Grain Belt Express
Route Selection Study
Addendum

July 2022

Prepared for:
Grain Belt Express
An Invenergy Transmission Project

Prepared by:

WSP USA INC
300 Wyandotte Street
Kansas City, MO 64105

Table of Contents

Table of Contents (cont.)

Section **Page**

List of Tables

Table **Page**

List of Figures

Figure **Page**

List of Abbreviations and Acronyms

AC	alternating current
CPCN	certificate of public convenience and necessity
DC	direct current
GIS	geographic information system
GBX	Grain Belt Express
HVDC	high voltage direct current
ICC	Illinois Commerce Commission

Glossary

2015 Proposed Route – The route that was described in the 2015 Routing Study and presented as the "proposed route" in GBX Clean Line's Application for a CPCN in Docket 15-0277.

2015 Alternate Route – The route that was described in the 2015 Routing Study and presented as the "alternate route" in GBX Clean Line's Application for a CPCN in Docket 15-0277.

2015 Approved Route – The route that the Commission approved in 2015 in its order dated November 12, 2015 in Docket 15-2077. This route is based on the 2015 Proposed Route and includes the GBX Adjustment to the Rex Encore Modification (see Section 3.3).

Route Revision – A modification to either the 2015 Proposed Route or 2015 Alternate Route described in the 2022 Route Selection Study Addendum to develop the 2022 Proposed Route and the 2022 Alternate Route. A total of 17 Route Revisions are included in the 2022 Route Selection Study Addendum..

Proposed Route or 2022 Proposed Route – The route that the Grain Belt Express's Routing Team has selected as the overall optimal route, as supported by the 2022 Routing Study Addendum. The Proposed Route represents the "primary right-of-way" as referenced in 220 ILCS 5/8-406.1(a)(1)(viii) and is the route that Grain Belt Express is presenting to the Commission for approval in the 2022 Application for a CPCN. The Proposed Route is based on the 2015 Proposed Route and includes all Route Revisions approved by the Routing Team.

Alternate Route or 2022 Alternate Route – The route supported by the 2022 Routing Study Addendum as the best formal alternate to the Proposed Route and is the route that Grain Belt Express is presenting to the Commission as an alternate to the Proposed Route in the 2022 Application for a CPCN. The Alternate Route represents "one or more alternate rights-of-way" as required by 220 ILCS 5/8-406.1(a)(1)(viii).

Primary Route and Alternate Routes – Grain Belt Express referred to the "Primary Route" during its 2022 public outreach meetings as the route that it preferred. The Primary Route was initially the 2015 Approved Route. It was updated over the course of the public outreach meetings to become eventually the Proposed Route. During those public outreach meetings, Grain Belt Express also referred to the "**Alternate Route**" as the route that it intended to present to the Commission as the Alternate Route. The Alternate Route started as the 2015 Alternate Route and was updated throughout the public outreach meetings to become eventually the Alternate Route that Grain Belt Express is presenting in the 2022 Application for a CPCN.

Conceptual Routes – The initial routes developed for the 2015 Routing Study to consider a range of reasonable alignments for the Project. Development of Conceptual Routes was the first step to identifying route options based on large-scale opportunities and constraints. Conceptual Routes were refined into "**Potential Routes**" for the 2015 Routing Study as additional information from agency coordination, public outreach and ongoing review of the area was obtained and considered. Potential Routes ultimately became "**Alternative Routes**" after further refinement following the public meetings in 2015, which were held in anticipation of filing an application for a CPCN in 2015. The 2015 Proposed Route and 2015 Alternate Route were

derived from the Alternative Routes and were supported by public comment and information received during the public meetings in 2015.

Potential Route Network – All Potential Routes and their interconnection points (nodes).

Executive Summary

Invenergy Transmission proposes to construct a new high voltage direct current (HVDC) transmission line from Ford County, Kansas, to Sullivan County, Indiana. The HVDC transmission line would be approximately 780 miles long and deliver approximately 5,000 megawatts of low-cost, renewable power to markets in Missouri, Illinois, Indiana, and states farther east. The HVDC transmission line would connect to the grid at three converter stations to be constructed near 1) Sunflower Electric Cooperative's Spearville Substation in Ford County, Kansas; 2) in Monroe County, Missouri; and 3) in eastern Clark County, Illinois near American Electric Power's Sullivan Substation in Sullivan County, Indiana. Together, the HVDC transmission line, converter stations, and a series of alternating current transmission lines that will collect electricity from generators in Kansas (AC Collector System) and tie to existing substations in Missouri and Indiana comprise the Grain Belt Express Project.

Grain Belt Express's 2022 Route Study Addendum builds on an already extensive effort by Clean Line to develop a Proposed Route and an Alternate Route across Illinois, which was detailed in the 2015 Illinois Route Selection Study. In April 2015 Grain Belt Express submitted an application for a Certificate of Public Convenience and Necessity to the Illinois Commerce Commission (ICC). The ICC concluded that the Grain Belt Express Proposed and Alternate Routes were developed using routing guidelines that were "*consistent with the public policy goals of minimizing the Project's effect on natural and human environments"* and that the Proposed Route was "*reasonable and should be approved.*"

The 2015 Illinois Route Selection Study described a route network consisting of 17 discrete Alternative Routes that were narrowed into a Proposed Route and an Alternate Route. Route development and selection was a highly iterative process that involved the collection of a wide variety of environmental, cultural, infrastructure, and land use data along with engineering and public input. The public input gathering process for the Grain Belt Express project included 14 roundtable meetings with 175 participants and 27 public meetings with 3,160 attendees.

Preparation of this Route Selection Study Addendum undertaken by Invenergy Transmission included agency and public outreach as well as a comprehensive review of changes to the landscape that may have occurred since the initial 2015 ICC filing. Another 27 public meetings, with an estimated 1,125 attendees, were

conducted along the Primary and Alternate Routes in 2022, along with three phases of Virtual Public Meetings.

The 2022 Route Study Addendum relies heavily on the Route Selection Study (2015) for background and overall analysis but details nine revisions to the 2015 Proposed Route and eight revisions to the 2015 Alternate Route. These revisions are based on newly constructed infrastructure, conversations with landowners along the route, and revised routing guidelines.

After completing two comprehensive route study processes including over 50 public meetings, Grain Belt Express is arguably the most studied energy infrastructure project in Illinois history, with the objective of identifying a route that minimize impacts on the natural and human environments consistent with public policy goals.

1 Routing Overview

1.1 Illinois Route Selection Study

An extensive siting effort in Illinois in 2014 and 2015 culminated in the development of the Proposed Route and Alternate Route detailed in the Illinois Route Selection Study, which became part of the Grain Belt Express application to the Illinois Commerce Commission (ICC) for a Certificate of Public Convenience and Necessity (CPCN) in 2015. The overall goal of that study was to understand and map the opportunities and constraints in the Study Area, use these to develop practical potential routes, evaluate the potential impacts, and identify a Proposed Route and an Alternate Route for the Project. The study described the route evaluation methodology, public and agency outreach, and the identification process for the Illinois portion of the Grain Belt Express Project that extends from the Mississippi River to the Illinois/Indiana border.

The Route Selection Study detailed the potential impacts of the project on the natural and built environments, as well as engineering and constructability impacts (Section 5). The result of that analysis was the selection of a Proposed Route (2015 Proposed Route) and an Alternate Route (2015 Alternate Route), with the Proposed Route being the one that "met the overall goal of minimizing impacts on the natural, human, and historic resources, while making the best use of existing divisions of land and avoiding non-standard design requirements" (Section 6).

1.2 Routing Process and Timeline

Grain Belt Express Clean Line LLC submitted an application for a Certificate of Convenience and Necessity for the Grain Belt Express Clean Line Project to the Illinois Commerce Commission (ICC) in April 2015. The application included the Illinois Route Selection Study, which presented the process, activities, analysis, and decision rationale for selection of the Proposed Route. The ICC found that the Route Selection Study was "consistent with the public policy goals of minimizing the Project's effect on natural and human environments", that "while intervenors object to specific impacts the Project may have on their properties or operations, no party objects to the adoption of the Proposed Route", and that the "Proposed Route developed by GBX is reasonable and should be approved." The ICC ultimately granted a Certificate of Public Convenience and Necessity in

November 2015, but that decision was later reversed by a judicial decision that was unrelated to the project routing methodology or route alignments. In 2020, Invenergy Transmission LLC (Invenergy Transmission) became the full and sole owner of Grain Belt Express Clean Line LLC, which was subsequently renamed Grain Belt Express LLC, and has continued advancing development of the Grain Belt Express project (Grain Belt Express or Project).

1.3 Overview of the 2022 Routing Process

The purpose of this Illinois Route Selection Study Addendum is to provide an overview of routing-related activities performed since completion of the Illinois Route Selection Study in April 2015. This addendum describes the process of reviewing updated datasets within the Study Area, micro-siting discussions with landowners along the 2015 Proposed Route and 2015 Alternate Route, and public and agency outreach efforts that have collectively resulted in 2022 Proposed and Alternate Routes. The addendum relies heavily on the routing guidelines, route development rationale, potential impacts analysis, and conclusions reached in 2015.

Illinois Routing

Beginning in November 2021, the Routing Team collected and reviewed updated datasets in proximity to the 2015 Proposed Route and 2015 Alternate Route in Illinois. The analysis included updating project datasets and conducting windshield surveys from public roadways along the routes (Section 1.3), collecting feedback from state and federal regulatory agencies (Section 2.1), and having discussions with landowners along the routes (Section 2.2). Invenergy Transmission hosted three meetings per county crossed by the routes in February, March, and April 2022. An estimated 1,125 members of the public attended the Public Landowner Meetings in Illinois to review the routes and receive information regarding the Project and others provided feedback on the routes through the project website and Virtual Open House meetings (see Section 2.1)

Revisions to the routes are described in this addendum to the Route Selection Study, along with the data collection and results of data analysis, landowner discussions, and public and agency outreach efforts that have occurred since the 2015 application to the ICC. The resulting Proposed and Alternate Routes are depicted in **Figure 1**.

1.4 Data Collection and Update

This section describes the sources of information used in evaluating proposed modifications to the 2015 Proposed Route and 2015 Alternate Route. **Appendix A** includes an overview of the datasets updated and reviewed during the preparation of this addendum.

Digital Aerial Photography

Aerial photography from the sources listed below were viewed using Geographic Information System (GIS) software (ArcGIS Pro v2.x). Updated information, such as the location of residences and other potential constraints, was digitized by using either paper maps (at the public meetings) and transferred into GIS or by digitizing the data directly into the GIS during field inspections and desktop reviews. The primary sources of aerial imagery used in the identification, analysis, and review effort for the Project include:

- National Agricultural Inventory Program 2019 and 2021 color aerial photography
- Environmental Systems Research Institute imagery, which ranges in date depending on location
- Microsoft's Bing Aerial imagery, which ranges in date depending on location

GIS Data Sources

The Illinois Route Selection Study made extensive use of existing GIS data sets from many sources, including federal, state, and local governments. Much of that information was obtained from official agency GIS data access websites and government agencies. The Routing Team digitized information from paper maps, completed aerial photo interpretation, conducted interviews with stakeholders, and completed field reconnaissance. Beginning in November 2021, the Routing Team refreshed these datasets and reviewed new datasets that were created since completion of the Illinois Route Selection Study.

Route Reconnaissance

Routing Team members conducted a windshield survey from public roadways of the Proposed and Alternate Routes in November 2021. Prior to the windshield survey, key features identified for the Illinois Route Selection Study, such as residences, outbuildings, recognized places of worship, cemeteries, and commercial and industrial areas were reviewed using updated aerial imagery sources. These features were then verified in the field and added to the GIS database using mobile GIS software supported by real-time Global Positioning System during the review. Additional field review as completed as needed in between phases of public meetings to verify the presence and location of features identified by landowners during the meetings.

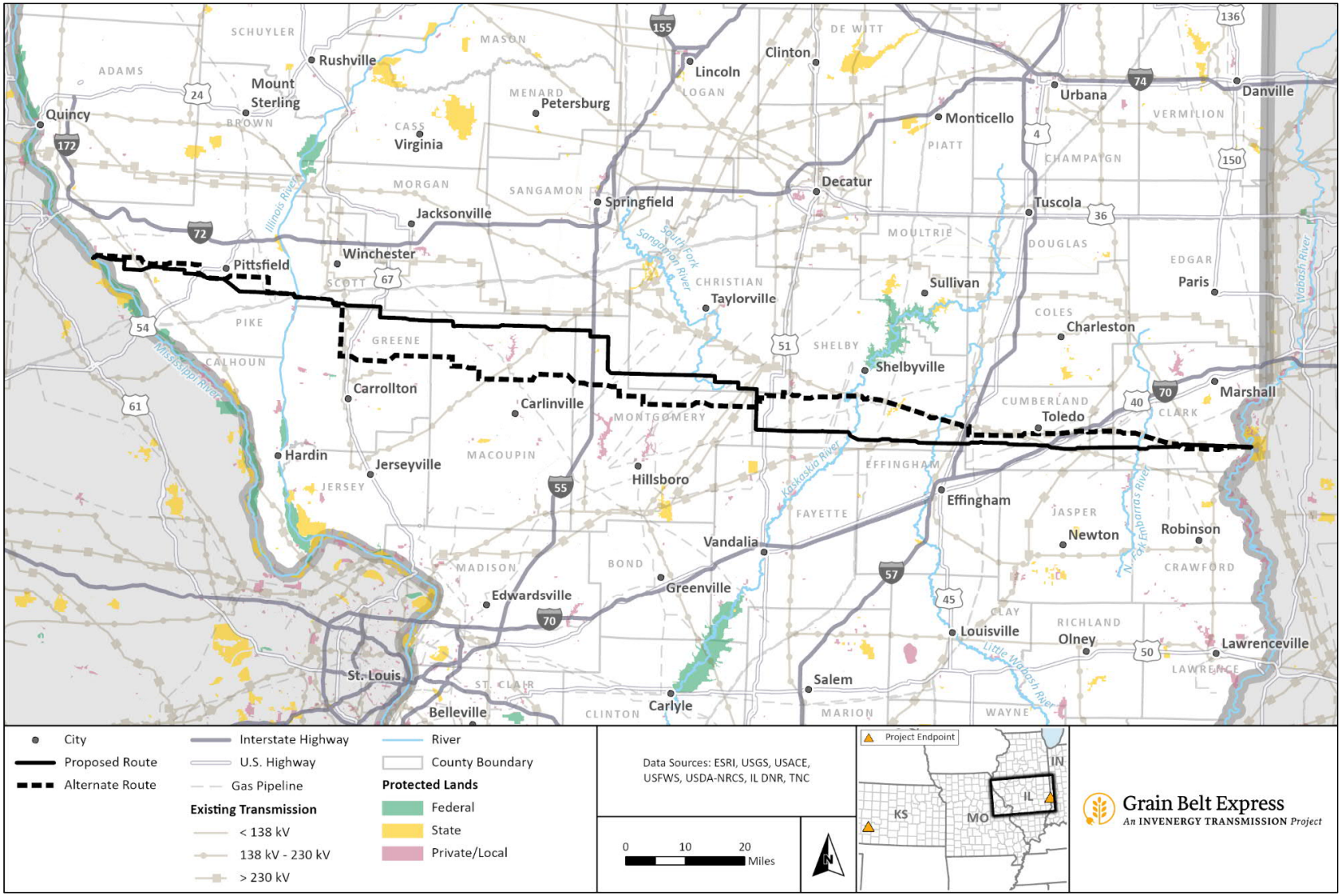


Figure 1. Proposed and Alternate Routes

2 Agency and Public Outreach

2.1 Regulatory Agency Data Requests

The Routing Team contacted federal and state agencies to request data that may have changed since the 2015 ICC filing and that could be relevant to the siting effort. The requests focused on providing project status updates and identifying new resources managed by those agencies within the Study Area. A list of agencies contacted is provided in **Table 1.**

Table 1. Agency Data Requests

Agency	Data Request Date
U.S. Army Corps of Engineers, Louisville District	2/4/2022
U.S. Army Corps of Engineers, Rock Island District	2/4/2022
U.S. Army Corps of Engineers, St. Louis District	2/4/2022
U.S. Fish and Wildlife Service, Marion Ecological Services Field Office	2/4/2022
U.S. Fish and Wildlife Service, Rock Island Ecological Services Field Office	2/4/2022
Illinois Department of Natural Resources, Historic Preservation Division	2/4/2022
Illinois Department of Natural Resources, Office of Realty and Environmental Planning – Impact Assessment Division	2/4/2022

2.2 Community Outreach Activities

The Routing Team led a community outreach program designed to educate the public about the purpose and benefits of the Project, inform community leaders and the public about the regulatory process and Project timeline, and gather general comments on the Project and specific information that would inform the siting effort.

Public Landowner Meetings

In the late-winter and early-spring of 2022, the Routing Team hosted twenty-seven (27) Public Landowner Meetings across the study area in Illinois. Three meetings were held per county, one each in February, March, and April. At the Public Landowner Meetings, landowners were provided information about the Project and given the opportunity to provide feedback on the Primary and Alternate Routes.

Meeting notifications for the Public Landowner Meetings included mailings sent to landowners, information posted on the Project website, and advertisements published in local newspapers. Invitations to these meetings were mailed to property owners (as identified in the local county tax and parcel information received from each county) who had property crossed by the Proposed Route, Alternate Route, or any potential reroute. Copies of the invitations can be found in Appendix C. Three two-hour meetings were held in each of the nine counties where the Proposed and Alternate Routes were located. A list of the towns where Public Landowner Meetings were held is provided in **Table 2**.

Table 2. Public Landowner Meeting Locations

Location	Phase 1	Phase 2	Phase 3
Clark County (Martinsville)	Feb. 7	Mar. 7	Apr. 4
Cumberland County (Greenup)	Feb. 8	Mar. 8	Apr. 5
Christian County (Pana)	Feb. 8	Mar. 8	Apr. 5
Shelby County (Strasburg)	Feb. 9	Mar. 9	Apr. 6
Montgomery County (Hillsboro)	Feb. 9	Mar. 9	Apr. 6
Pike County (Pittsfield)	Feb. 15	Mar. 15	Apr. 12
Macoupin County (Jacksonville)	Feb. 16	Mar. 16	Apr. 13
Greene County (Carrollton)	Feb. 17	Mar. 17	Apr. 14
Scott County (Winchester)	Feb. 17	Mar. 17	Apr. 14

At each Public Landowner Meeting, members of the Routing Team greeted meeting attendees at a welcome table and provided attendees with an optional comment card and project handout. The top portion of each comment card contained space for the attendees to fill in their address and contact information while the lower portion of the comment card contained several questions for attendees to answer and a space to write general comments about the Project. The sign in and comment card forms were optional, so the total number of attendees is unknown, however the estimate is that 1,125 attendees participated in the twenty-seven (27) in-person meetings.

After attendees were greeted at the welcome table, they were encouraged to navigate through a series of project boards staffed by the Routing Team. During

the tour, Routing Team members provided attendees with information about the project and Invenergy Transmission, how the project will help strengthen energy independence, a route overview of the Primary and the Alternate Routes being considered, route selection criteria, landowner compensation, economic benefits to Illinois, and how landowners could stay informed and provide additional comments. The open house tour typically took 15 minutes to complete and allowed attendees the opportunity to ask questions and receive immediate answers from members of the Routing Team.

The Routing Team assisted attendees in locating their properties or other features of concern on aerial maps displaying the Primary and Alternate Routes. Each map presented a specific portion of the line with information on identified constraints, landscape features, and existing infrastructure presented at a scale of 1 inch = 1,000 feet. Participants were provided the opportunity and encouraged to document the locations of their houses, places of business, properties of concern, or other sensitive resources on the printed maps. Routing Team members worked with landowners and ensured that each comment or group of comments provided by an attendee was documented appropriately.

A digital mapping station was also provided at each Public Landowner Meeting to allow attendees the opportunity to find their land and document their comments directly in the GIS database. The digital mapping station was run by a GIS analyst and contained all the data presented on the printed maps along with a full parcel database to help search for parcels that owners could not locate on the printed maps. The GIS station was most often used and most efficient for those attendees who were not familiar with their properties from an aerial map perspective, owned myriad properties in the area, or had brought a list of properties by either parcel identification number or section/township/range for consideration.

Concurrent with each phase of public meetings, the team hosted a Virtual Public Meeting for landowners that were unable to attend the in-person meetings. The Virtual Public Meetings contained downloadable versions of each of the informational boards and handouts used at the in-person meetings and an interactive map that allowed landowners to provide comments about the project on their property.

In addition to the Virtual Public Meetings, the project website (https://grainbeltexpress.com/) is always available and has a variety of information about the project in Illinois as well as in Kansas and Missouri. The website provides the option for users to submit comments or ask questions about the project. All comments that were collected via the website, Virtual Public Meetings, or in-person Public Landowner Meetings were compiled and reviewed for siting-relevant content.

After the Public Landowner Meetings, the maps used to collect comments were scanned, geo-referenced, and integrated into the GIS database. The locations of specific comments provided by attendees were digitized so they could be

reviewed using the GIS database. All comments received via the comment cards were recorded and categorized in a database for review and correlation with mapped comment locations. Comments collected this way were combined with comments received from the project website and Virtual Public Meeting, and then reviewed collectively during Routing Team meetings to evaluate potential route revisions.

3 Route Revisions

This section details seventeen (17) new route revisions to the 2015 Proposed Route and 2015 Alternate Route identified in the 2015 Illinois Route Selection Study. The incorporation of these revisions results in the 2022 Proposed Route and 2022 Alternate Route described in Section 4.

3.1 Route Revision Process

Two primary sources of information were used to identify potential revisions to the 2015 Proposed Route and 2015 Alternate Route. The first source came from the updated datasets used for the Project. Some of the datasets that were used in the routing process are updated regularly (such as aerial imagery) and others are updated as the features they represent change (such as new state-owned conservation lands). The latest available copies of these datasets were acquired for the route review process. Additional updates resulted from analysis of these datasets such as identifying new buildings on the updated aerial imagery.

The second source for route revisions came from discussions with individual landowners along the 2015 Proposed Route and 2015 Alternate Route. Routing discussions with landowners during the application process in 2015 and during the community outreach efforts described in Section 2 provided valuable feedback that resulted in revisions to the 2015 Proposed Route and 2015 Alternate Route. The majority of revisions were minor and involved a small number of landowners, but they reduced potential impacts from routing the transmission line on individual properties and resources. The Routing Team evaluated each suggested revision to ensure that it complied with routing guidelines and did not introduce new, significant impacts.

Figure 2 highlights the location of the route revisions that are discussed in detail below.

3.2 Proposed Route Revisions

The section below details nine (9) revisions to the 2015 Proposed Route. They range in size from several miles in length to the shifting of a single transmission structure. Each revision is designed to lower the overall impact of the project on

natural and manmade features, while taking into account landowner feedback where feasible.

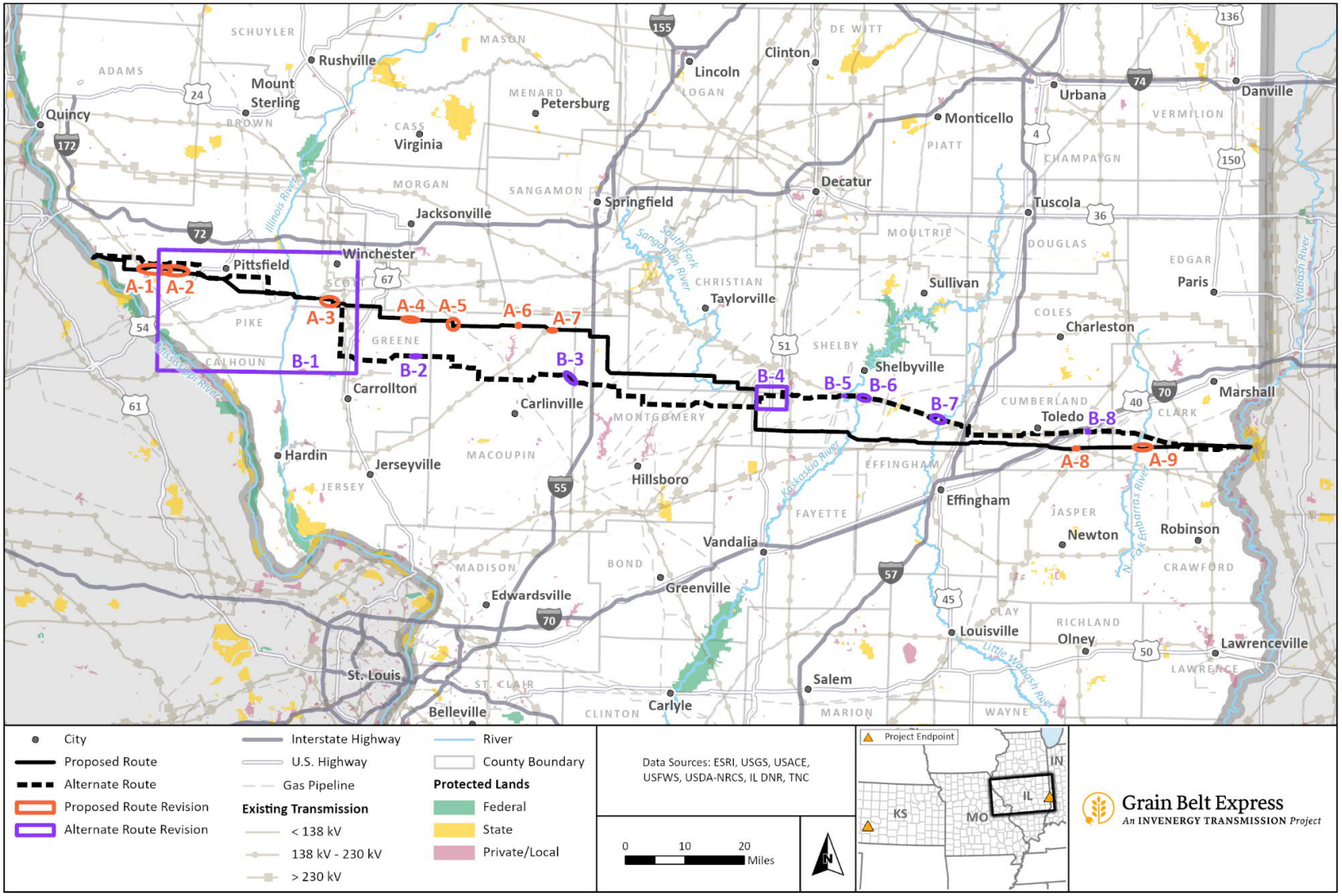


Figure 2. Route Revision Locations

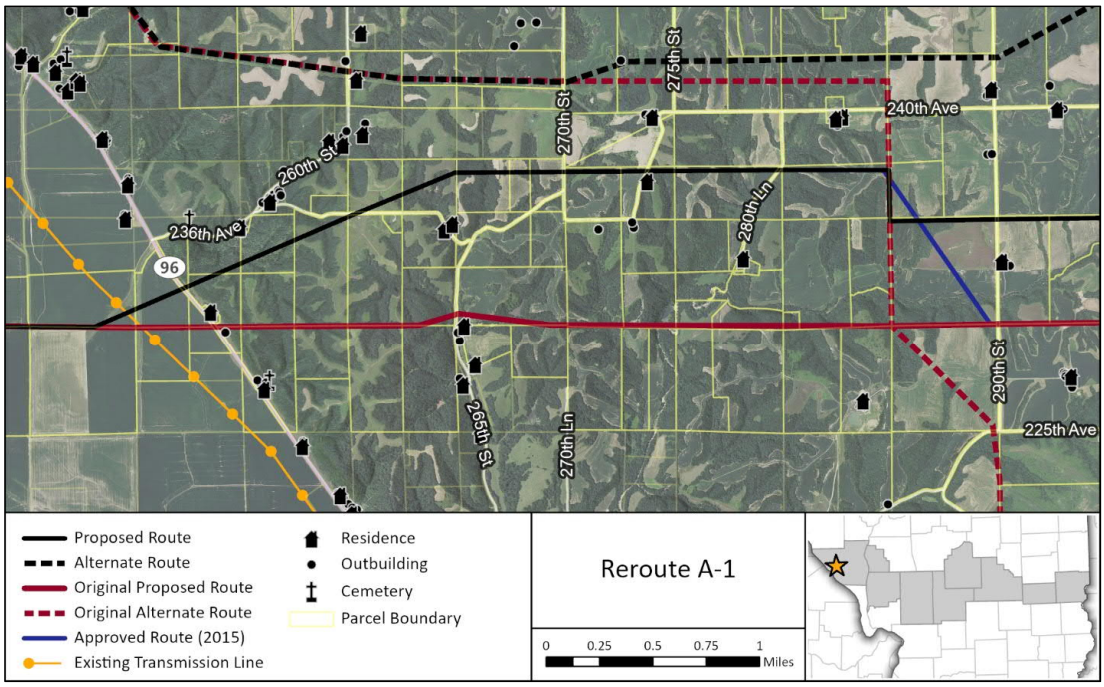
Reroute A-1

One route revision was proposed by landowners during the 2015 application for a CPCN. The proposed revision, termed the Rex Encore Modification, was subsequently modified by the routing team (GBX Adjustment to the Rex Encore Modification) and, with support from the routing team and affected landowners, ultimately adopted in the ICC Final Order approving the project. This revision was described in detail in testimony provided by Rex Encore LLC and Mr. Gaul (the routing team lead). A map and summary of the revision is provided below.

In Pike County, the 2015 Proposed Route climbed into the bluffs on the east side of the Mississippi River on a due west to east trajectory, with a small diversion at 265th Street to increase distance from a residence and avoid crossing an outbuilding. Although this route took the shortest path through the bluffs, an approximately 4-mile segment of the 2015 Proposed Route effectively bisected large tracts of contiguous parcels owned by two landowners: Rex Encore and Tom Rodgers. During the filing process, the landowners submitted testimony and proposed several revisions that would move the Proposed Route closer to the edge of their parcels and reduce impacts to managed wildlife habitat and farming operations.

Beginning next to a drainage canal approximately 0.5 mile west of State Highway 96, the Proposed Route angles northeast for 1.8 miles, crossing properties owned by Tom Rodgers. The route then turns due east and generally parallels parcel boundaries, including parcels owned by Rex Encore, for 1.9 miles, before angling southeast for 0.9 mile to rejoin the alignment of the 2015 Proposed Route. In 2022, nearby landowners proposed additional modifications to the eastern 0.9 mile of this alignment; their revisions are described as Reroute A-2.

In the 2015 Final Order, the ICC found that this route revision “avoids impacts to residences, avoids the need to remove an existing structure, avoids bisecting large contiguous land ownership, and does not impact known environmentally or culturally sensitive features.” The ICC also noted that “neither Brown Branch nor Rex Encore object to the GBX Adjustment to the Rex Encore Modification.” This revision was adopted by Grain Belt as part of the Primary Route used during the 2022 routing process.



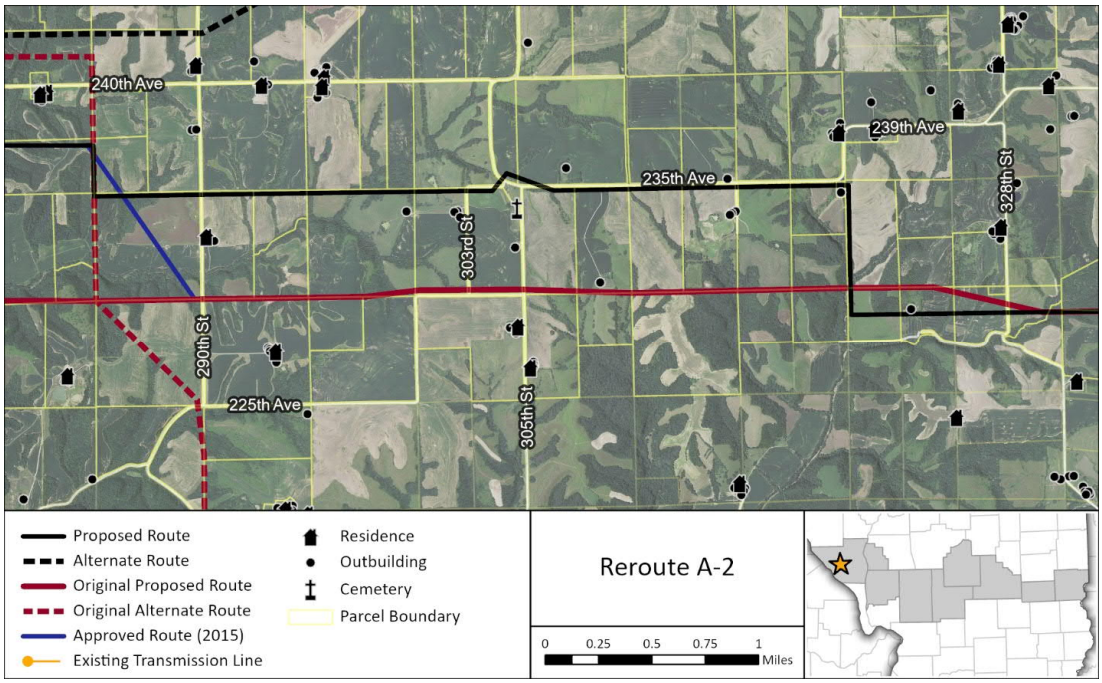
Reroute A-2

Directly east of Reroute A-1, the 2015 Approved Route angled to the southeast before turning due east at 290th Street, 0.5 mile north of 225th Avenue. During the public meeting process, landowners covering the 3 miles east of that point expressed interest in seeing the route move 0.5 mile north to parallel 235th Avenue. Twelve of the 17 parcels crossed by their proposal were already crossed by the 2015 Proposed Route. All the remaining parcels were either owned by that same set of landowners or have the new alignment along the edge of their property. The primary motivation expressed by the landowners in favor of this reroute was to situate the route to the northern edges of their properties where it would have a lower impact on their farming and recreational activities.

The Proposed Route angles to the east 0.5 mile south of 240th Avenue and continues due east along parcel lines for nearly 2 miles. At the intersection of 303rd Street and 340th Street, the route angles north across 303rd Street to go around the north side of the Taylor-Martin Cemetery. It crosses 235th Avenue to the southeast, then continues due east along the south side of 235th Avenue for 1.4 miles. At the point where 235th Avenue turns north towards 239th Avenue, the route turns south for 0.6 mile, then angles east once again to rejoin the 2015 Proposed Route alignment.

The route revision is 0.5 mile longer but spends its entire length along parcel edges and/or parallel to 235th Avenue. By comparison, the 2015 Proposed Route

had only 0.5 mile of road parallel (along 230th Avenue) and had nearly 1.5 miles of alignment diagonally crossing agricultural and forested areas.



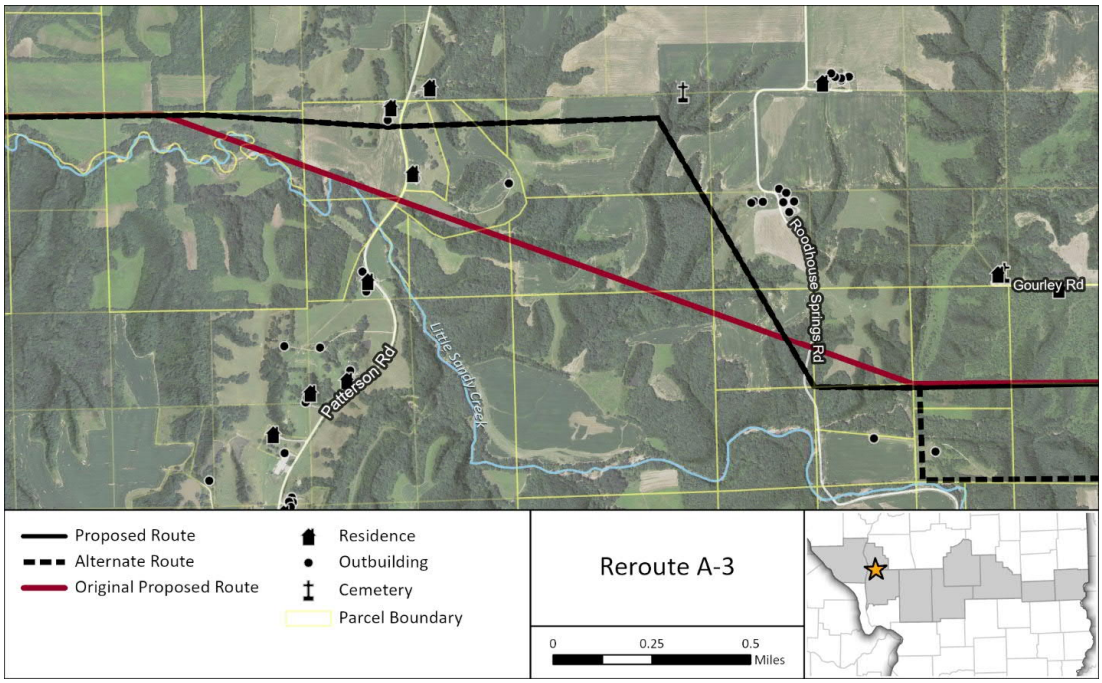
Reroute A-3

South of Glasgow, the 2015 Proposed Route angled diagonally to the southeast crossing Little Sandy Creek, Patterson Road, and Roodhouse Springs Road. The diagonal alignment would have bisected numerous parcels and required tree clearing along approximately 70% of its length, including along a stretch of Little Sandy Creek. A landowner with several contiguous parcels crossed by this alignment suggested a route revision that would move the route further north, paralleling parcel boundaries for 1.3 miles before angling southeast to cross over Roodhouse Springs Road and turning back to the east to pick up the 2015 Proposed Route alignment. The landowner's primary concern was impacts to the relatively contiguous forested areas at the center of their parcels and proximity to a residence along Patterson Road.

The Proposed Route continues due east about 0.5 mile south of Alsey Glasgow Road, bumping out from the parcel parallel to go around a residence and outbuilding on the west side of Patterson Road. It continues another 0.6 mile east before turning southeast to angle towards and then cross Roodhouse Springs Road, before turning back to the east and resuming the 2015 Proposed Route alignment.

Despite being 14% longer, the Proposed Route would require approximately 30% less tree clearing and has a significantly greater length parallel to parcel

boundaries than the 2015 Proposed Route. The revision preserves the intact forested areas at the center of these parcels, reduces tree clearing along Little Sandy Creek, increases distance from a neighboring residence on the east side of Patterson Road, and avoids crossing a pond near that residence.



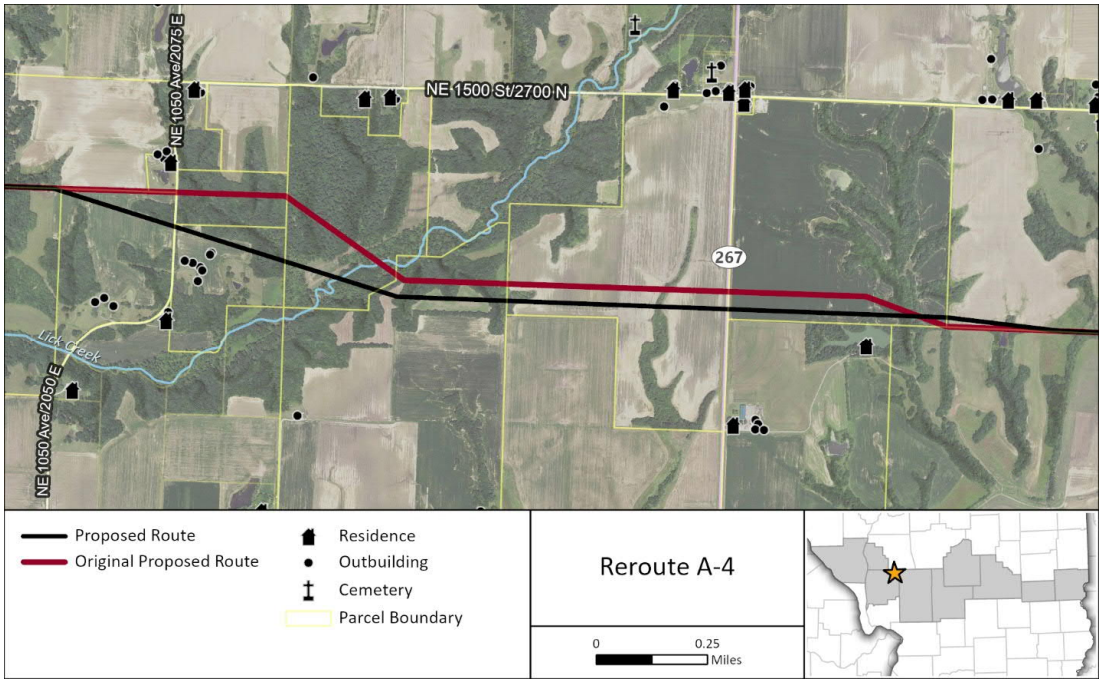
Reroute A-4

About 7 miles east of Roodhouse, the 2015 Proposed Route crossed NE 1050 Avenue (2075 E) on a due east-west trajectory before angling to the southeast 0.5 mile east of the road crossing. After 0.3 mile the route turned back to the east.

During the public meetings, the routing team learned that a structure to the east of NE 1050 Avenue was a private hunting camp and not a permanent residence. The next landowner to the east of this parcel wanted the route shifted further south on their property to reduce tree clearing in prime recreational forest and to take advantage of higher ground on that part of their parcel. With this information the routing team determined that a 0.8-mile diagonal stretch would improve the route through this area.

The Proposed Route angles to the southeast to cross NE 1050 Ave and two adjacent parcels before turning back to the east. In order minimize the number of minor angles further to the east, the route continues along a modified trajectory slightly south of the 2015 Proposed Route for another 1.5 miles before rejoining the original alignment.

The Proposed Route reduces required tree clearing, is further from a residence on the west side of the township road (750’ vs 350’) and moves closer to parcel boundaries of several cultivated parcels to the east.

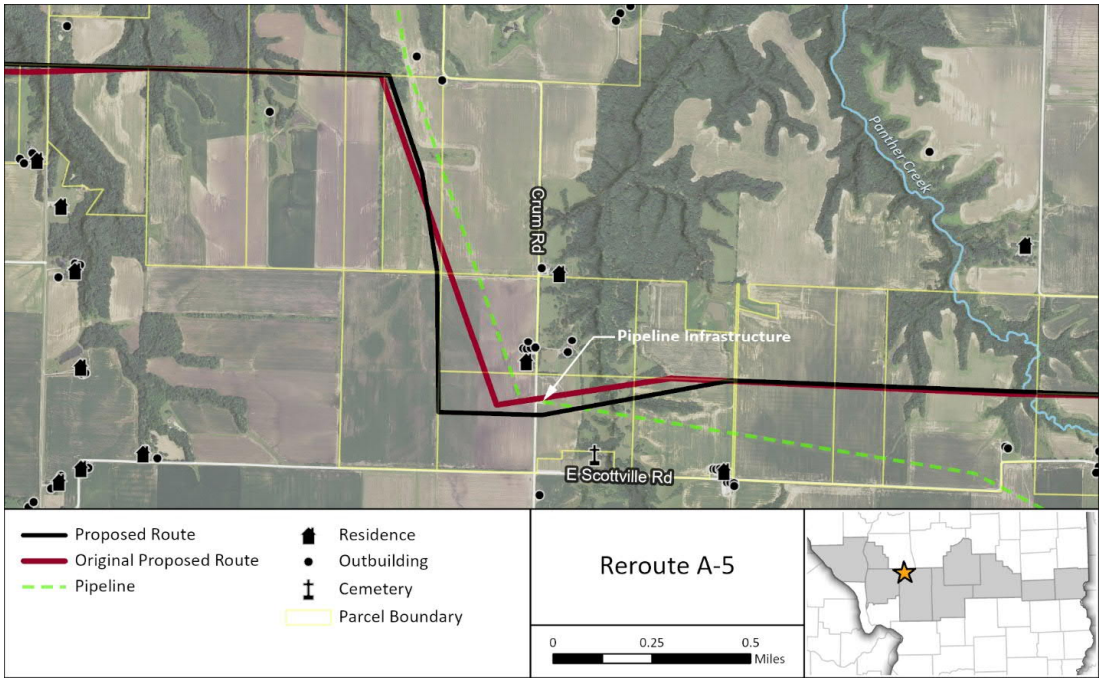


Reroute A-5

About 1 mile northeast of Scottville, the 2015 Proposed Route transitioned between two lengthy east-west segments, each of which extends approximately 7 miles without major deviations. To transition between the two segments, the route angled to the southeast, dropped south of a house on the east side of Crum Road, crossed the road, and then angled slightly back to the northeast to resume an east-west trajectory primarily along parcel boundaries.

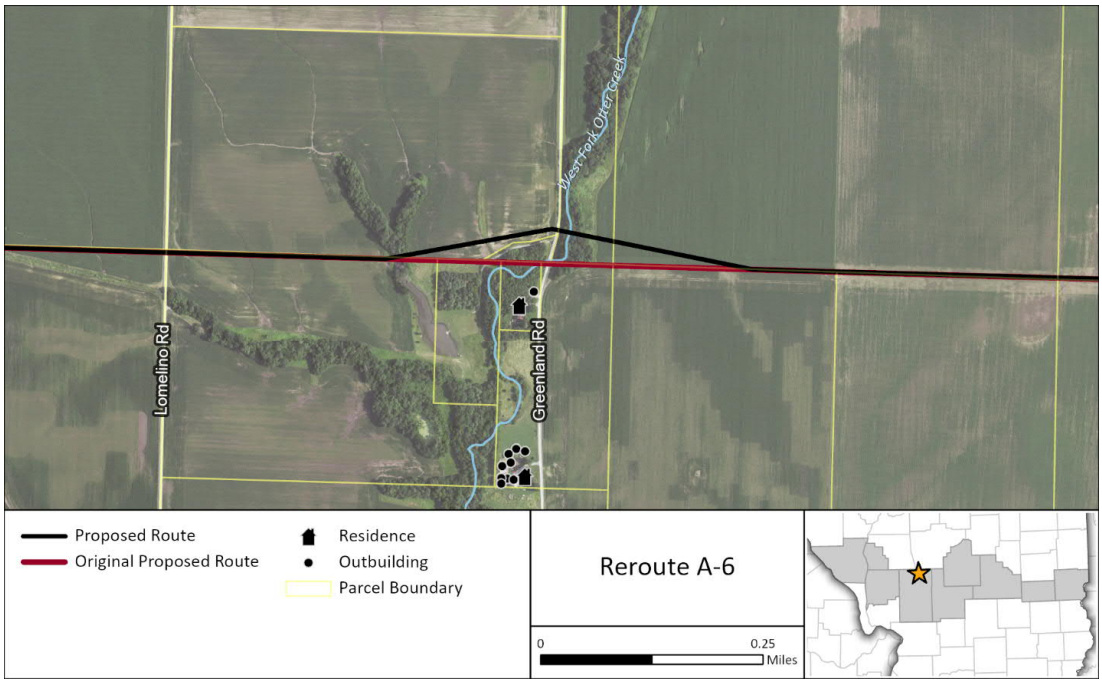
During windshield surveys the routing team identified new gas pipeline infrastructure on the east side of Crum Road directly underneath the path of the 2015 Proposed Route. Additionally, the landowner at the north end of the transition identified a small modification to the structure placement during the public meetings that would result in a lower potential impact on their agricultural operations. The routing team adjusted the route to take a slightly different path on the north end of this segment, then turn south to follow parcel boundaries for about 0.3 mile, before angling back to the east and crossing Crum Road south of newly identified gas pipeline infrastructure. After crossing the road, the Proposed Route has a slight angle to the northeast before rejoining the 2015 Proposed Route alignment to the east.

This route revision avoids potential impacts to the gas pipeline infrastructure while also reducing overall impacts on agricultural operations for the landowners west of Crum Road by aligning the route along parcel boundaries for a larger portion of its length. It also avoids a >90 degree angle west of Crum Road that may not have been feasible from an engineering perspective.



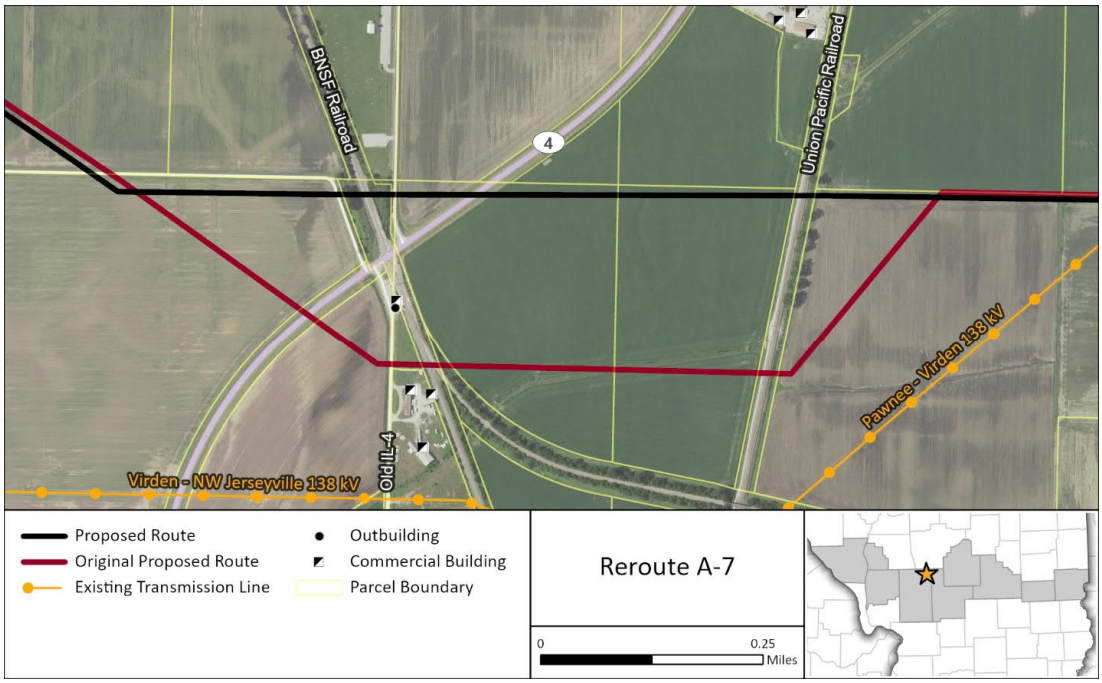
Reroute A-6

One small route revision was adopted approximately 5.5 miles west of Virden in Macoupin County. The 2015 Proposed Route had a 7.4-mile stretch that ran east-west without any major diversions located 0.5 mile south of Nine Mile Road. The routing team identified one location at the crossing of Greenland Road where a small shift in the route would reduce the potential impacts on a nearby landowner. At the road crossing, the 2015 Proposed Route maintained its east-west trajectory along parcel boundaries but passed within approximately 260’ of a residence. The Proposed Route was shifted north to increase distance from the home, reduce overall tree clearing, and preserve the existing visual screening provided by trees between that residence and the route. The Proposed Route is approximately 420 feet from the residence (as opposed to 260 feet for the 2015 Proposed Route) and decreases likely forest clearing within the right-of-way by over 60%.



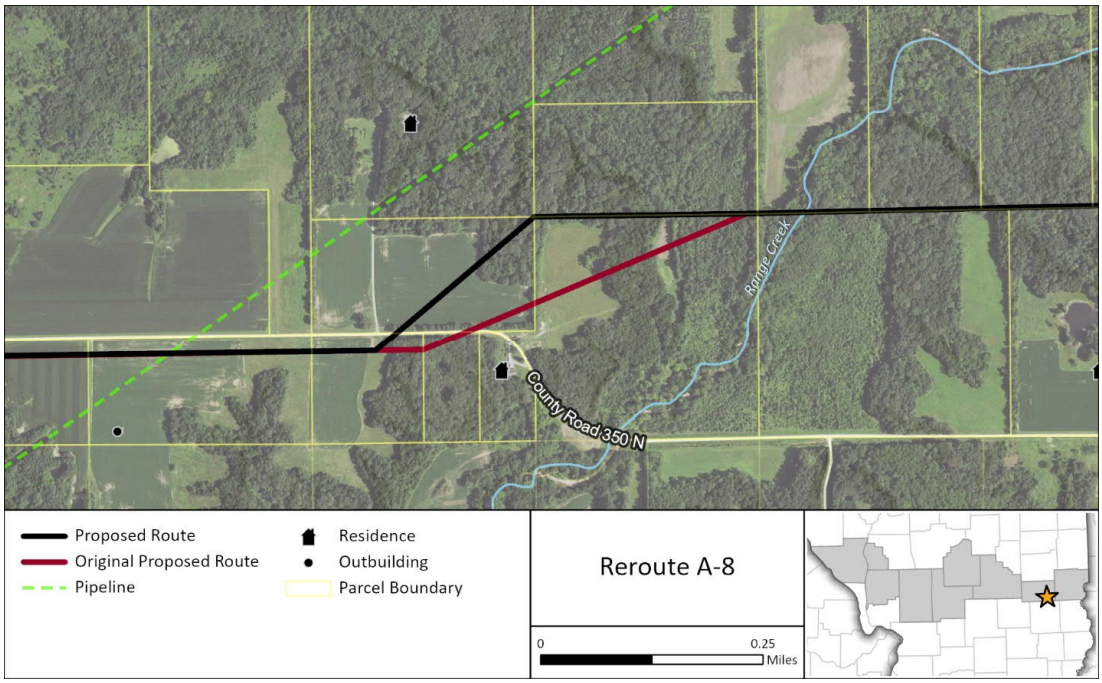
Reroute A-7

The route south of Virden was modified slightly to reduce its overall potential impacts on agricultural operations. The 2015 Proposed Route angled to the southeast, crossing Highway 4, BNSF and Union Pacific railroad properties, and an industrial parcel before angling back to the northeast and then heading east along the half section line south of Thomasville Road. The route revision straightens out the alignment, eliminating 1 mile of the route that crossed through agricultural fields. The Proposed Route has nearly its entire length along parcel boundaries, is 14% shorter in length, and has two fewer heavy angles than the original alignment.



Reroute A-8

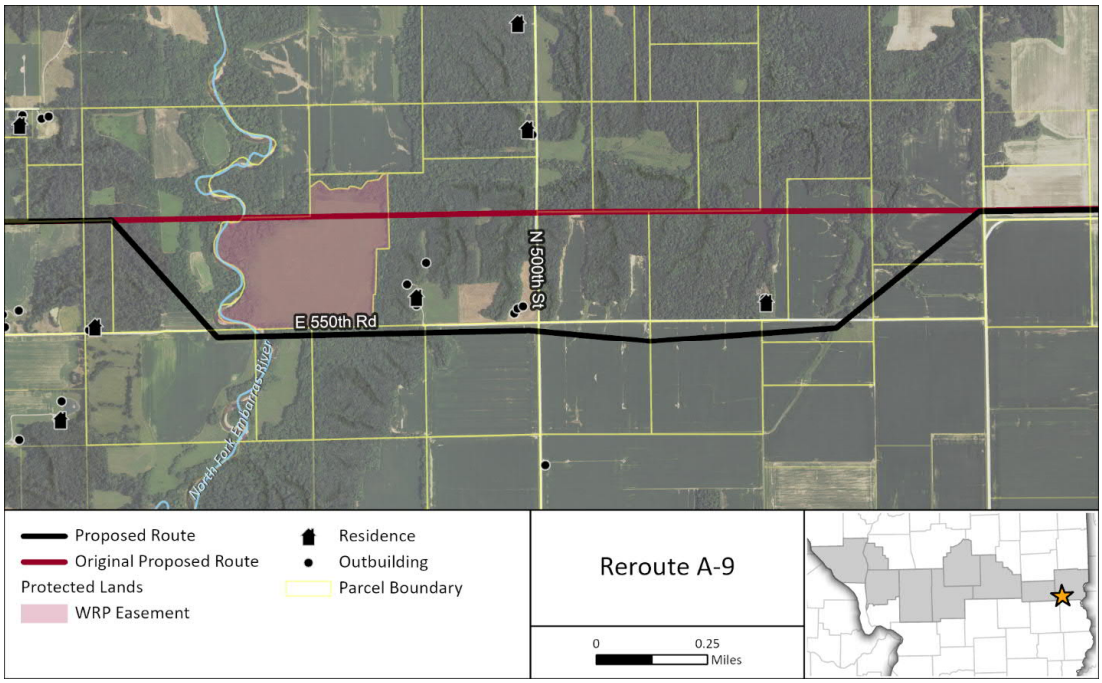
Following conversations with a pair of landowners at public meetings, the routing team made a small modification to the 2015 Proposed Route about 2 miles southeast of Greenup in Cumberland County. The route passed between two residences along County Road 350 North as it transitioned between two lengthy straight segments that primarily follow parcel boundaries. The 2015 Proposed Route was about 300 feet from the property south of the road and 1,275 feet from the one to the north. The Proposed Route balances the distance between the two residences (575 feet and 900 feet, respectively), while preserving a large old tree with sentimental value on the northern property, and slightly reducing overall tree clearing on the two properties.



Reroute A-9

One of the larger route revisions to the 2015 Proposed Route occurred approximately 5 miles southeast of Casey in Clark County. The route maintained an east-west trajectory, primarily along parcel boundaries, for a stretch of over 17 miles without any major deviations as it crossed from Cumberland into Clark County. At the crossing of the North Fork Embarras River, the Proposed Route was shifted south by about 0.25 mile for a length of 1.5 miles before angling back to the north and rejoining the 2015 Proposed Route alignment. The route revision avoids crossing a large parcel that is in the permanent Wetland Reserve Program (WRP) just east of the river, a series of six heavily forested rolling bluffs, and two lakes along a tributary to the river. The revised alignment west of the river is sited to follow the top of a ridge before entering the river's floodplain for a short distance.

Access to the ROW during construction of the 2015 Proposed Route would have been significantly more complicated and impactful than for the Proposed Route given that it was 0.25 mile from the closest road, was in heavily forested rolling terrain along a creek, and crossed two lakes. By contrast the Proposed Route is directly adjacent to E 550th Road making access during construction and maintenance relatively straightforward. In addition, the Proposed Route does not cross the WRP easement parcel and has approximately 33% less tree clearing within the ROW.



3.3 Alternate Route Revisions

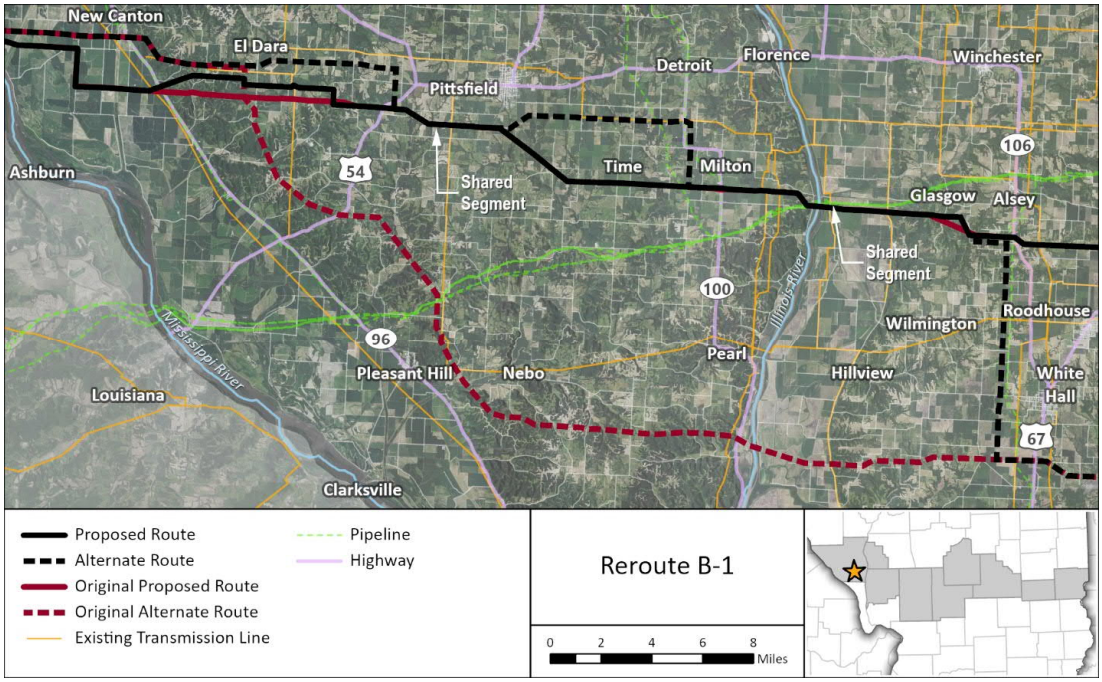
The section below details eight revisions to the 2015 Alternate Route. The most significant of these revisions eliminates a 40-mile stretch of the route through Pike and Greene Counties in favor of a route that has lower potential impacts on the abundant environmental and recreational resources present in southern Pike County. Additionally, this Route Modification further addresses new language in the Public Utility Act, codified at 220 ILCS 5/8-406(b-5), which indicates that in order to file an application as a Qualified Project, the route should cross through Scott County.

Reroute B-1

The largest revision to either route was on the western end of the 2015 Alternate Route through Pike, Scott, and Greene Counties. In the 2015 Siting Report, the routing team noted that the routes through southern Pike County (which became the 2015 Alternate Route) crossed through more contiguous forested areas, had a greater length in the forested Mississippi River bluffs, and had more potential Indiana and northern long-eared bat habitat within the ROW when compared to the routes further north in Pike County. The landscape in southern Pike County is fundamentally different than the rest of the project study area in Illinois in that it has a much greater coverage of large contiguous forested areas, which host environmental and recreational resources not found elsewhere in the study area.

These factors, among others, drove the selection of a route further north than the 2015 Proposed Route. In the 2022 routing effort, the routing team reviewed the 2015 Alternate Route and determined that a less impactful option existed closer to the Proposed Route corridor. This new option was presented during the second and third phases of public meetings. Following the second phase of public meetings, the 2015 Alternate Route segment through southern Pike County and into Greene County was dropped from consideration.

One of the routing guidelines used during the 2015 routing effort stated that the routing team would develop a Proposed Route and an Alternate Route that were distinct and unique from one another, meaning that they would not overlap and would be substantially different where possible. In the seven years since the 2015 filing, other utilities have brought applications before the ICC where the proposed and alternate routes share segments in locations where a separate and unique route segment would result in significantly greater impacts. Considering this history and the previously documented potential impacts of a route through southern Pike County, the routing team developed an Alternate Route that shares a total of 16.3 miles (7.6% of the total Alternate Route alignment) with the Proposed Route in Pike and Greene counties and dropped from consideration the previous southern Pike 2015 Alternate Route segment.



The Alternate Route diverges from the 2015 Alternate Route just east of 270th Street approximately 2 miles southwest of El Dara. It primarily follows parcel

boundaries for 7.1 miles to the east where it turns to the south a little over 2 miles west of Pittsfield. The route then drops 1.6 miles to the south to rejoin the Proposed Route alignment. The Alternate and Proposed Routes share a 4.1-mile stretch south of Pittsfield. In this area, alternative routes to the north were not feasible due to the city of Pittsfield. Options north of Pittsfield were not evaluated in detail because they would have resulted in an unreasonably circuitous route given the added length required to go around the city and the presence of the Pittsfield Penstone Airport northeast of the city. The area south of Pittsfield was evaluated for additional route options, however the increased density of residential development in that area meant that any additional route options would have likely had a greatly increased impact on residences in the area.

Just west of County Highway 7, the Alternate Route diverges from its shared alignment as the Proposed Route angles to the southeast. The Alternate Route angles to the northeast for a short distance before beginning a 5.8-mile stretch that includes a 3.8-mile parallel of an existing 69 kV transmission line and 2 miles sited along parcel boundaries. Remaining on that trajectory further to the east would take the route into wooded bluffs approaching the Illinois River. Instead, the route angles south primarily along parcel boundaries to rejoin the Proposed Route alignment west of 463rd Street.

From this point the two routes share the same alignment for 5.1 miles before reaching the Illinois River and exiting Pike County. This crossing of the Illinois River is preferable to the one on the 2015 Alternate Route for several reasons. It is an established utility corridor, sharing the crossing of the river with five gas pipelines. The presence of those pipelines means that the area has been surveyed for archaeological resources, which is an important factor to consider along the Illinois River floodplain. The 2015 Alternate Route crosses through wooded bluffs on the Pike County side of the river, increasing the need for tree clearing and the risk for impacting environmental and archaeological resources. The floodplain is 33% wider at the 2015 Alternate Route crossing, likely increasing the comparative complexity and cost of transmission structure foundations.

After crossing the Illinois River, the two routes share an alignment for an additional 6.3 miles into Scott County before the Alternate Route diverges to the south 2.1 miles south of Alsey. The Alternate Route continues 8.5 miles due south from that point until it rejoins the 2015 Alternate Route alignment southwest of White Hall. This stretch maintains a straight trajectory for nearly its entire length, follows parcel boundaries for 60% of that length, and is within 500 feet of two residences.

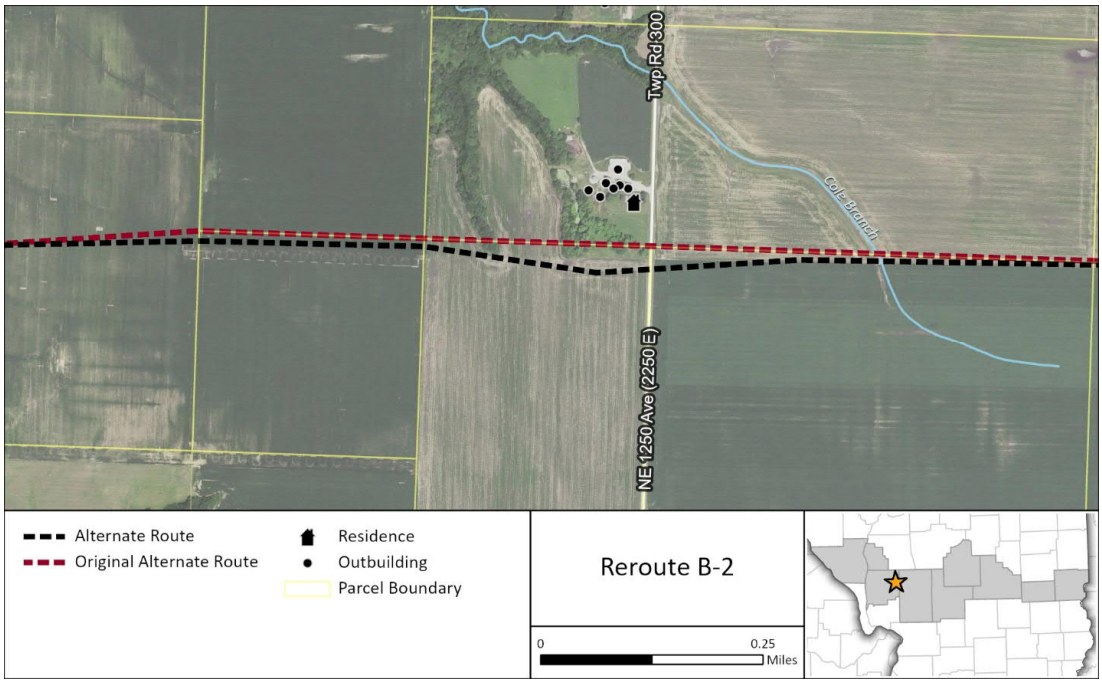
In order to provide a direct comparison between those two segments, the following table summarizes some of the potential impacts of the 2015 Alternate Route and the Alternate Route from the point that they diverge in Pike County to

the point where they reconverge in Greene County. Despite the increased length of the Alternate Route segment, it has zero residences within 250 feet, 69% of the route is parallel to existing transmission lines and/or parcel boundaries, and it has over 100 fewer acres of tree clearing required within the ROW. The Alternate Route crosses the Illinois River in a location that is an established utility corridor, passes through a gap between forested areas on both sides of the river, and has a narrower crossing of the floodplain than the 2015 Alternate Route.

Table 3. Reroute B-1 Comparison Table	2015 Alternate Route Segment	Alternate Route Segment
Length (miles)	40.1	45.6
Residences within 250 feet	2	0
Residences within 500 feet	6	7
Parcels Crossed	213	266
Parallel Transmission ROW	0	4.2
Parallel Parcel Boundary	15.6	27.1
Total Percent Parallel	39%	69%
Forested Land within ROW (acres)	300	194

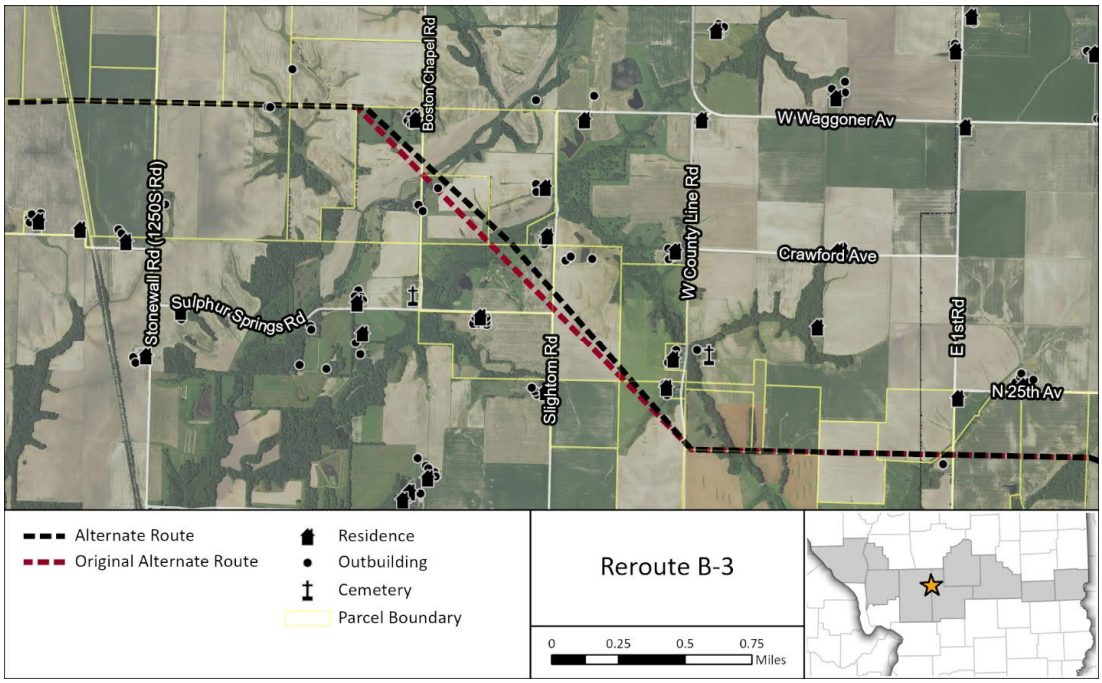
Reroute B-2

The 2015 Alternate Route had a stretch of 20 miles where it traveled due east-west primarily along parcel boundaries as it crossed from Greene County into Macoupin County. Approximately 10 miles east of White Hall in Greene County the route passed 250 feet south of a residence along NE 1250 Avenue / 2250 East. A slight diversion was introduced to the Alternate Route so that the distance increases to approximately 400 feet and the existing tree cover on the southern end of the property can be preserved, providing visual screening between the residence and the route.



Reroute B-3

At the eastern edge of Macoupin County, a small route revision was developed to increase the distance between the route and a site under construction northwest of the intersection of Sulphur Springs Road and Slightom Road. The landowner is actively developing a former homesite on the property, which is located by an existing pond with electricity running to the site. The site would have been within the ROW of the 2015 Alternate Route. The Alternate Route bows out slightly in that area, providing approximately 320 feet between the site and the revised route and preserving tree cover on the southern end of the parcel between the site and the Project. The revision led to slight changes in alignment on several neighboring parcels but does not introduce any additional new landowners.

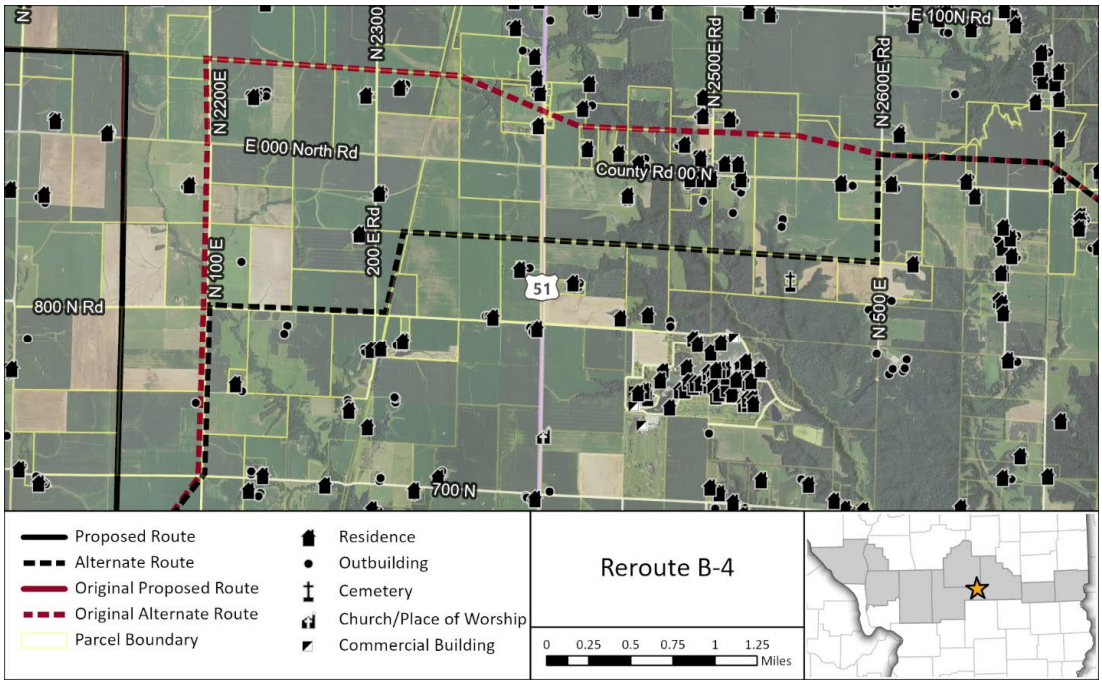


Reroute B-4

South of Pana along the southern edge of Christian County, the 2015 Alternate Route had a 5-mile stretch between N 2200 East Road and N 2700 East Road that followed some parcel boundaries but also crossed several agricultural fields to increase the distance from residences along the north-south roads that it crossed. Even with the shifts in alignment, there were six residences and another one under construction within 500 feet of the route centerline. The residence that is under construction was identified by the landowner during the public meetings and then verified on a subsequent windshield survey in the area. In light of the new construction and density of other residences along the route, the routing team reviewed this area for potential route revisions.

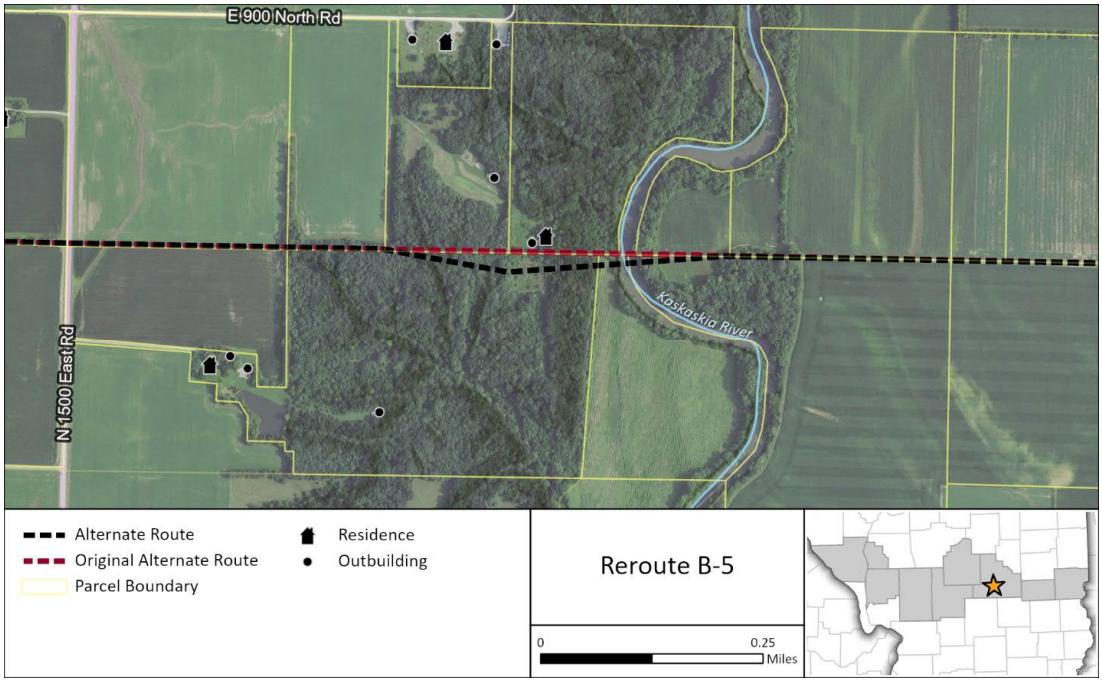
The Alternate Route branches off North 100 East Road at the intersection with East 800 North Road, 1.5 miles to the south of where the 2015 Alternate Route turned east. It parallels the north side of East 800 North Road for 1 mile before paralleling an abandoned railroad ROW to the northeast for 0.5 mile. The route then continues east for 1.5 miles before turning north along North 500 East Road and rejoining the 2015 Alternate Route alignment.

The Alternate Route runs along parcel boundaries or is adjacent to the road or the abandoned rail ROW for its entire length (compared to 68% of the 2015 Alternate Route) and has one residence within 500 feet (compared to six for the 2015 Alternate Route).



Reroute B-5

In Shelby County, the 2015 Alternate Route crossed the Kaskaskia River approximately 4 miles south of Shelbyville. At the public meetings landowners immediately west of that river crossing identified a building towards the southern end of the property that is used at times as a residence and at other times as a hunting cabin. The building was within or at the very edge of the 2015 Alternate Route ROW, depending on the exact ROW width needed for the river crossing and exact location of the building. The routing team shifted the Alternate Route approximately 120 feet to the south to avoid the residence and an adjacent outbuilding just south of the residence.

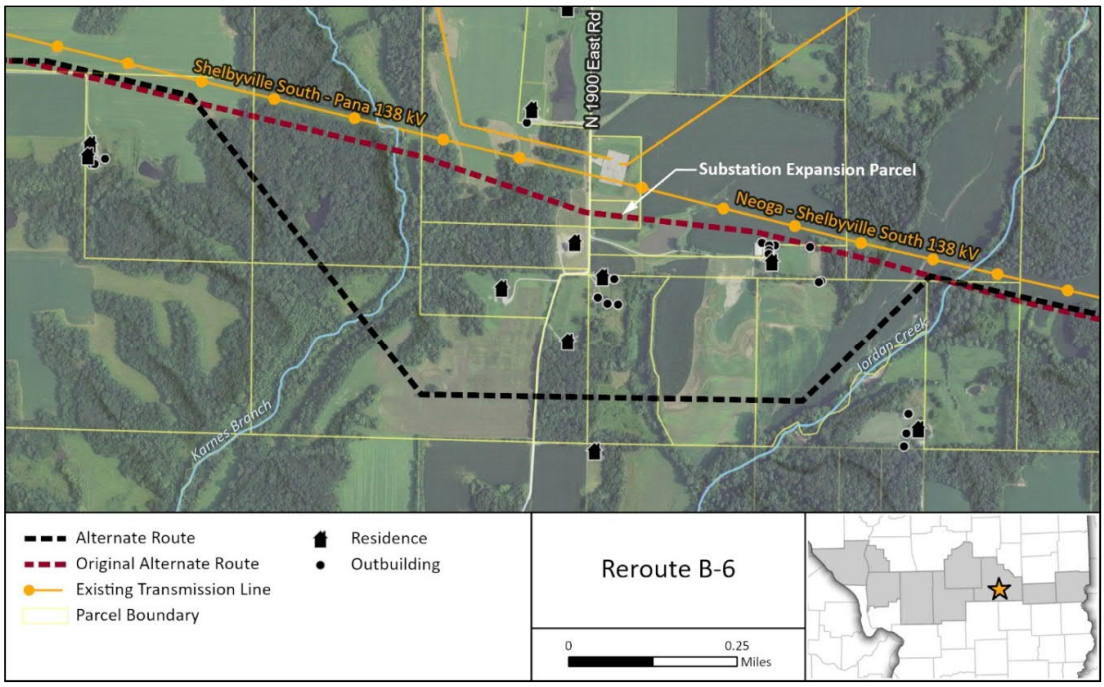


Reroute B-6

Beginning approximately 4 miles south of Shelbyville, the 2015 Alternate Route began paralleling the south side of Ameren's existing Shelbyville South – Pana 138 kV transmission line. Within 0.6 mile of starting the parallel alignment, the route detoured slightly south away from the existing transmission line to avoid the Shelbyville South substation. The route immediately returned to a parallel alignment to bypass a farmstead located within 200 feet of the existing transmission line. Because of the farmstead's proximity to the existing transmission line, the Alternate Route would require special engineering consideration to narrow the ROW and fit safely between the barns and the existing infrastructure. Even with special engineering the 2015 Alternate Route would likely require the removal of at least one barn.

Ameren recently acquired an additional 2 acres of land south of the existing substation and is in the process of expanding and upgrading the substation. The 2015 Alternate Route passed through the middle of the substation expansion area. The construction of a new residence approximately 200 feet from the substation expansion and the existence of four other nearby residences necessitate a longer reroute than would be required by the substation expansion alone.

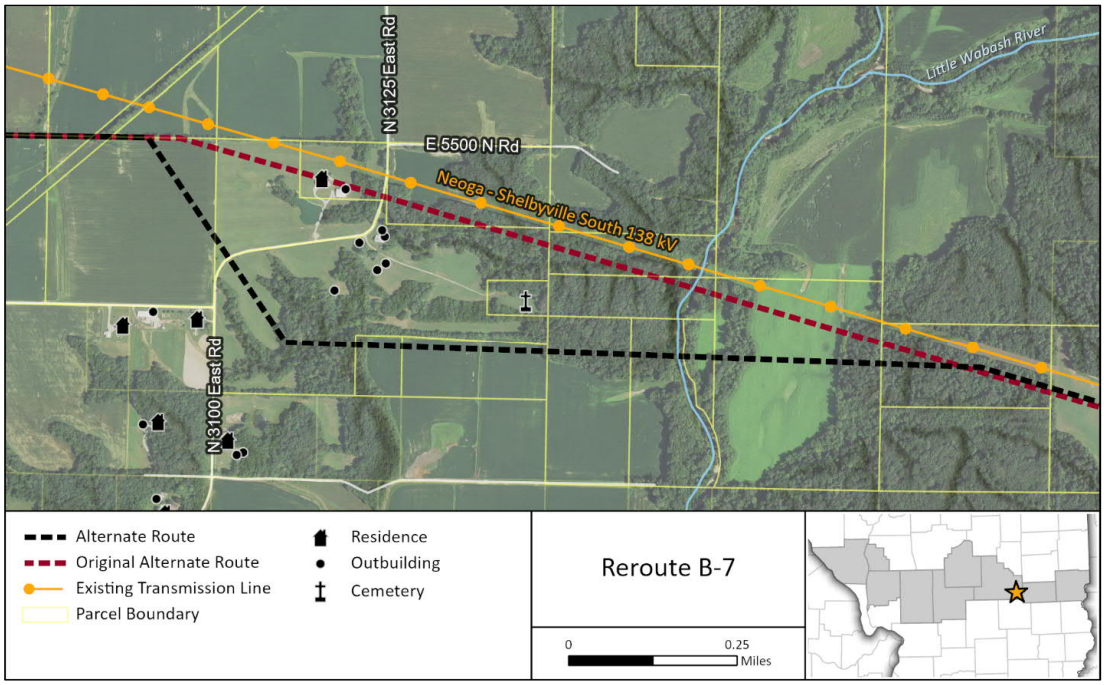
The Alternate Route parallels the existing transmission line for 0.3 mile before turning sharply southeast for 0.6 mile through a forested area and crossing Karnes Branch. The route then turns due east for 0.6 mile, passing south of the nearby residences, before angling northeast for 0.3 mile to parallel the existing transmission line. Although the Alternate Route requires four additional heavy angles, is 0.2 mile longer than the 2015 Alternate Route, and is not parallel to property boundaries or existing infrastructure, it avoids conflicts with the substation expansion, eliminates the need for a narrowed ROW between the farmstead and the existing transmission line, avoids the need to remove an existing barn, and stays farther away from more residences.


Shelbyville South - Pana 138 kV
N 1900 East Rd
Substation Expansion Parcel
Neoga - Shelbyville South 138 kV
Karnes Branch
Jordan Creek
Alternate Route
Original Alternate Route
Existing Transmission Line
Parcel Boundary
Residence
Outbuilding
Reroute B-6
0
0.25
Miles

Reroute B-7

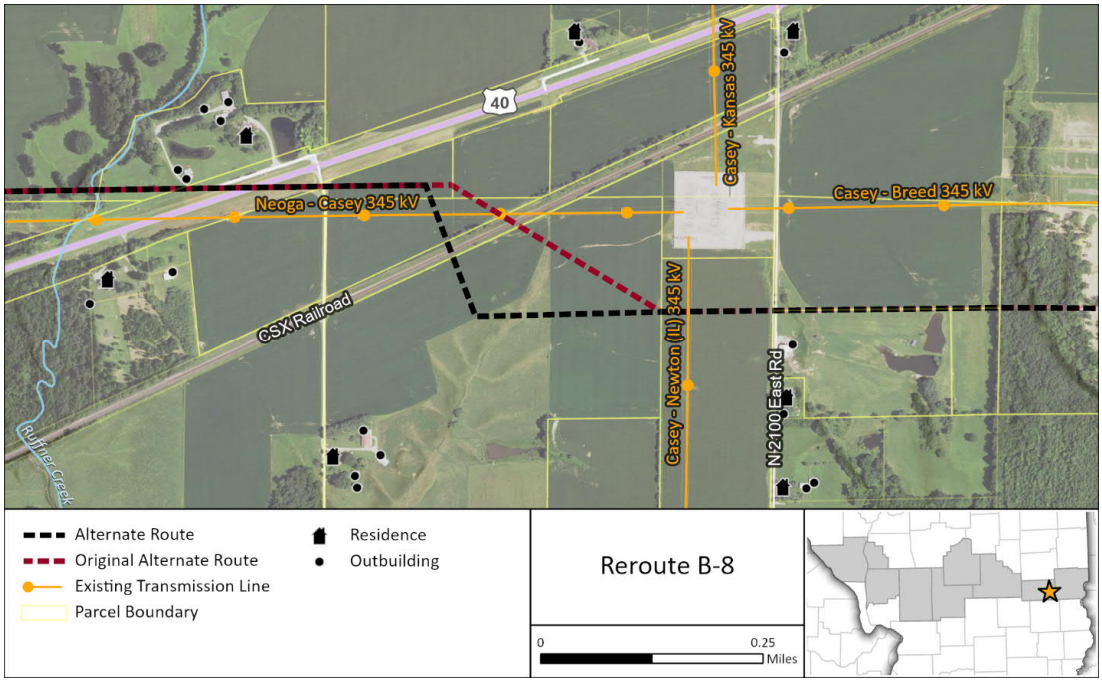
The 2015 Alternate Route predominantly paralleled Ameren's existing Pana – Shelbyville South and Shelbyville South – Neoga 138 kV transmission lines through Shelby County, with small diversions to avoid buildings close to the existing infrastructure. Approximately 3.5 miles northeast of Stewardson, a new residence and barn were recently constructed 200 feet from the existing transmission line, placing them within the ROW of the 2015 Alternative Route.

To avoid crossing the new residence and barn, the Alternate Route diverts away from the existing transmission line 0.2 miles west of the new residence. The route angles sharply southeast for 0.4 mile, then turns due east for 1 mile before rejoining the 2015 Alternate Route alignment.



Reroute B-8

Halfway in between Greenup and Casey in Cumberland County, the 2015 Alternate Route crossed U.S. Route 40, the existing 345 kV Neoga – Casey transmission line, and a CSX railroad just to the west of the existing Casey West substation (Ameren). The 2015 Alternate Route angled lightly to the southeast in an effort to minimize the need to place a structure with a heavier angle in the agricultural field. This alignment would have crossed over the top of a structure on the existing transmission line and would have resulted in a non-perpendicular crossing of the rail line. Engineering leads on the routing team proposed slightly modifying the alignment to improve crossings of the transmission and rail lines.



4 Proposed Route

4.1 Proposed Route Description

The review of updated datasets and feedback provided during public outreach does not change the fundamental conclusions reached in the Route Selection Study from 2015 establishing the 2015 Proposed Route and the 2015 Alternate Route. The Routing Team recommends adjustments to the Proposed and Alternate Routes described in Section **Error! Reference source not found.** as a way to mitigate impacts to changes on the landscape that have occurred since completion of the Route Selection Study in April 2015. The incorporation of these route revisions into the Proposed and Alternate Routes addresses various potential impacts of the project and presents improvements to the route. Many of the route revisions were prompted by newly identified features at specific locations and represent small modifications to improve siting of the project.

Table 4 presents a comparison of the 2015 Proposed Route, 2015 Alternate Route, Proposed Route, and Alternate Route. Given the minor scale of revisions described in this Addendum, most measures of the potential route impacts are similar or identical between the original and modified versions of each route. A few notable differences in the Proposed Route compared to the 2015 Proposed Route include: 13% less wetlands within the ROW, forty-three (43) fewer acres of forest land within the ROW, four (4) fewer residences within 500 feet of the route, and fourteen (14) fewer parcels crossed by the ROW.

Table 4. Route Comparison

	2015 Proposed Route	Proposed Route	2015 Alternate Route	Alternate Route
Length	206.3	207.8	207.5	212.9
Hydrology				
Total Stream Crossings (count)	373	374	300	323
Named Stream Crossings (count)	59	60	69	63
Waterbody Crossings (count)	17	15	14	13
NWI Wetlands and Wildlife Habitat				
Emergent Wetlands within ROW (acres)	4.2	3.5	3.0	3.8
Forested Wetlands within ROW (acres)	54.8	47.8	44.0	45.2
Forest (acres)	788.7	745.4	822.6	719.5
Pasture/Grassland (acres)	177.6	178.8	228.1	196.0
Conservation Lands				
Hidden Springs State Forest (IDNR) (acres in ROW)	0.0	0.0	7.4	7.8
Potential Future Sangamon Valley Greenway State Trail (acres in ROW)	0.4	0.4	0.0	0.0
Wetland Reserve Program Easement (acres in ROW)	4.5	0.0	0.0	0.0
Agricultural Land Use				
Agriculture/Cropland (miles crossed)	146.0	150.5	144.0	156.5
Pasture/Grassland (miles crossed)	9.6	9.9	12.0	10.2
Pivot Irrigation Crossings > 1000 feet (count)	1	1	6	6

	2015 Proposed Route	Proposed Route	2015 Alternate Route	Alternate Route
Proximity to Buildings and Structures				
Residences within 100 feet of centerline	0	0	2	0
Residences within 250 feet of centerline	1	1	16	11
Residences within 500 feet of centerline	43	39	67	61
Places of Worship within 1000 feet of centerline	1	1	0	0
Cemeteries within 1,000 feet of centerline	8	10	10	13
Schools within 1,000 feet of centerline	0	0	0	0
Cell Towers within 500 feet of centerline	3	3	2	2
Parcels less than 10 acres	86	97	108	124
Total Parcels Crossed	1,351	1,337	1,219	1,267
Historic Resources				
Archaeological Sites (Sites within ROW)	9	8	6	16
Archaeological Sites (Sites within 1,000 feet)	11	11	10	20
National Register of Historic Places Listed or Eligible Resources within 1 mile	2	2	0	1
Parallel Alignments				
Transmission Line (miles)	13.8	13.8	40.5	42.9
Road or Railroad (miles)	8.5	9.6	9.8	11.6
Parcel Ownership Boundary (miles)	95.4	96.0	70.2	75.9
Total ROW Parallel (miles and % of total)	117.7 (57%)	119.4 (57%)	120.4 (58%)	130.4 (61%)

	2015 Proposed Route	Proposed Route	2015 Alternate Route	Alternate Route
Engineering and Constructability				
Angled Structures > 4 degrees (count)	93	109	137	153
Karst (miles crossed)	46.5	47.8	54.8	60.1
Quarries Crossed (count)	0	0	0	0
Transmission and Pipeline Crossings				
<115kV Transmission lines	5	5	3	6
115 kV or 138kV Transmission lines	8	8	8	8
345kV Transmission lines	4	4	5	5
Pipelines Crossed (approximate)	34	36	31	35
Federal Aviation Administration Notification Zone Crossings				
Public Airfields (miles)	0.0	0.0	4.1	4.1
Private Airfields (miles)	8.8	8.8	4.6	6.4
Transportation				
Railroads Crossed	10	9	10	10
Interstates Crossed	3	3	3	3
U.S. Highways Crossed	5	5	5	5
State Highways Crossed	13	13	13	15

4.2 Rationale for Selection of the Proposed Route

Based on a comparison of the 2022 Proposed Route and 2022 Alternate Route with the 2015 Proposed Route and 2015 Alternate Route, the Routing Study Addendum did not identify any fundamental differences in the potential impacts to sensitivities analyzed in the 2015 Illinois Route Selection Study. Therefore, the rationale presented in the Illinois Route Selection Study for choosing the 2015 Proposed Route over the 2015 Alternate Route remains applicable and the general level of impacts described in that report still apply. Based on this review, the 2022 Proposed Route best minimizes the overall effect of the Grain Belt Express transmission line on the natural and human environment while avoiding unreasonable and circuitous routes, unreasonable costs, and special design requirements and the 2022 Alternate Route is put forth as a viable option which achieves the same objectives. The 2022 Proposed Route is therefore recommended for the Grain Belt Express Transmission Line to be constructed in Illinois.