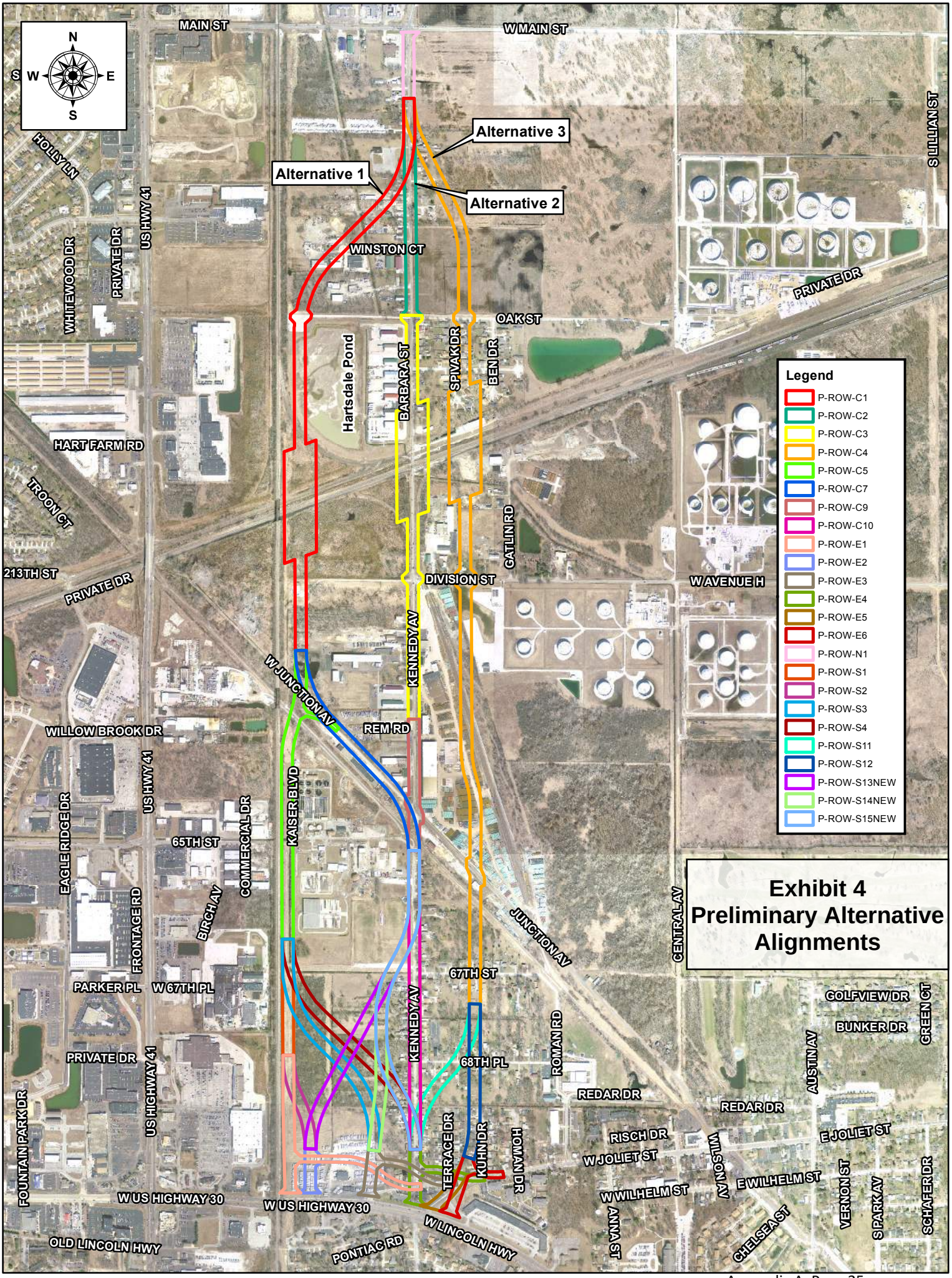
KENNEDY AVENUE ROADWAY
TYPICAL SECTION
SCALE: 1"=20'



KENNEDY AVENUE BRIDGE APPROACH
TYPICAL SECTION
SCALE: 1"=20'

DLZ
DLZ INDIANA, LLC
900 RIDGE ROAD, SUITE L, MUNSTER, INDIANA 46324
TELEPHONE (219) 836-5884 FAX (219) 836-6013

Exhibit 3
Conceptual Roadway Sections


N
S
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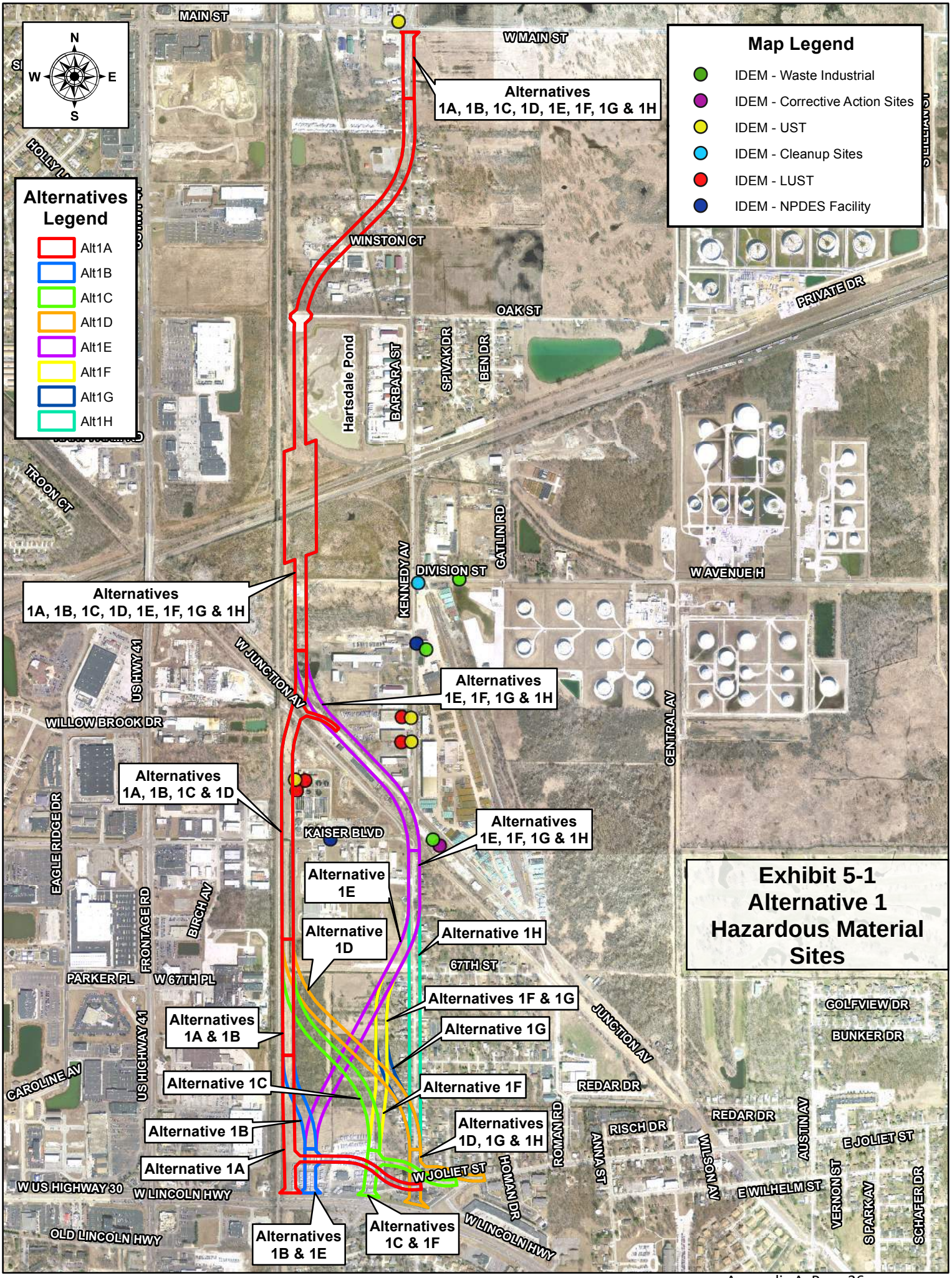
Alternative 3
Alternative 1
Alternative 2
MAIN ST
W MAIN ST
S LILLIAN ST
HOLLY LN
US HWY 41
WHITEWOOD DR
PRIVATE DR
WINSTON CT
PRIVATE DR
OAK ST
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
HART FARM RD
TROON CT
213TH ST
PRIVATE DR
CATLIN RD
DIVISION ST
W AVENUE H
KENNEDY AV
W JUNCTION AV
WILLOW BROOK DR
REM RD
US HWY 41
EAGLE RIDGE DR
KAISER BLVD
COMMERCIAL DR
65TH ST
FRONTAGE RD
BIRCH AV
JUNCTION AV
CENTRAL AV
67TH ST
PARKER PL
W 67TH PL
KENNEDY AV
ROMAN RD
GOLFVIEW DR
BUNKER DR
GREEN CT
AUSTIN AV
PRIVATE DR
US HIGHWAY 41
68TH PL
REDAR DR
REDAR DR
FOUNTAIN PARK DR
RISCH DR
E JOLIET ST
W JOLIET ST
WILSON AV
TERRACE DR
KUHN DR
HOMAN DR
E WILHELM ST
VERNON ST
SPARK AV
SCHAFER DR
W US HIGHWAY 30
W WILHELM ST
W US HIGHWAY 30
ANNA ST
CHELSEA ST
OLD LINCOLN HWY
PONTIAC RD
W LINCOLN HWY
Legend
P-ROW-C1
P-ROW-C2
P-ROW-C3
P-ROW-C4
P-ROW-C5
P-ROW-C7
P-ROW-C9
P-ROW-C10
P-ROW-E1
P-ROW-E2
P-ROW-E3
P-ROW-E4
P-ROW-E5
P-ROW-E6
P-ROW-N1
P-ROW-S1
P-ROW-S2
P-ROW-S3
P-ROW-S4
P-ROW-S11
P-ROW-S12
P-ROW-S13NEW
P-ROW-S14NEW
P-ROW-S15NEW
Exhibit 4
Preliminary Alternative Alignments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IDEM - Corrective Action Sites
IDEM - UST
IDEM - Cleanup Sites
IDEM - LUST
IDEM - NPDES Facility
Alternatives Legend
Alt1A
Alt1B
Alt1C
Alt1D
Alt1E
Alt1F
Alt1G
Alt1H
N
S
E
W
Alternatives 1A, 1B, 1C, 1D, 1E, 1F, 1G & 1H
Alternatives 1A, 1B, 1C, 1D, 1E, 1F, 1G & 1H
Alternatives 1E, 1F, 1G & 1H
Alternatives 1A, 1B, 1C & 1D
Alternatives 1E, 1F, 1G & 1H
Alternative 1E
Alternative 1D
Alternative 1H
Alternatives 1F & 1G
Alternatives 1A & 1B
Alternative 1G
Alternative 1C
Alternative 1F
Alternative 1B
Alternatives 1D, 1G & 1H
Alternative 1A
Alternatives 1B & 1E
Alternatives 1C & 1F
MAIN ST
W MAIN ST
WINSTON CT
OAK ST
PRIVATE DR
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
TROON CT
CATLIN RD
KENNEDY AV
DIVISION ST
W AVENUE H
US HWY 41
W JUNCTION AV
WILLOW BROOK DR
CENTRAL AV
KAISER BLVD
EAGLE RIDGE DR
FRONTAGE RD
BIRCH AV
PARKER PL
W 67TH PL
67TH ST
JUNCTION AV
GOLFVIEW DR
BUNKER DR
CAROLINE AV
REDAR DR
ROMAN RD
RISCH DR
AUSTIN AV
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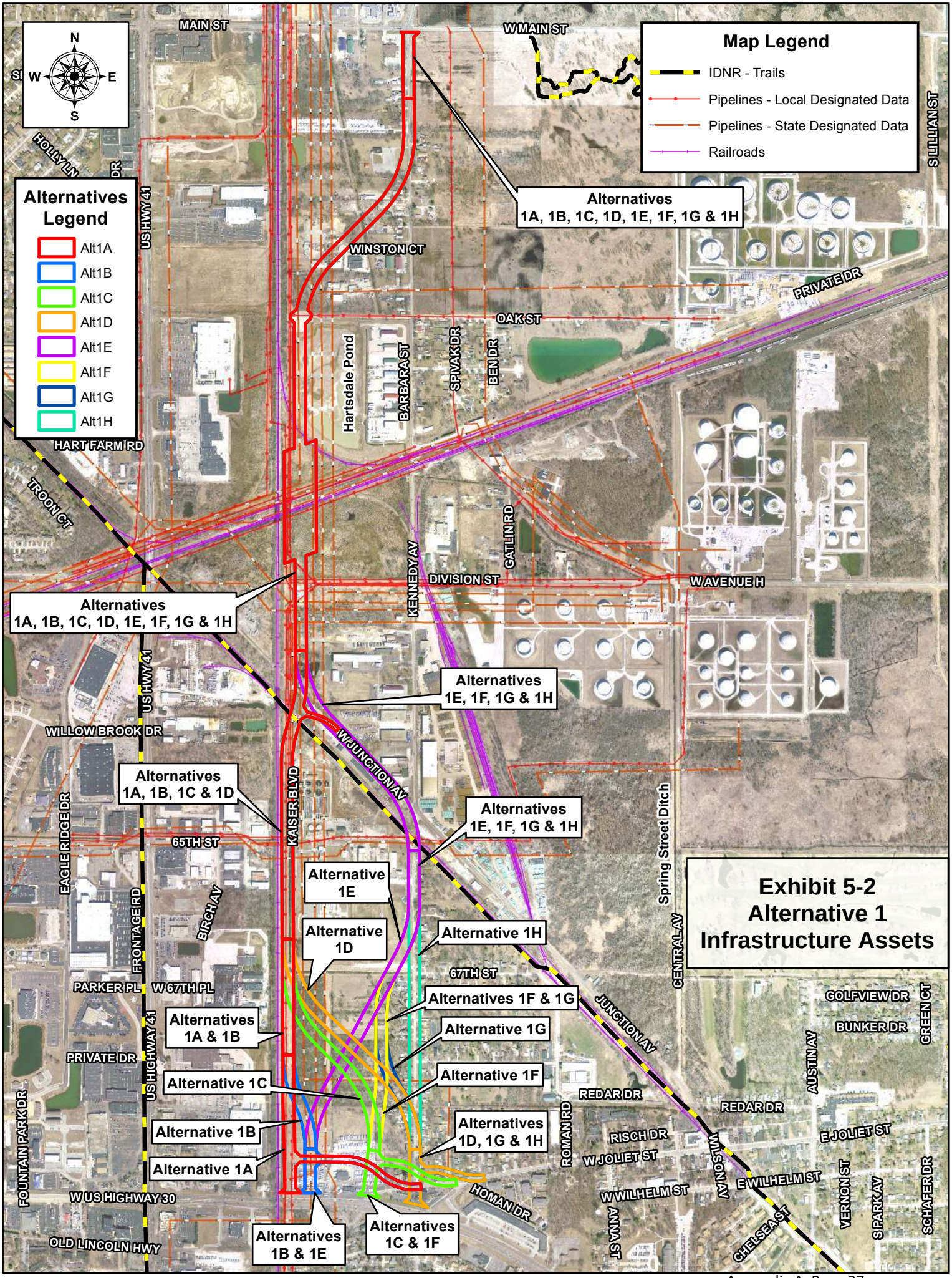
ANNA ST
WILSON AV
VERNON ST
SPARK AV
SCHAFER DR
E WILHELM ST
W JOLIET ST
HOWAN DR
W US HIGHWAY 30
W LINCOLN HWY
OLD LINCOLN HWY
Exhibit 5-1
Alternative 1
Hazardous Material Sites


Map Legend
IDNR - Trails
Pipelines - Local Designated Data
Pipelines - State Designated Data
Railroads
Alternatives Legend
Alt1A
Alt1B
Alt1C
Alt1D
Alt1E
Alt1F
Alt1G
Alt1H
Alternatives 1A, 1B, 1C, 1D, 1E, 1F, 1G & 1H
Alternatives 1A, 1B, 1C, 1D, 1E, 1F, 1G & 1H
Alternatives 1E, 1F, 1G & 1H
Alternatives 1A, 1B, 1C & 1D
Alternatives 1E, 1F, 1G & 1H
Alternative 1E
Alternative 1D
Alternative 1H
Alternatives 1F & 1G
Alternatives 1A & 1B
Alternative 1G
Alternative 1C
Alternative 1F
Alternative 1B
Alternatives 1D, 1G & 1H
Alternative 1A
Alternatives 1B & 1E
Alternatives 1C & 1F
Exhibit 5-2
Alternative 1
Infrastructure Assets
MAIN ST
W MAIN ST
S LILLIAN ST
HOLLY LN
US HWY 41
WINSTON CT
PRIVATE DR
OAK ST
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
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TROON CT
KENNEDY AV
DIVISION ST
CATLIN RD
W AVENUE H
WILLOW BROOK DR
W JUNCTION AV
KAISER BLVD
EAGLE RIDGE DR
65TH ST
FRONTAGE RD
BIRCH AV
Spring Street Ditch
CENTRAL AV
PARKER PL
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67TH ST
JUNCTION AV
GOLFVIEW DR
BUNKER DR
GREEN CT
AUSTIN AV
PRIVATE DR
US HIGHWAY 41
FOUNTAIN PARK DR
REDAR DR
ROMAN RD
RISCH DR
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VERNON ST
SPARK AV
SCHAFER DR
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HOMAN DR
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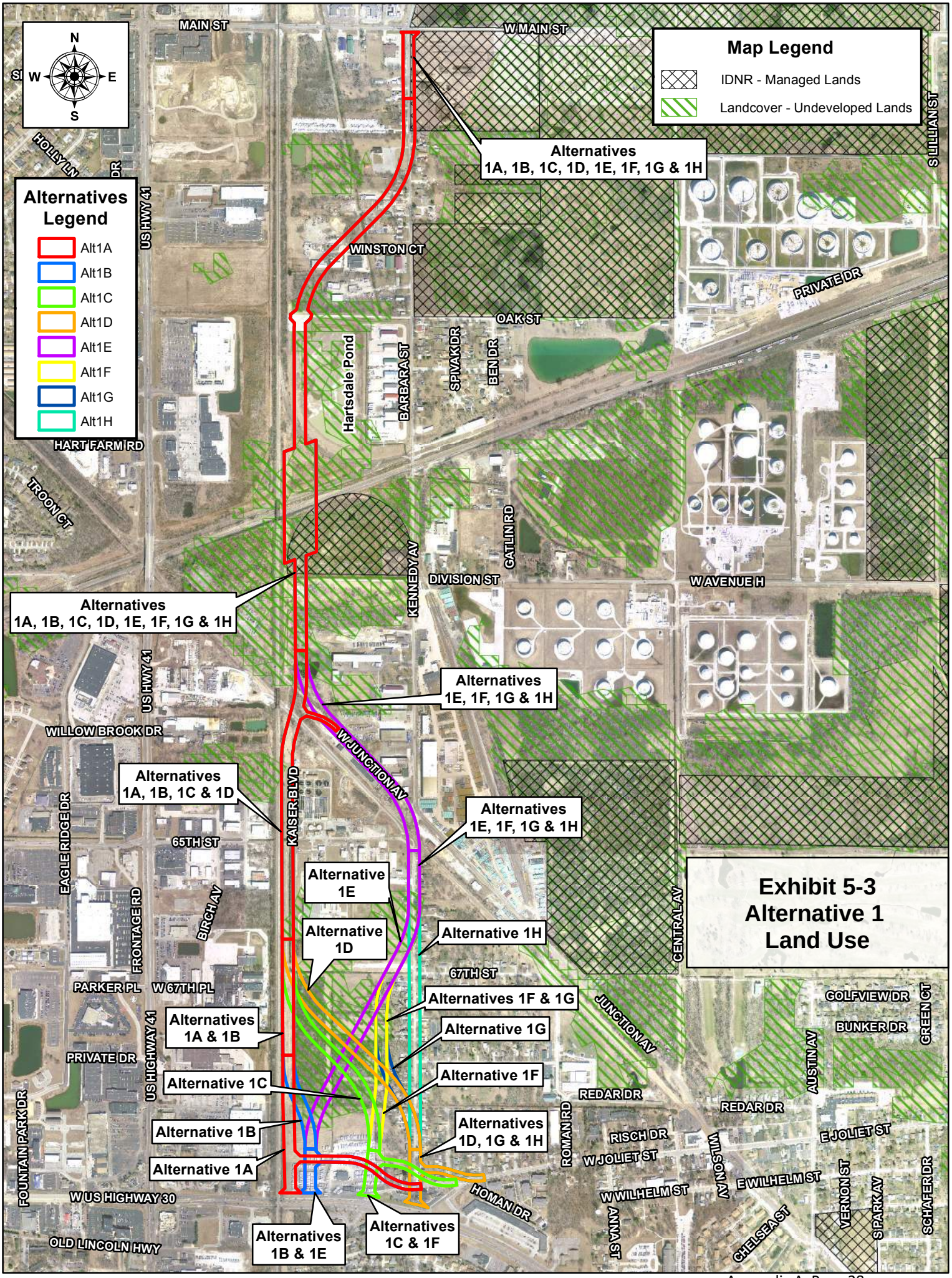
ANNA ST
CHELSEA ST
OLD LINCOLN HWY


Map Legend
IDNR - Managed Lands
Landcover - Undeveloped Lands
Alternatives Legend
Alt1A
Alt1B
Alt1C
Alt1D
Alt1E
Alt1F
Alt1G
Alt1H
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Alternatives 1E, 1F, 1G & 1H
Alternatives 1A, 1B, 1C & 1D
Alternatives 1E, 1F, 1G & 1H
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Alternative 1D
Alternative 1H
Alternatives 1F & 1G
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Alternative 1F
Alternative 1B
Alternatives 1D, 1G & 1H
Alternative 1A
Alternatives 1B & 1E
Alternatives 1C & 1F
Exhibit 5-3
Alternative 1
Land Use
MAIN ST
W MAIN ST
HOLLY LN
US HWY 41
WINSTON CT
OAK ST
PRIVATE DR
S LILLIAN ST
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
HART FARM RD
TROON CT
CATLIN RD
KENNEDY AV
DIVISION ST
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WILLOW BROOK DR
KAISER BLVD
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EAGLE RIDGE DR
65TH ST
FRONTAGE RD
BIRCH AV
CENTRAL AV
PARKER PL
W 67TH PL
67TH ST
JUNCTION AV
GOLFVIEW DR
BUNKER DR
GREEN CT
AUSTIN AV
US HIGHWAY 41
PRIVATE DR
REDAR DR
FOUNTAIN PARK DR
ROMAN RD
RISCH DR
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HOMAN DR
VERNON ST
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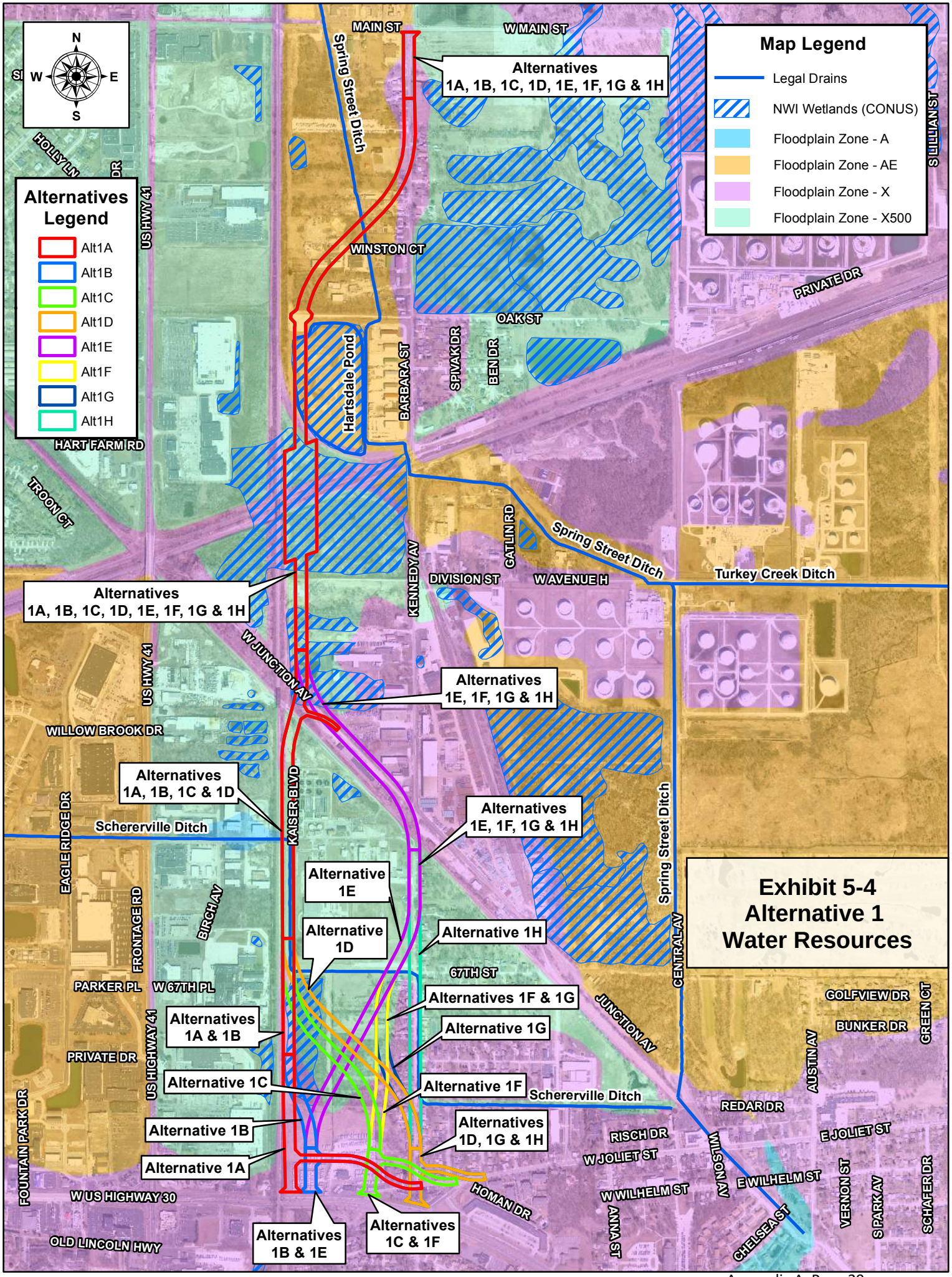
SCHAFER DR
ANNA ST
CHELSEA ST
W US HIGHWAY 30
OLD LINCOLN HWY


Alternatives Legend
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Alt1C
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Alt1E
Alt1F
Alt1G
Alt1H
Map Legend
Legal Drains
NWI Wetlands (CONUS)
Floodplain Zone - A
Floodplain Zone - AE
Floodplain Zone - X
Floodplain Zone - X500
Alternatives 1A, 1B, 1C, 1D, 1E, 1F, 1G & 1H
Alternatives 1A, 1B, 1C, 1D, 1E, 1F, 1G & 1H
Alternatives 1E, 1F, 1G & 1H
Alternatives 1A, 1B, 1C & 1D
Alternatives 1E, 1F, 1G & 1H
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Alternative 1D
Alternative 1H
Alternatives 1F & 1G
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Alternative 1G
Alternative 1C
Alternative 1F
Alternative 1B
Alternatives 1D, 1G & 1H
Alternative 1A
Alternatives 1B & 1E
Alternatives 1C & 1F
Exhibit 5-4
Alternative 1
Water Resources
MAIN ST
W MAIN ST
Spring Street Ditch
WINSTON CT
OAK ST
PRIVATE DR
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
HART FARM RD
TROON CT
US HWY 41
CATLIN RD
KENNEDY AV
DIVISION ST
W AVENUE H
Spring Street Ditch
Turkey Creek Ditch
W JUNCTION AV
WILLOW BROOK DR
KAISER BLVD
Schererville Ditch
EAGLE RIDGE DR
FRONTAGE RD
BIRCH AV
PARKER PL
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67TH ST
JUNCTION AV
CENTRAL AV
GOLFVIEW DR
BUNKER DR
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FOUNTAIN PARK DR
REDAR DR
RISCH DR
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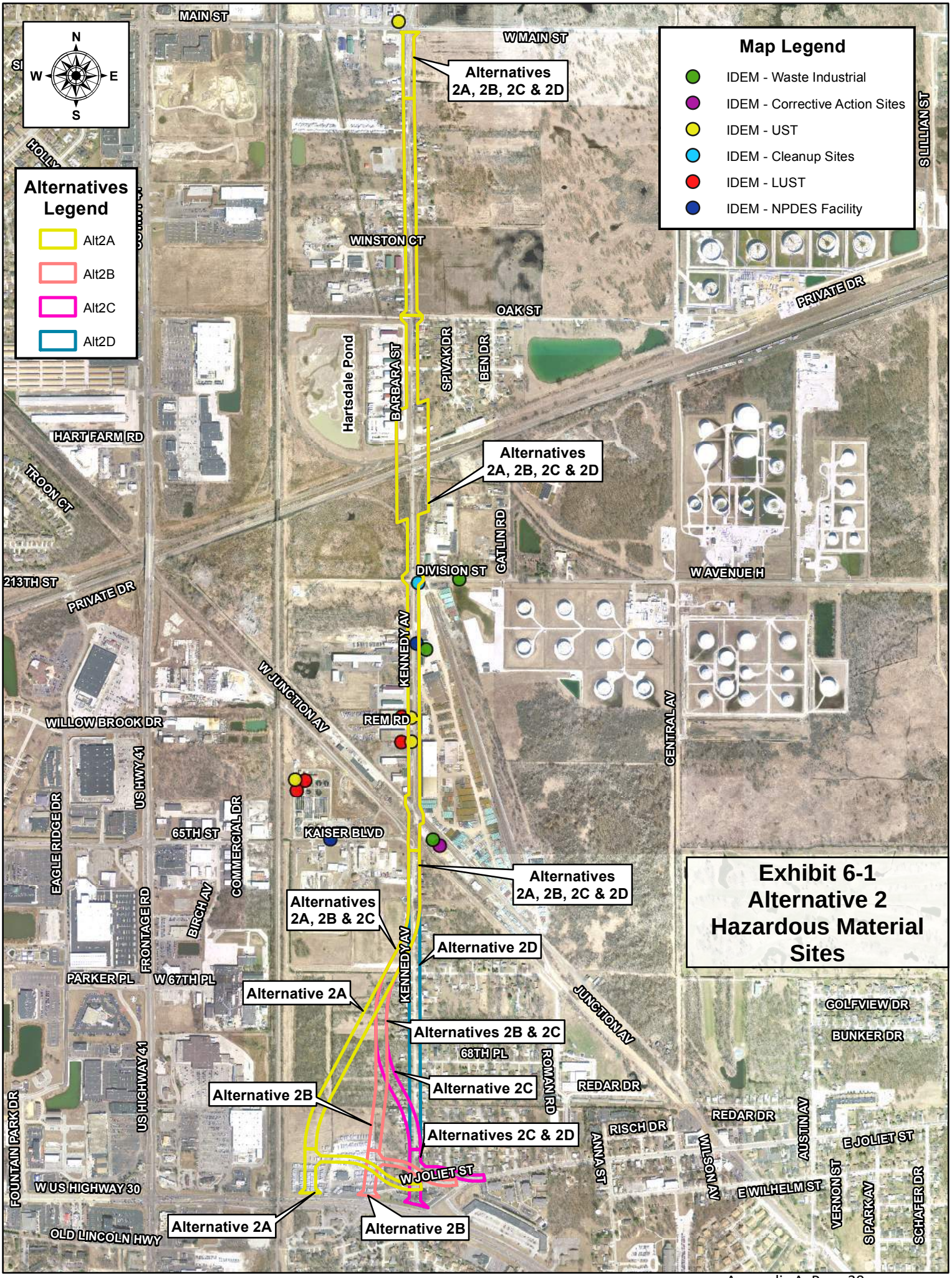
S LILLIAN ST


Map Legend
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IDEM - Corrective Action Sites
IDEM - UST
IDEM - Cleanup Sites
IDEM - LUST
IDEM - NPDES Facility
Alternatives Legend
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Alt2B
Alt2C
Alt2D
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W MAIN ST
Alternatives 2A, 2B, 2C & 2D
WINSTON CT
OAK ST
PRIVATE DR
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
HART FARM RD
TROON CT
CATLIN RD
DIVISION ST
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EAGLE RIDGE DR
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COMMERCIAL DR
KAISER BLVD
Alternatives 2A, 2B & 2C
Alternative 2D
BIRCH AV
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PARKER PL
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Alternative 2A
JUNCTION AV
GOLFVIEW DR
BUNKER DR
Alternatives 2B & 2C
68TH PL
ROMAN RD
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REDAR DR
Alternative 2B
US HIGHWAY 41
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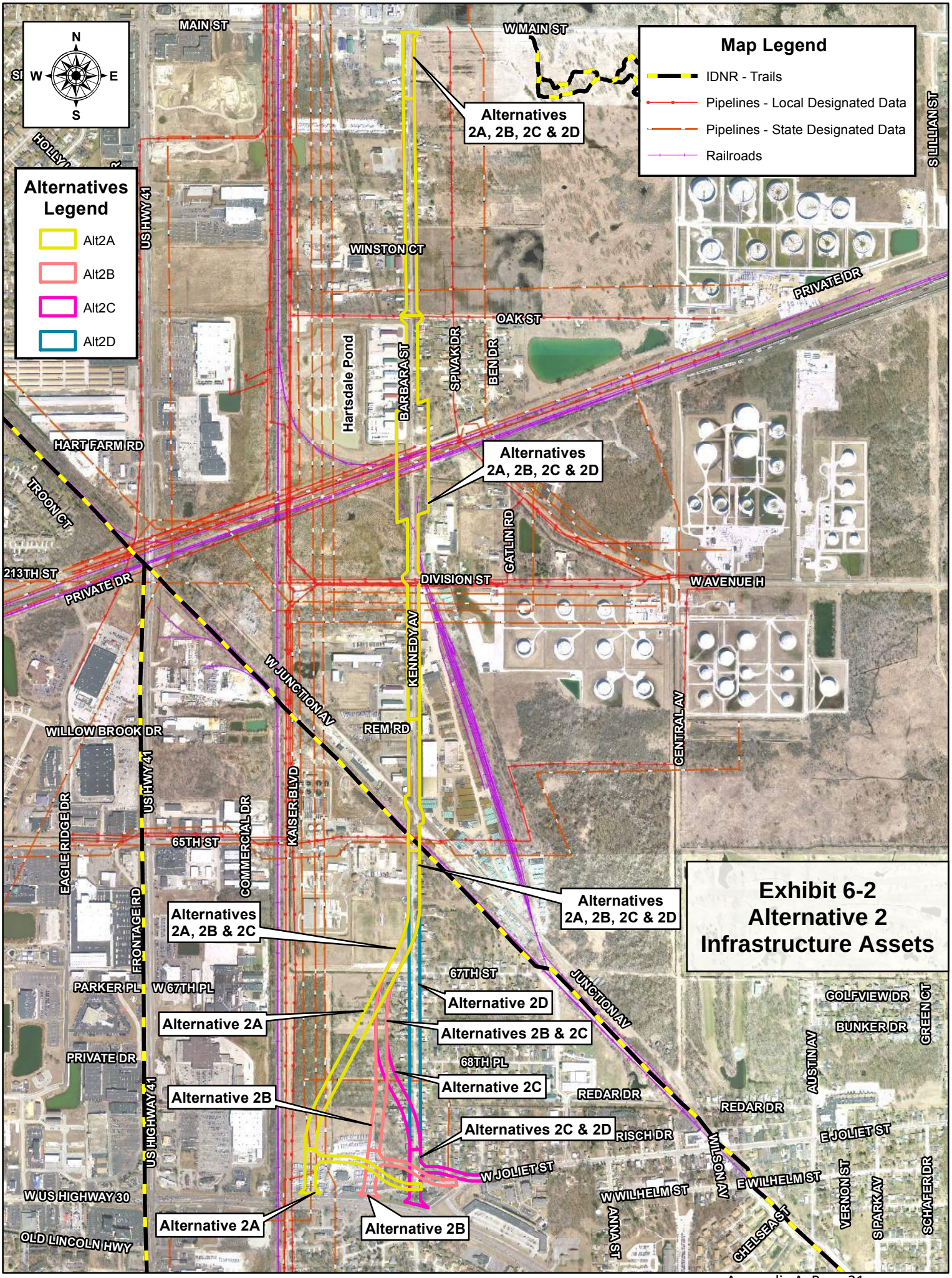
Alternatives 2C & 2D
ANNA ST
WILSON AV
W JOLIET ST
W US HIGHWAY 30
E WILHELM ST
VERNON ST
SPARK AV
SCHAFER DR
OLD LINCOLN HWY
Alternative 2A
Alternative 2B
Exhibit 6-1
Alternative 2
Hazardous Material Sites


Map Legend
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Pipelines - Local Designated Data
Pipelines - State Designated Data
Railroads
Alternatives Legend
Alt2A
Alt2B
Alt2C
Alt2D
Alternatives 2A, 2B, 2C & 2D
Alternatives 2A, 2B & 2C
Alternative 2A
Alternative 2B
Alternative 2C
Alternative 2D
Alternatives 2B & 2C
Alternatives 2C & 2D
Exhibit 6-2
Alternative 2
Infrastructure Assets
MAIN ST
W MAIN ST
S LILLIAN ST
US HWY 41
WINSTON CT
PRIVATE DR
OAK ST
Hartsdale Pond
BARBARA ST
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HART FARM RD
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EAGLE RIDGE DR
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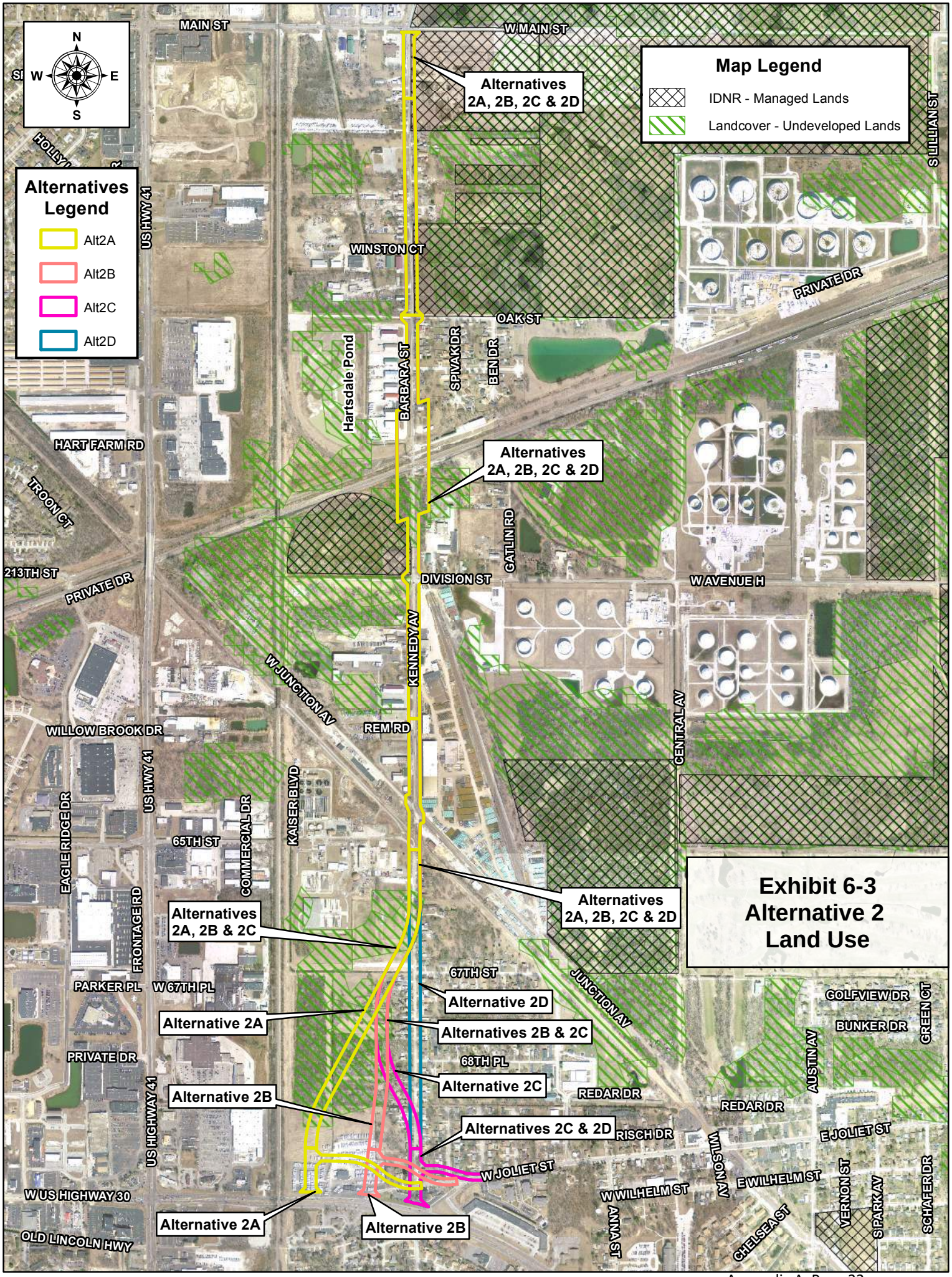
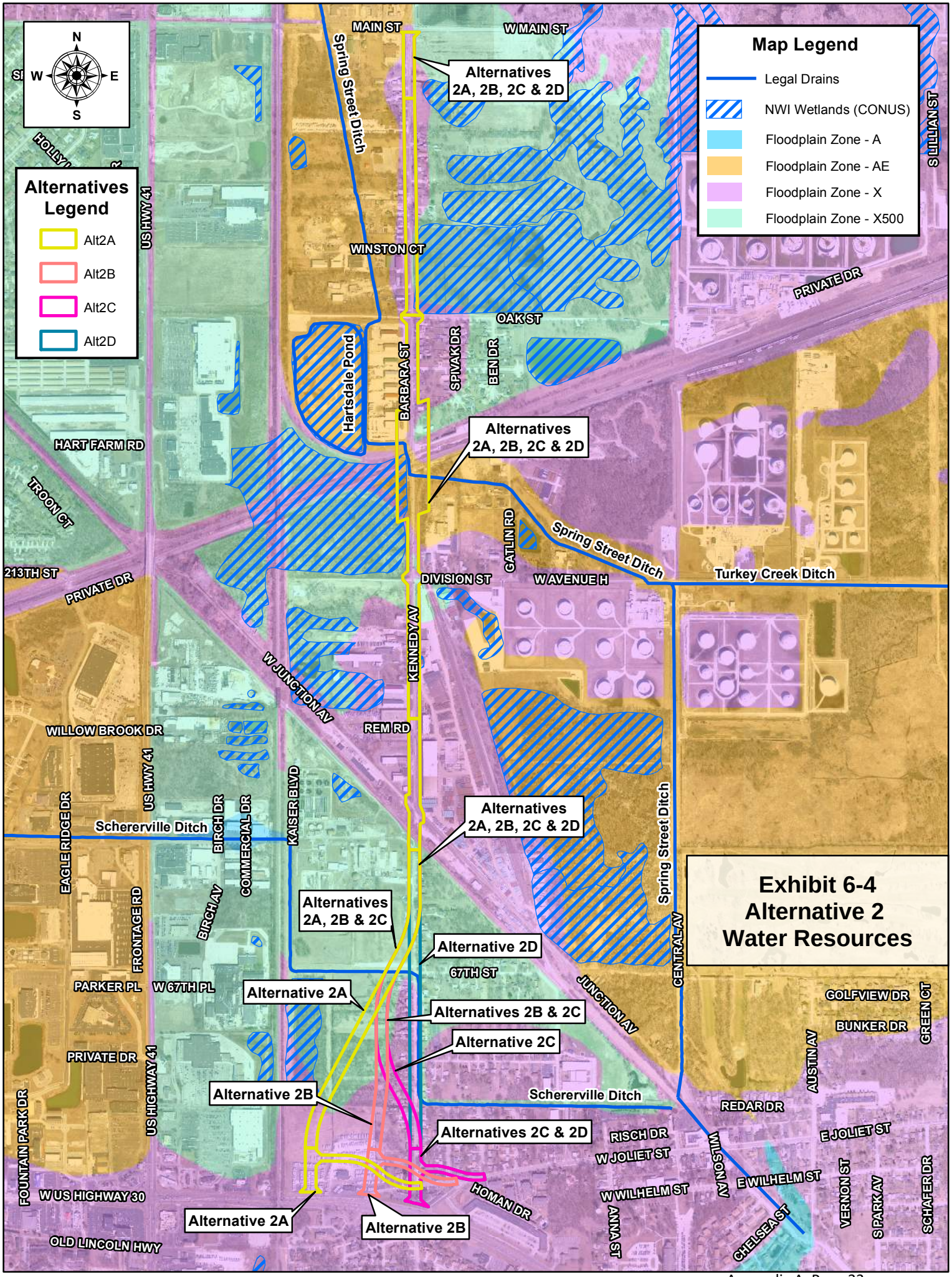
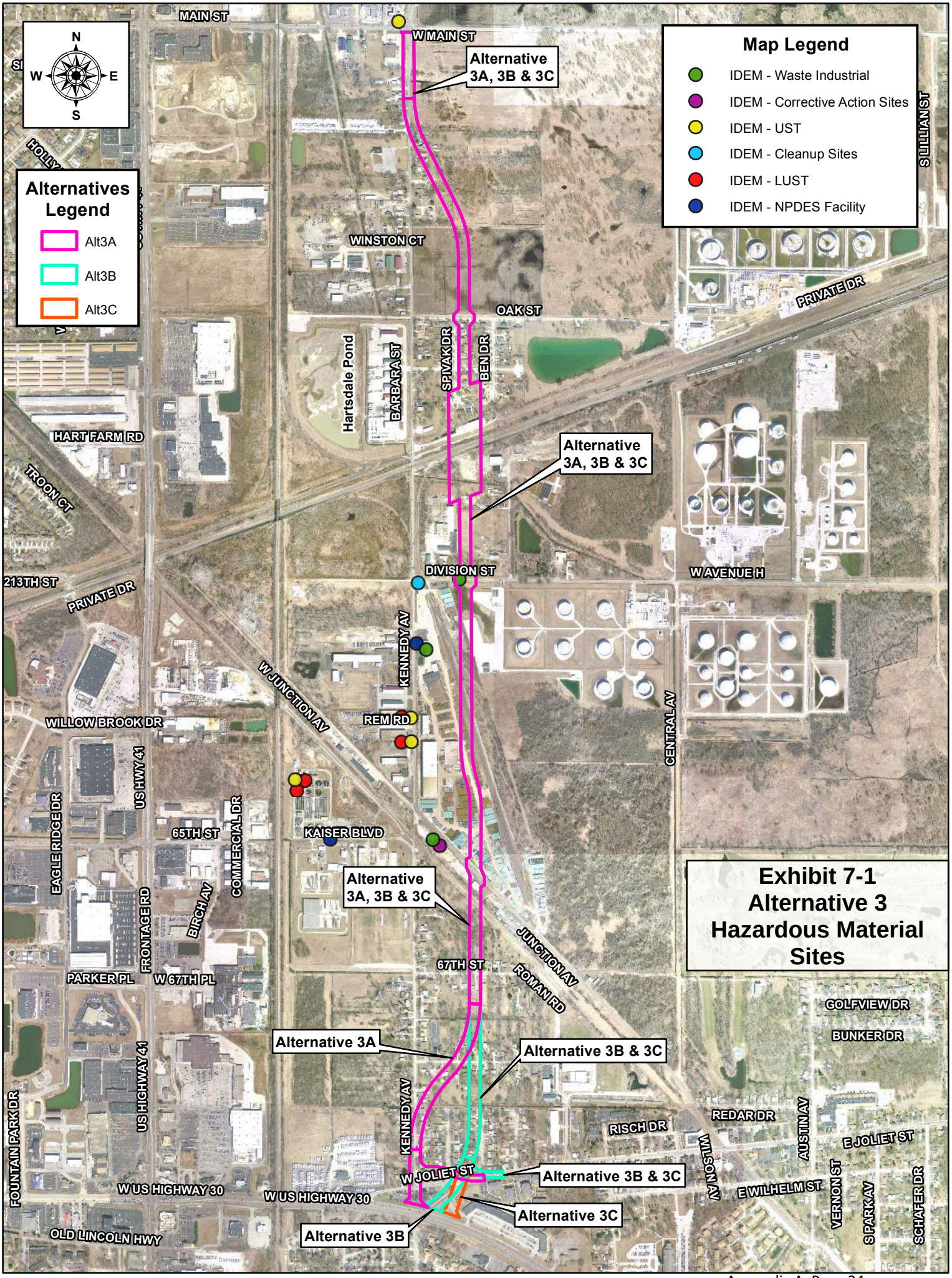
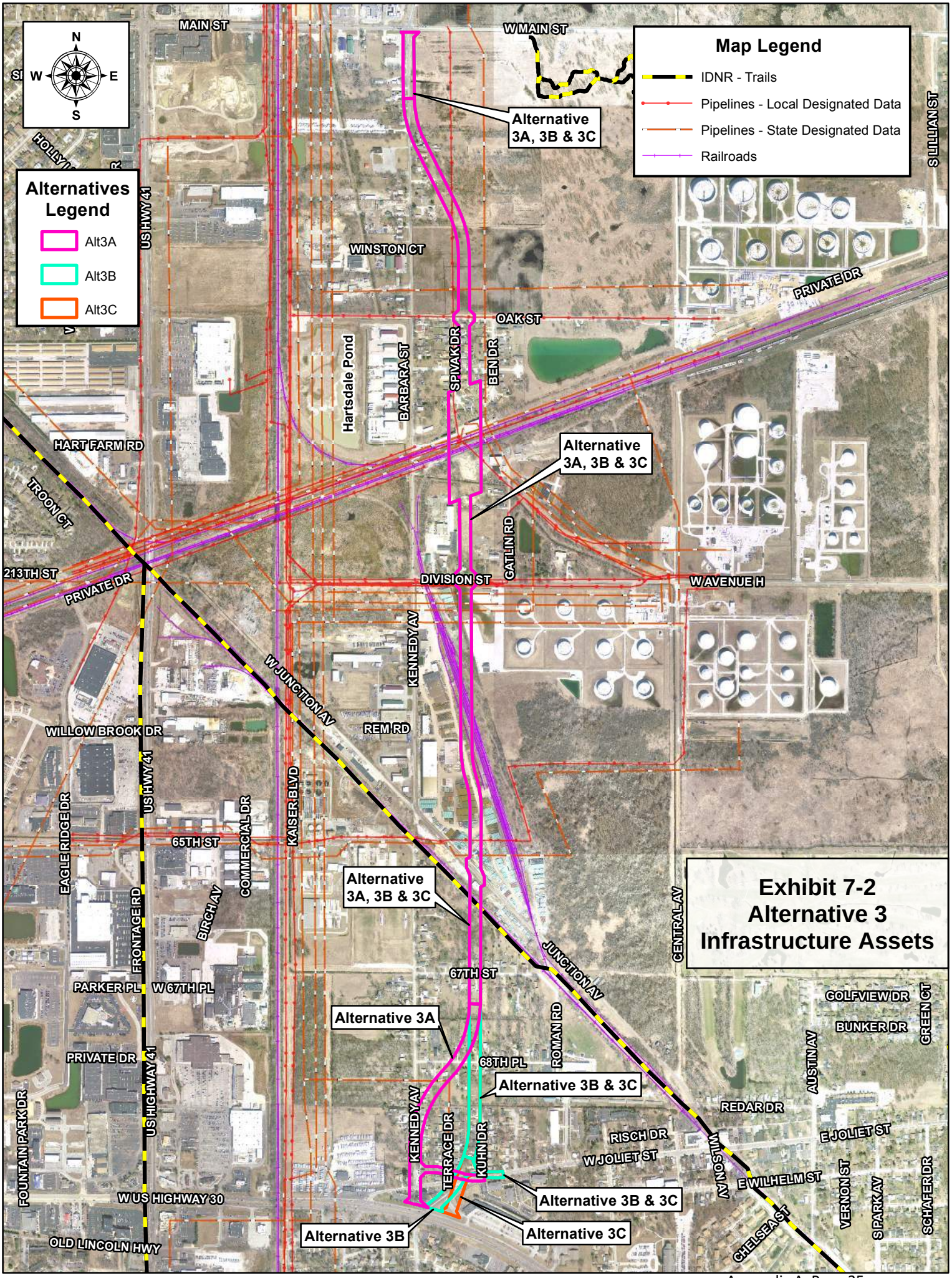
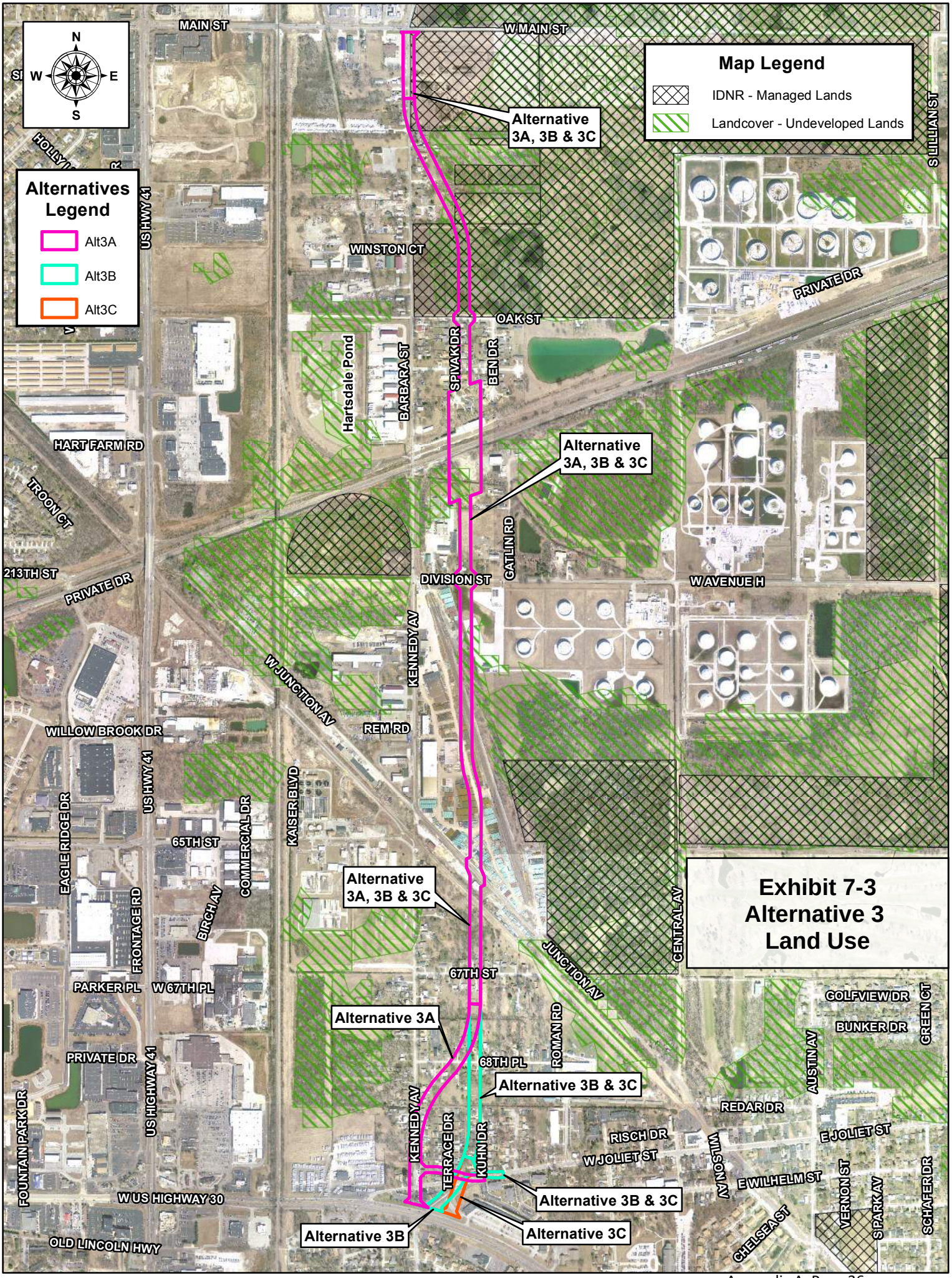
W US HIGHWAY 30
OLD LINCOLN HWY

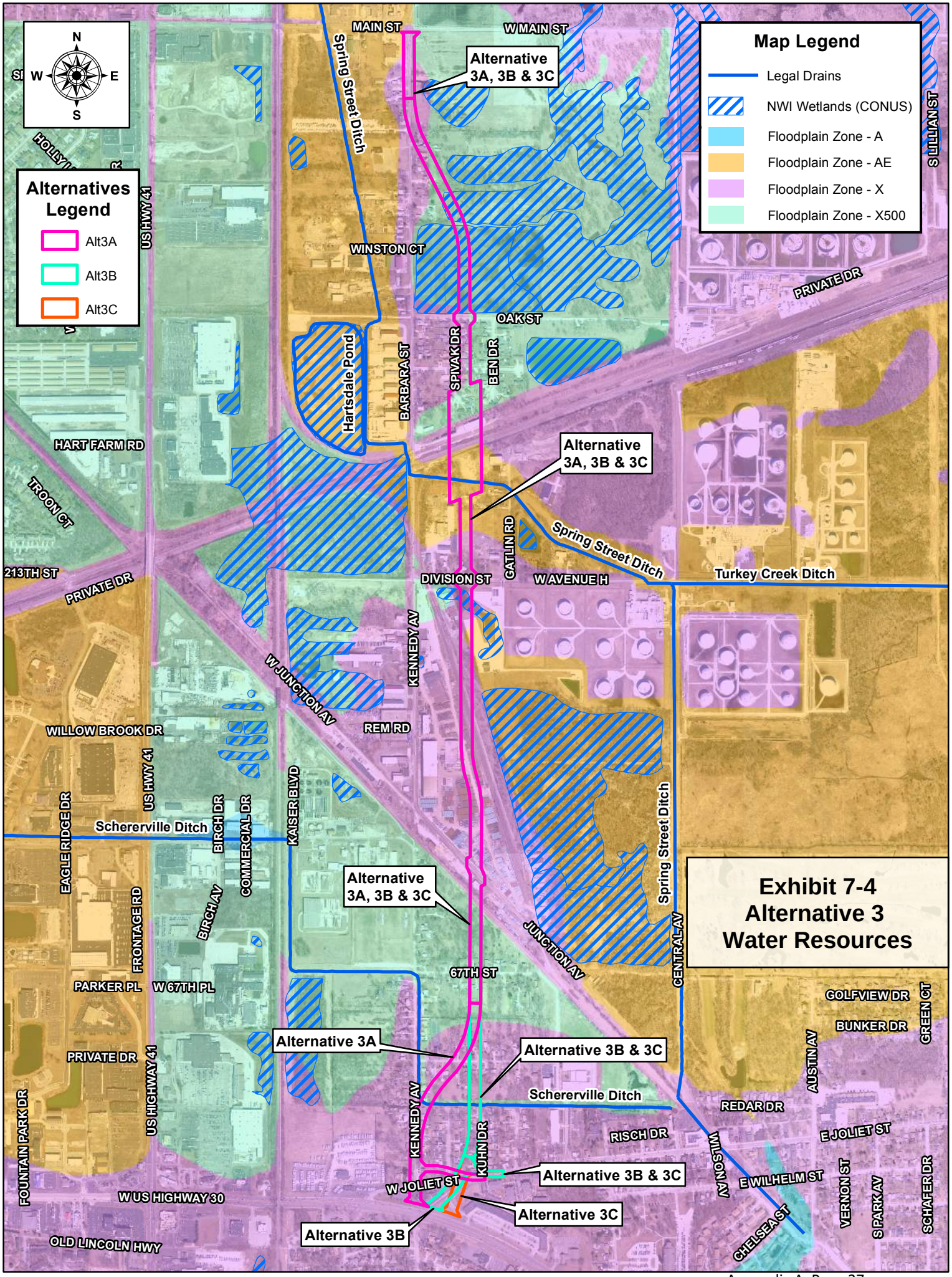

Map Legend
IDNR - Managed Lands
Landcover - Undeveloped Lands
Alternatives Legend
Alt2A
Alt2B
Alt2C
Alt2D
Alternatives 2A, 2B, 2C & 2D
Alternatives 2A, 2B & 2C
Alternative 2A
Alternative 2B
Alternative 2C
Alternative 2D
Alternatives 2B & 2C
Alternatives 2C & 2D
Exhibit 6-3
Alternative 2
Land Use
MAIN ST
W MAIN ST
US HWY 41
WINSTON CT
OAK ST
PRIVATE DR
S LILLIAN ST
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
HART FARM RD
TROON CT
213TH ST
CATLIN RD
DIVISION ST
W AVENUE H
KENNEDY AV
W JUNCTION AV
REM RD
CENTRAL AV
WILLOW BROOK DR
KAISER BLVD
EAGLE RIDGE DR
COMMERCIAL DR
65TH ST
FRONTAGE RD
PARKER PL
W 67TH PL
67TH ST
JUNCTION AV
GOLFVIEW DR
BUNKER DR
GREEN CT
AUSTIN AV
68TH PL
REDAR DR
RISCH DR
E JOLIET ST
W JOLIET ST
WILSON AV
E WILHELM ST
W WILHELM ST
VERNON ST
SPARK AV
SCHAFER DR
ANNA ST
CHELSEA ST
W US HIGHWAY 30
OLD LINCOLN HWY


Alternatives Legend
Alt2A
Alt2B
Alt2C
Alt2D
Map Legend
Legal Drains
NWI Wetlands (CONUS)
Floodplain Zone - A
Floodplain Zone - AE
Floodplain Zone - X
Floodplain Zone - X500
Alternatives 2A, 2B, 2C & 2D
Alternatives 2A, 2B & 2C
Alternative 2D
Alternative 2A
Alternatives 2B & 2C
Alternative 2C
Alternative 2B
Alternatives 2C & 2D
Exhibit 6-4
Alternative 2
Water Resources
MAIN ST
W MAIN ST
Spring Street Ditch
US HWY 41
WINSTON CT
OAK ST
PRIVATE DR
S LILLIAN ST
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
HART FARM RD
TROON CT
213TH ST
CATLIN RD
Spring Street Ditch
Turkey Creek Ditch
DIVISION ST
W AVENUE H
KENNEDY AV
W JUNCTION AV
WILLOW BROOK DR
REM RD
US HWY 41
KAISER BLVD
EAGLE RIDGE DR
Schererville Ditch
BIRCH DR
COMMERCIAL DR
FRONTAGE RD
BIRCH AV
PARKER PL
W 67TH PL
67TH ST
JUNCTION AV
CENTRAL AV
GOLFVIEW DR
BUNKER DR
GREEN CT
AUSTIN AV
PRIVATE DR
US HIGHWAY 41
FOUNTAIN PARK DR
REDAR DR
RISCH DR
E JOLIET ST
W JOLIET ST
WILSON AV
E WILHELM ST
W WILHELM ST
VERNON ST
SPARK AV
SCHAFER DR
W US HIGHWAY 30
HOMAN DR
ANNA ST
CHELSEA ST
OLD LINCOLN HWY


Map Legend
IDEM - Waste Industrial
IDEM - Corrective Action Sites
IDEM - UST
IDEM - Cleanup Sites
IDEM - LUST
IDEM - NPDES Facility
Alternatives Legend
Alt3A
Alt3B
Alt3C
N
S
E
W
Alternative 3A, 3B & 3C
Alternative 3A
Alternative 3B & 3C
Alternative 3C
Alternative 3B
MAIN ST
W MAIN ST
WINSTON CT
OAK ST
PRIVATE DR
SILLIAN ST
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
HART FARM RD
TROON CT
213TH ST
DIVISION ST
W AVENUE H
KENNEDY AV
W JUNCTION AV
WILLOW BROOK DR
REM RD
CENTRAL AV
US HWY 41
EAGLE RIDGE DR
65TH ST
COMMERCIAL DR
KAISER BLVD
FRONTAGE RD
BIRCH AV
PARKER PL
W 67TH PL
67TH ST
JUNCTION AV
ROMAN RD
GOLFVIEW DR
BUNKER DR
US HIGHWAY 41
FOUNTAIN PARK DR
RISCH DR
REDAR DR
AUSTIN AV
E JOLIET ST
W JOLIET ST
WILSON AV
E WILHELM ST
VERNON ST
SPARK AV
SCHAFER DR
W US HIGHWAY 30
OLD LINCOLN HWY
Exhibit 7-1
Alternative 3
Hazardous Material
Sites


Map Legend
IDNR - Trails
Pipelines - Local Designated Data
Pipelines - State Designated Data
Railroads
Alternatives Legend
Alt3A
Alt3B
Alt3C
N
S
E
W
Alternative 3A, 3B & 3C
Alternative 3A
Alternative 3B & 3C
Alternative 3B
Alternative 3C
MAIN ST
W MAIN ST
S LILLIAN ST
US HWY 41
WINSTON CT
PRIVATE DR
OAK ST
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
HART FARM RD
TROON CT
213TH ST
CATLIN RD
DIVISION ST
W AVENUE H
KENNEDY AV
W JUNCTION AV
WILLOW BROOK DR
REM RD
KAISER BLVD
EAGLE RIDGE DR
65TH ST
COMMERCIAL DR
BIRCH AV
FRONTAGE RD
PARKER PL
W 67TH PL
67TH ST
JUNCTION AV
CENTRAL AV
ROMAN RD
68TH PL
GOLFVIEW DR
BUNKER DR
GREEN CT
AUSTIN AV
REDAR DR
E JOLIET ST
RISCH DR
W JOLIET ST
KUHN DR
TERRACE DR
WILSON AV
E WILHELM ST
VERNON ST
S PARK AV
SCHAFER DR
CHELSEA ST
FOUNTAIN PARK DR
W US HIGHWAY 30
OLD LINCOLN HWY
Exhibit 7-2
Alternative 3
Infrastructure Assets


Map Legend
IDNR - Managed Lands
Landcover - Undeveloped Lands
Alternatives Legend
Alt3A
Alt3B
Alt3C
N
S
E
W
Alternative 3A, 3B & 3C
Alternative 3A, 3B & 3C
Alternative 3A, 3B & 3C
Alternative 3A
Alternative 3B & 3C
Alternative 3B & 3C
Alternative 3B
Alternative 3C
MAIN ST
W MAIN ST
S LILLIAN ST
US HWY 41
WINSTON CT
PRIVATE DR
OAK ST
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
HART FARM RD
TROON CT
CATLIN RD
213TH ST
PRIVATE DR
DIVISION ST
W AVENUE H
KENNEDY AV
W JUNCTION AV
REM RD
WILLOW BROOK DR
US HWY 41
KAISER BLVD
EAGLE RIDGE DR
65TH ST
COMMERCIAL DR
BIRCH AV
FRONTAGE RD
CENTRAL AV
JUNCTION AV
67TH ST
PARKER PL
W 67TH PL
ROMAN RD
GOLFVIEW DR
BUNKER DR
GREEN CT
AUSTIN AV
PRIVATE DR
US HIGHWAY 41
68TH PL
FOUNTAIN PARK DR
KENNEDY AV
TERRACE DR
KUHN DR
REDAR DR
RISCH DR
W JOLIET ST
E JOLIET ST
WILSON AV
E WILHELM ST
VERNON ST
SPARK AV
SCHAFER DR
CHELSEA ST
W US HIGHWAY 30
OLD LINCOLN HWY
Exhibit 7-3
Alternative 3
Land Use


Map Legend
Legal Drains
NWI Wetlands (CONUS)
Floodplain Zone - A
Floodplain Zone - AE
Floodplain Zone - X
Floodplain Zone - X500
Alternatives Legend
Alt3A
Alt3B
Alt3C
Exhibit 7-4
Alternative 3
Water Resources
Alternative 3A, 3B & 3C
Alternative 3A
Alternative 3B & 3C
Alternative 3C
Alternative 3B
MAIN ST
W MAIN ST
Spring Street Ditch
WINSTON CT
OAK ST
PRIVATE DR
HART FARM RD
TROON CT
213TH ST
PRIVATE DR
Hartsdale Pond
BARBARA ST
SPIVAK DR
BEN DR
CATLIN RD
Spring Street Ditch
Turkey Creek Ditch
DIVISION ST
W AVENUE H
KENNEDY AV
W JUNCTION AV
REM RD
WILLOW BROOK DR
US HWY 41
EAGLE RIDGE DR
Schererville Ditch
BIRCH DR
COMMERCIAL DR
KAISER BLVD
FRONTAGE RD
BIRCH AV
PARKER PL
W 67TH PL
67TH ST
JUNCTION AV
CENTRAL AV
Spring Street Ditch
PRIVATE DR
US HIGHWAY 41
FOUNTAIN PARK DR
W US HIGHWAY 30
OLD LINCOLN HWY
KENNEDY AV
KUHN DR
W JOLIET ST
Schererville Ditch
RISCH DR
REDAR DR
WILSON AV
E JOLIET ST
E WILHELM ST
CHELSEA ST
VERNON ST
SPARK AV
SCHAFER DR
AUSTIN AV
GOLFVIEW DR
BUNKER DR
GREEN CT
S LILLIAN ST

APPENDIX A

Agency Meeting Materials

Agency Meeting Materials have been removed from this Appendix. Agency Meeting Materials can be found in Appendix C of this document.