COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE CONSTRUCTION OF TRANSMISSION FACILITIES IN HARDIN COUNTY, KENTUCKY	**)**	**CASE NO. 2022-00066**

VERIFIED APPLICATION

Kentucky Utilities Company ("KU" or the "Company"), pursuant to KRS 278.020, 807 KAR 5:001, and 807 KAR 5:120, hereby applies to the Kentucky Public Service Commission ("Commission") for a Certificate of Public Convenience and Necessity ("CPCN") for the construction of certain electric transmission facilities to be located in Hardin County, Kentucky. KU seeks a CPCN to construct two 345kV transmission lines, two 138kV transmission lines, and two associated substations to serve Ford Motor Company's and its partner, SK Innovation's, (collectively, "Ford")[1] new battery production facilities at the Glendale Megasite in Hardin County, Kentucky which is south of Elizabethtown, Kentucky near the town of Glendale as well as to meet expected need for future development in the area including other customers supporting Ford. In support of this Verified Application, the Company states as follows:

1. Address. KU's full name and business address is: Kentucky Utilities Company, One Quality Street, Lexington, Kentucky 40507. KU may be reached by electronic mail at the electronic mail addresses of its counsel set forth below.

[1]Ford Motor Company has partnered with SK Innovation to build the battery plants at what will be called the BlueOvalSK Battery Park.

2. Incorporation. KU was incorporated under the laws of Kentucky on August 17, 1912 and is currently in good standing in Kentucky.

3. Description of KU. KU is a utility engaged in the electric business. KU generates and purchases electricity, and distributes and sells electricity at retail in the following counties in Central, Northern, Southeastern, and Western Kentucky:

Adair	Edmonson	Jessamine	Ohio
Anderson	Estill	Knox	Oldham
Ballard	Fayette	Larue	Owen
Barren	Fleming	Laurel	Pendleton
Bath	Franklin	Lee	Pulaski
Bell	Fulton	Lincoln	Robertson
Bourbon	Gallatin	Livingston	Rockcastle
Boyle	Garrard	Lyon	Rowan
Bracken	Grant	Madison	Russell
Bullitt	Grayson	Marion	Scott
Caldwell	Green	Mason	Shelby
Campbell	Hardin	McCracken	Spencer
Carlisle	Harlan	McCreary	Taylor
Carroll	Harrison	McLean	Trimble
Casey	Hart	Mercer	Union
Christian	Henderson	Montgomery	Washington
Clark	Henry	Muhlenberg	Webster
Clay	Hickman	Nelson	Whitley
Crittenden	Hopkins	Nicholas	Woodford
Daviess			

4. Description of Proposed Facilities. The Company seeks a CPCN to construct two 345kV transmission lines, two 138kV transmission lines, and two associated substations to serve Ford's planned battery production facilities at the Glendale Megasite as well as to meet expected need for future development in the area including other customers supporting Ford. To meet the capacity and reliability needs of Ford's facility as well as expected need for future development in the area including other customers supporting Ford, KU needs to extend network service in and out of the Glendale Megasite

from an existing 345kV transmission line to a new 345kV/138kV substation. This will be accomplished by the construction of two 345kV transmission lines that connect KU's Brown North – Hardin County 345kV transmission line to a new 345kV/138kV substation east of Glendale, Kentucky to be called the Glendale South Substation. The Brown North – Hardin County 345 kV line is oriented northwest to southeast across the relevant area in Hardin County. One of the new 345kV lines will be 3.7 miles and will tap on the eastern portion of the Brown North – Hardin County transmission line. The other new 345kV line will be 4.9 miles and will tap the western portion. Both routes will terminate at the proposed Glendale South Substation. Exiting the Glendale South Substation, KU will construct two 138kV lines to serve the Ford facilities and expected growth in the surrounding area. Ford's suppliers are anticipated to locate their facilities in the surrounding area. The first 138kV line exiting the Glendale South Substation will be 3.8 miles and run almost due south exiting the substation before turning east. The second 138kV line exiting the Glendale South Substation will be 2.9 miles and run in an easterly direction before turning south. Both 138 kV lines will terminate near the planned Ford facility at a new 138kV/24.7 kV substation to be called the Glendale Industrial Substation. In the interest of timely completion of both substations in order to meet required in-service dates, KU plans to begin pre-construction substation site preparation work in July 2022, including vegetation clearance, grading, and placement of soil erosion and storm water controls.

5. Cost of Facilities. The Company estimates the cost of constructing the 345kV and 138kV lines to be approximately $48 million. The estimated cost of the

Glendale South Substation is approximately $48 million. The estimated cost of the Glendale Industrial Substation is approximately $25 million.[2]

6. Notice of Intent. The Company filed its Notice of Intent to file this Application with the Commission on March 1, 2022 pursuant to 807 KAR 5:120, Section 1. A copy of the Notice of Intent is attached hereto as Exhibit 1.

7. Statement of Necessity. The proposed transmission facilities are necessary to transmit electric power to meet the capacity and reliability needs of Ford's planned battery production facilities as well as expected need for future development in the area, including other customers supporting Ford's facilities. Ms. Beth McFarland describes the need for these facilities in more detail in her direct testimony submitted herewith. 807 KAR 5:001, Section 15(2)(a). As explained by Ms. McFarland and Mr. Robert Conroy (whose testimony is also submitted herewith), Ford has requested an August 2023 in-service date for electric service. Given that aggressive timing, the Company requests a decision in this matter within 90 days of the filing of this Application pursuant to KRS 278.020(9).

8. Statement of Convenience. The routes of the proposed transmission lines are designed to serve the capacity and reliability needs of the system with as little negative impact as can be reasonably afforded, while maximizing the use of existing facilities and utility corridors to the extent practicable. To assist in the selection of the route for the proposed 345kV lines, the Company engaged the experts at Team Spatial to perform a line siting study to determine the best possible routes given the existing natural environment, population, cost, and engineering considerations. Team Spatial's March 2, 2022 Siting

[2] This estimate does not include any "behind the meter" assets located at the Glendale Industrial Substation Ford has requested and for which Ford will bear financial responsibility.

Study for the 345kV lines is attached as Exhibit 2. The proposed 138kV lines will be located exclusively on Ford's property[3] at the Glendale Megasite. For those lines, a comprehensive siting study was not necessary, but KU did commission Team Spatial to assess the impact those lines would have on the built and natural environment so that any impact can be minimized. That study is attached as Exhibit 3. The direct testimony of Ms. Beth McFarland discusses how the proposed construction serves the public convenience and is incorporated herein by reference. 807 KAR 5:001, Section 15(2)(a).

9. Permits or Franchises. The Companies are not required to obtain franchises from any public authorities and, thus, none are submitted herewith as required by 807 KAR 5:001, Section 15(2)(b). The Company will be required to obtain various permits, and a listing of the required permits is attached as Exhibit 4. At this time, the only permits received are from the Kentucky Transportation Cabinet and a CSX railroad permit. They are included in Exhibit 4. Going forward, copies of the required permits will be filed with the Commission, as obtained, to the extent required by law or requested by the Commission pursuant to 807 KAR 5:001, Section 15(2)(b).

10. Description of Locations and Routes. A full description of the proposed locations and routes of the transmission facilities and a description of the manner in which the same will be constructed is contained in the direct testimony of Ms. Beth McFarland, as required by 807 KAR 5:001, Section 15(2)(c). The proposed transmission lines will not compete with any public utilities, corporations or persons. The Company is also seeking the authority to make modifications to the specific routes of the proposed lines within the corridor of properties identified in the maps filed herewith (so long as additional property

[3] At this time, Hardin County owns the real property, but it is expected to be conveyed to Ford prior to the battery plants becoming operational.

owners are not affected) without the need to seek any further approval from this Commission. The Company requests the authority to move the location of the proposed lines up to 500 feet on either side of the centerline to account for property owner preferences or unexpected conditions encountered during construction provided that no new property owners are affected.[4]

11. Route Maps. Pursuant to 807 KAR 5:001, Section 15(2)(d) and 807 KAR 5:120, Section 2(2), maps in a scale of 1 inch equals 1000 feet showing the proposed transmission lines, including the affected property boundaries as indicated on the county's property valuation administrator's maps, and the location of all facilities, rights of way and easements are submitted herewith as Exhibits 5 and 6. Sketches of proposed typical transmission line support structures are attached as Exhibits 7 through 14. Sketches of the proposed substations are attached as Exhibits 15 and 16. Separate maps showing any alternative routes that were considered are attached as Exhibits 17 and 18 and those alternative routes are considered and discussed in Team Spatial's Siting Study beginning at page 46.

12. Financing of Construction. The Company expects to finance the cost of construction of the proposed facilities with internally generated funds. The Company will continue to evaluate financing alternatives during construction of the project and will seek the approval of the Commission before entering into any alternative financing as necessary. 807 KAR 5:001, Section 15(2)(e).

[4] The Commission recently granted such a request in Case No. 2021-00275, January 14, 2022 Order, pp. 14-15.

13. Cost of Operation. The estimated annual cost of operation after the proposed transmission facilities are placed into service is anticipated to be $240,000. 807 KAR 5:001, Section 15(2)(f).

14. Notice to Landowners. The undersigned hereby verifies that, according to property valuation administrator records in Hardin County, each property owner over whose property the transmission lines are proposed to cross has been sent by first-class mail, addressed to the property owner at the owner's address as indicated by the Hardin County property valuation administrator records, a notice containing the information set forth in 807 KAR 5:120, Section 2(3). A sample copy of each such notice is attached hereto pursuant to 807 KAR 5:120, Section 2(4) and designated Exhibit 19. A list of the names and addresses of the landowners to whom such notice was sent is attached hereto pursuant to 807 KAR 5:120, Section 2(4) and designated Exhibit 20.

15. Newspaper Notice. Notice of the intent to construct the proposed transmission lines has been published in a newspaper of general circulation in Hardin County, Kentucky, which notice included the information set forth in 807 KAR 5:120, Section 2(5). A copy of the newspaper notice for the transmission lines is attached hereto pursuant to 807 KAR 5:120, Section 2(6) and designated Exhibit 21.

16. Effect on Financial Condition of Utility. The proposed project does not involve sufficient capital outlay to materially affect the financial condition of the Company. 807 KAR 5:120, Section 2(7).

WHEREFORE, Kentucky Utilities Company respectfully requests the Commission to issue an order within 90 days of the filing of this Application granting it: (1) a certificate of public convenience and necessity for the construction of two 345kV and

two 138kV transmission lines and two associated substations in Hardin County, Kentucky, as proposed herein; (2) the authority to make modifications to the specific route of the proposed line (including moving the line 500 feet on either side of the proposed centerlines), within the corridor of properties identified herein, so long as no new property owners are affected, without the need to seek any further approval from this Commission; and (3) any and all other relief to which it may be entitled.

Dated: March 31, 2022

Respectfully submitted,

By: Allyson K. Sturgeon

Kendrick R. Riggs
Stoll Keenon Ogden PLLC
500 W. Jefferson Street, Suite 2000
Louisville, Kentucky 40202-2828
Telephone: (502) 560-4222
Fax (502) 627-8722
Email: kendrick.riggs@skofirm.com

Lindsey W. Ingram III
Stoll Keenon Ogden PLLC
300 W. Vine Street, Suite 2100
Lexington, Kentucky 40507-1801
Telephone: (859) 231-3982
Email: L.Ingram@skofirm.com

Allyson K. Sturgeon
Vice President and Deputy General Counsel-Regulatory
PPL Services Corporation
220 W. Main Street
Louisville, Kentucky 40202
Telephone: (502) 627-2088
Email: asturgeon@pplweb.com

Sara V. Judd
Senior Counsel
LG&E and KU Services Company

220 W. Main Street
Louisville, Kentucky 40202
Telephone: (502) 627-4850
Email: sara.judd@lge-ku.com

Counsel for Kentucky Utilities Company

CERTIFICATE OF COMPLIANCE

In accordance with the Commission's Order of July 22, 2021 in Case No. 2020-00085 (Electronic Emergency Docket Related to the Novel Coronavirus COVID-19), this is to certify that the electronic filing has been transmitted to the Commission on March 31, 2022; and that there are currently no parties in this proceeding that the Commission has excused from participation by electronic means.

Allyson K. Sturgeon

Counsel for Kentucky Utilities Company

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Elizabeth J. McFarland**, being duly sworn, deposes and says that she is the Vice President, Transmission, for Kentucky Utilities Company, an employee of LG&E and KU Services Company and that she has personal knowledge of the matters set forth in the foregoing Verified Application and that the material contained therein is true and correct to the best of her information, knowledge, and belief.

Elizabeth J. McFarland

Elizabeth J. McFarland

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 28th day of March 2022.

Notary Public Judy Schooler

Notary Public ID No. 603967

My Commission Expires: July 11, 2022

a PPL company

Kentucky Utilities Company
State Regulation and Rates
220 West Main Street
P.O. Box 32010
Louisville, Kentucky 40232
www.lge-ku.com

Michael E. Hornung
Manager Pricing/Tariffs
T 502-627-4671
F 502-627-3213
mike.hornung@lge-ku.com

Linda C. Bridwell, PE
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40601

March 1, 2022

RE: ***Application of Kentucky Utilities Company for a Certificate of Public Convenience and Necessity for the Construction of Transmission Facilities in Hardin County, Kentucky*** **– Case No. 2022-00XXX**

Dear Ms. Bridwell:

Please take notice that, pursuant to KRS 278.020, 807 KAR 5:001, and 807 KAR 5:120, Kentucky Utilities Company ("KU") intends to file on or after March 31, 2022, an application for a certificate of public convenience and necessity for the construction of two 345 kV electric transmission lines, and construction of two 138 kV electric transmission lines in Hardin County, Kentucky. The construction is necessary to provide electrical service to the Glendale Megasite, upon which the Ford Motor Company has proposed to construct two battery manufacturing plants and expected growth in the area.

KU has contemporaneously filed a Notice of Election of Use of Electronic Filing Procedures for this proceeding. Please assign this matter a case number and style and advise us of same so that it can be incorporated in the application before filing with the Commission.

The business address, telephone number, and electronic mail address for KU is:

220 West Main Street
Louisville, Kentucky 40202
Telephone: (502) 627-2000
Email: statereg@lge-ku.com

Ms. Linda Bridwell
Executive Director
Kentucky Public Service Commission
March 1, 2022

Should you have any questions, please telephone me at your earliest convenience.

Sincerely,

Michael E. Hornung

PPL companies

Glendale
345 kV Transmission Lines
Siting Study

Project Report

Prepared by: Jesse Glasgow and Nicholas Arjona, Team Spatial

Date: March 2, 2022

TEAM SPATIAL

TEAM SPATIAL

Table of Contents

Table of Figures

TEAM SPATIAL

Project Overview

Louisville Gas & Electric and Kentucky Utilities (LG&E/KU) plans to construct two 345 kV transmission lines that connect KU's Brown North – Hardin County 345 kV transmission line to a proposed substation east of Glendale. The Brown North – Hardin County 345 kV is oriented northwest to southeast across the northern part of the study area. One of the routes will tap on the eastern portion of the Brown North to Hardin County transmission line, while the other route will tap the western portion. Both routes will terminate at the proposed substation within an industrial development to the south of the study area.

In support of this project, Team Spatial performed a siting study to help the LG&E/KU team identify the preferred route to construct the new line. The siting study considered the natural environment and people as well as cost and engineering concerns. The route selection process is described in this report.

Study Area Description

The Glendale siting project is in Hardin County, Kentucky. Hardin County is home to about 110,000 residents and has a population density of about 180 people per square mile.

The study area is mainly developed with some forested land in the north and east and agricultural land in the western portion. The terrain is relatively flat with residential development throughout the study area. There are many National Register of Historic Places sites in the southwest of the study area, which is where downtown Glendale is located. There are a few other National Register of Historic Places sites in the western portion of the study area with East Hardin Middle School in the southwest and a few churches as well.

TEAM SPATIAL

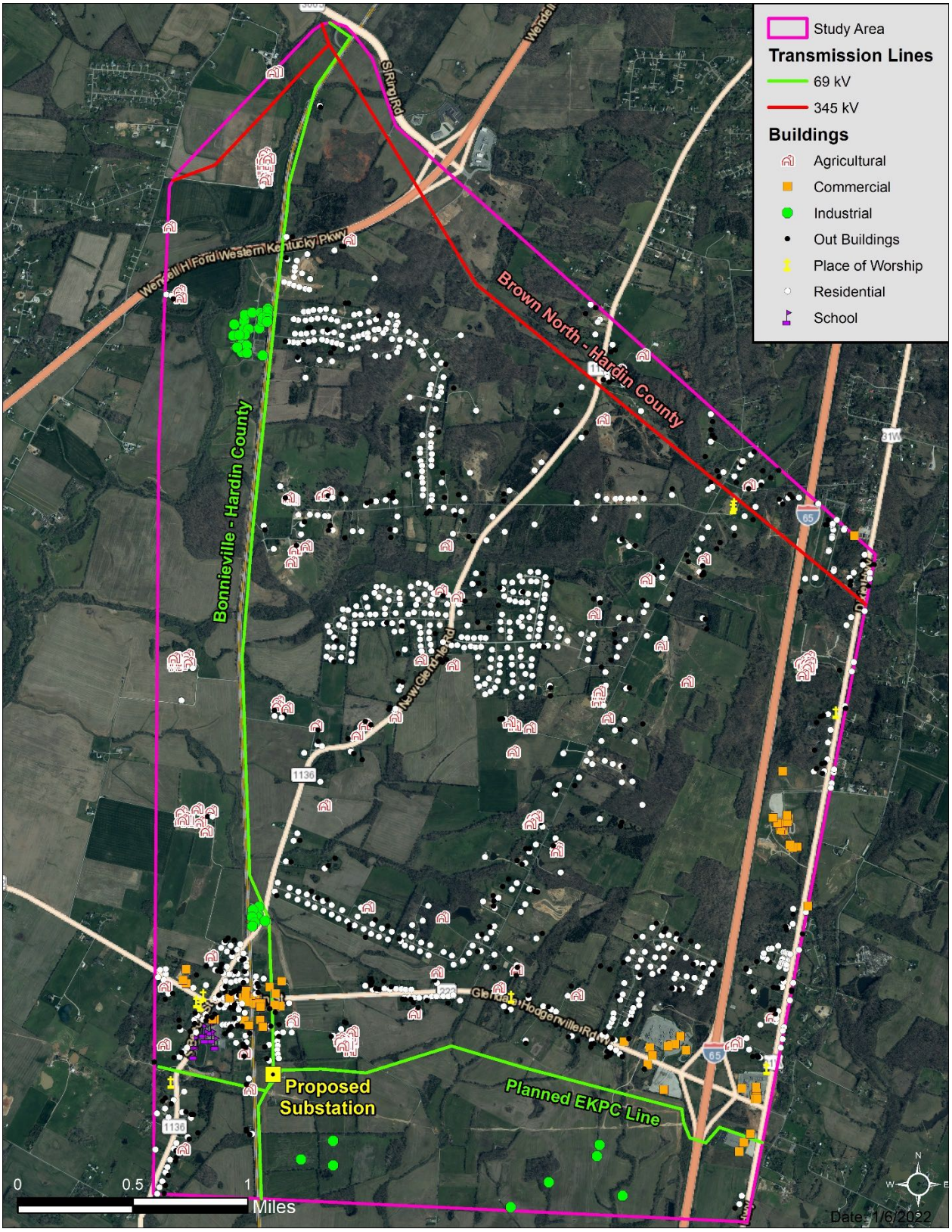


Figure 1 Study Area Map

TEAM SPATIAL

Siting Methodology Overview

The EPRI (Electric Power Research Institute) - GTC (Georgia Transmission Corporation) Siting Methodology[1] and the Kentucky Siting Model[2] were used on this project. The methodology uses a data driven objective process that leverages external stakeholder input from representative organizations to help calibrate the Alternative Corridor model using the Analytical Hierarchy and the Modified Delphi processes. It relies on routing experts to identify alternate routes using the Alternative Corridors as a guide. The method leverages internal experts to calibrate the Alternative Route Evaluation Model and uses the Alternative Route Evaluation Model to help identify the top routes. Finally, the Expert Judgment Model is used to select the preferred route.

The Methodology is analogous to a funnel used to process information. Into the funnel goes geographic information which is calibrated with community concerns, natural concerns, and engineering considerations. Each phase of the process is like a filter in the funnel which is used to reduce the area of consideration. As the area of focus is reduced, users are able to invest more effort into studying the area at a greater level of detail. More detailed information is collected as one proceeds through the funnel. The bottom of the funnel results a preferred route for the transmission line.

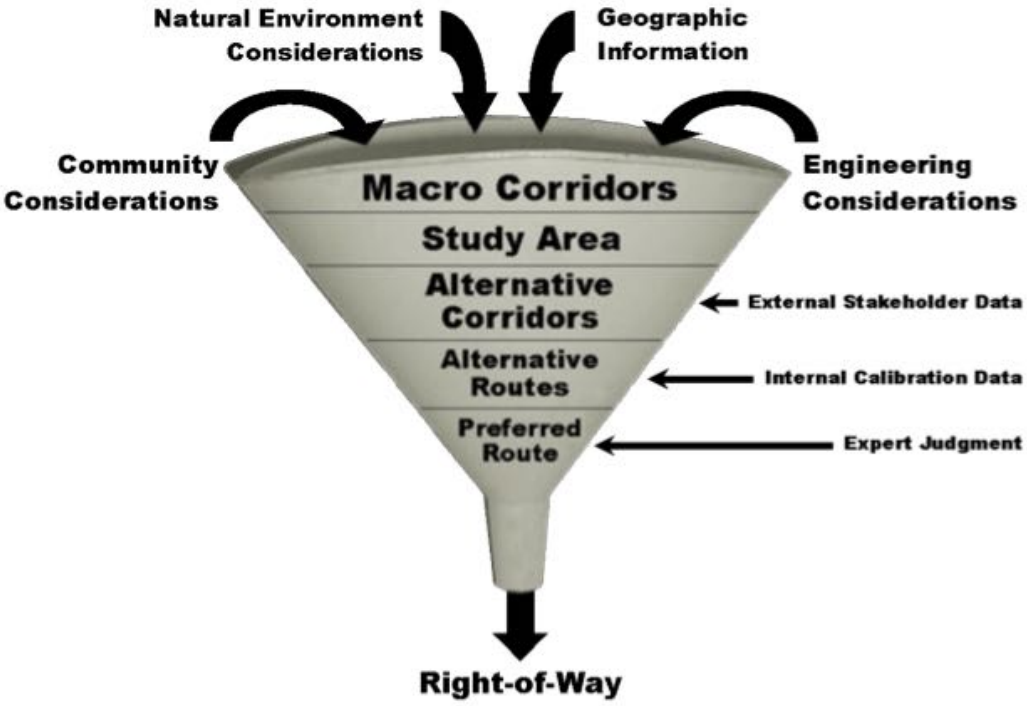


Figure 2 Funnel Analogy

[1] https://www.epri.com/#/pages/product/1013080/?lang=en-US
[2] https://www.epri.com/#/pages/product/1016198/?lang=en-US

TEAM SPATIAL

Alternative Corridors

Engineering Environment	
Linear Infrastructure	82.0%
Parallel Existing Transmission Lines	1
Rebuild Existing Transmission Lines (good)	-
No Linear Infrastructure	5.4
Parallel Interstates ROW	5.8
Parallel Roads ROW	6.7
Parallel Pipelines	-
Future DOT Plans	6.9
Parallel Railway ROW	7.5
Transmission Line, Rail, and Road ROW	9
Rebuild Existing Transmission Lines (bad)	-
Scenic Highways ROW	-
Slope	9.0%
Slope 0-15%	1
Slope 15-30%	4
Slope 30-40%	6.7
Slope >40%	9
Sinkholes	9.0%
No Sinkholes	1
Modeled Sinkholes	7
State-Identified Sinkholes	9
Areas of Least Preference	
Non-Spannable Waterbodies	
Mines and Quarries (Active)	
Buildings	
Airports	
Military Facilities	
Center Pivot Irrigation	

Natural Environment	
Floodplain	5.6%
No 100 Year Floodplain	1
100 Year Floodplain	9
Streams/Wetlands	35.5%
No Streams or Wetlands	1
Streams < 5cf+Regulatory Buffer	6.4
Streams > 5cf+Regulatory Buffer	7.3
Wetlands + 30'Buffer	9
Outstanding State Resource Waters	-
Public Lands	-
No Public Lands	-
WMA + Not State Owned	-
USFS (proclamation area)	-
Other Conservation Land	-
USFS (actually owned)	-
State Owned Conservation Land	-
Land Cover	24.1%
Developed Land	1
Agriculture	4.6
Forests	9
Wildlife Habitat	34.9%
No Species of Concern Habitat	1
Species of Concern Habitat	9
Areas of Least Preference	
EPA Superfund Sites	
State and National Parks	
USFS Wilderness Area	
Wild/Scenic Rivers	
Wildlife Refuge	
State Nature Preserves	
Designated Critical Habitat	

Built Environment	
Proximity to Buildings	16.8%
>1,200 feet from Buildings	1
900-1,200 feet from Buildings	3.4
600-900 feet from Buildings	5.7
300-600 feet from Buildings	8
0-300 feet from Buildings	9
Building Density	8.4%
1 Building per 20+ Acres	1
1 Building per 5-20 Acres	3
1 Building per 1-5 Acres	5.9
1 - 4 Buildings/Acre	9
>4 Buildings/Acre	-
Proposed Development	3.9%
No Proposed Development	1
Proposed Development	9
Spannable Lakes and Ponds	4.0%
No Spannable Lakes and Ponds	1
Spannable Lakes and Ponds	9
Land Use	35.9%
Commercial/Industrial	1
Agriculture (crops)	3.5
Agriculture (other livestock)	4.6
Silviculture	-
Other (forest)	6.7
Equine Agri-Tourism	-
Residential	9
Proximity to Eligible Historic and Archeological Sites	31.0%
>1,200 feet	1
900-1,200	4.6
600-900	7.9
0-300	8.6
300-600	9
Areas of Least Preference	
Listed Archaeology Sites and Districts	
Listed NRHP Districts and Buildings	
Day Care Parcels	
City and County Park Parcels	
Cemetery Parcels	
School Parcels (K-12)	
Church Parcels	

Figure 3 Alternate Corridor Model

The above model is the Kentucky Siting Model that was developed with input from subject-matter experts and stakeholders. Each perspective (Built, Engineering, and Natural) represent the three groupings of considerations in the model. Within the perspectives, there are layers like Linear Infrastructure that further specify the groups. Finally, there are features that lie in the layers that tie to specific features such as Road Right-of-Way (ROW).

Each feature is given a value 1-9 depending on the relative suitably for a potential transmission line to intersect with said feature. 1 being the most suitable and 9 being the least. At the layer level, all of the layers within a perspective are given a weight and all of the weights must equal 100%. The features and layers that are not present in this project are grayed out in the table above.

TEAM SPATIAL

Areas of Least Preference

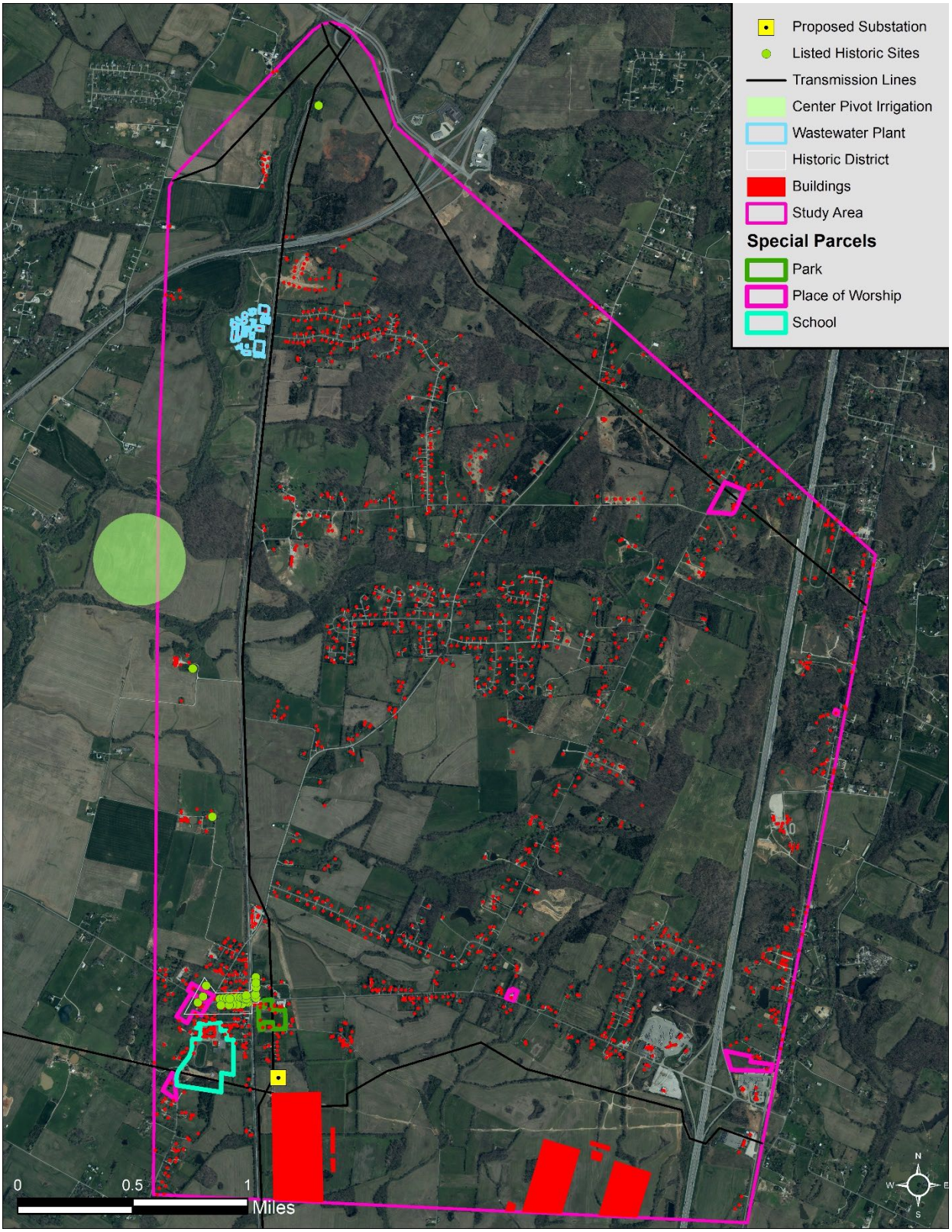


Figure 4 Areas of Least Preference

Built Criteria

The Built portion of the Alternate Corridor Model considers places where people live, work, and play. The Built Environment contains six layers: Building Density, Building Proximity, Proposed Development, Spannable Lakes and Ponds, Land Use, and Proximity to Eligible Historic and Archaeological Sites.

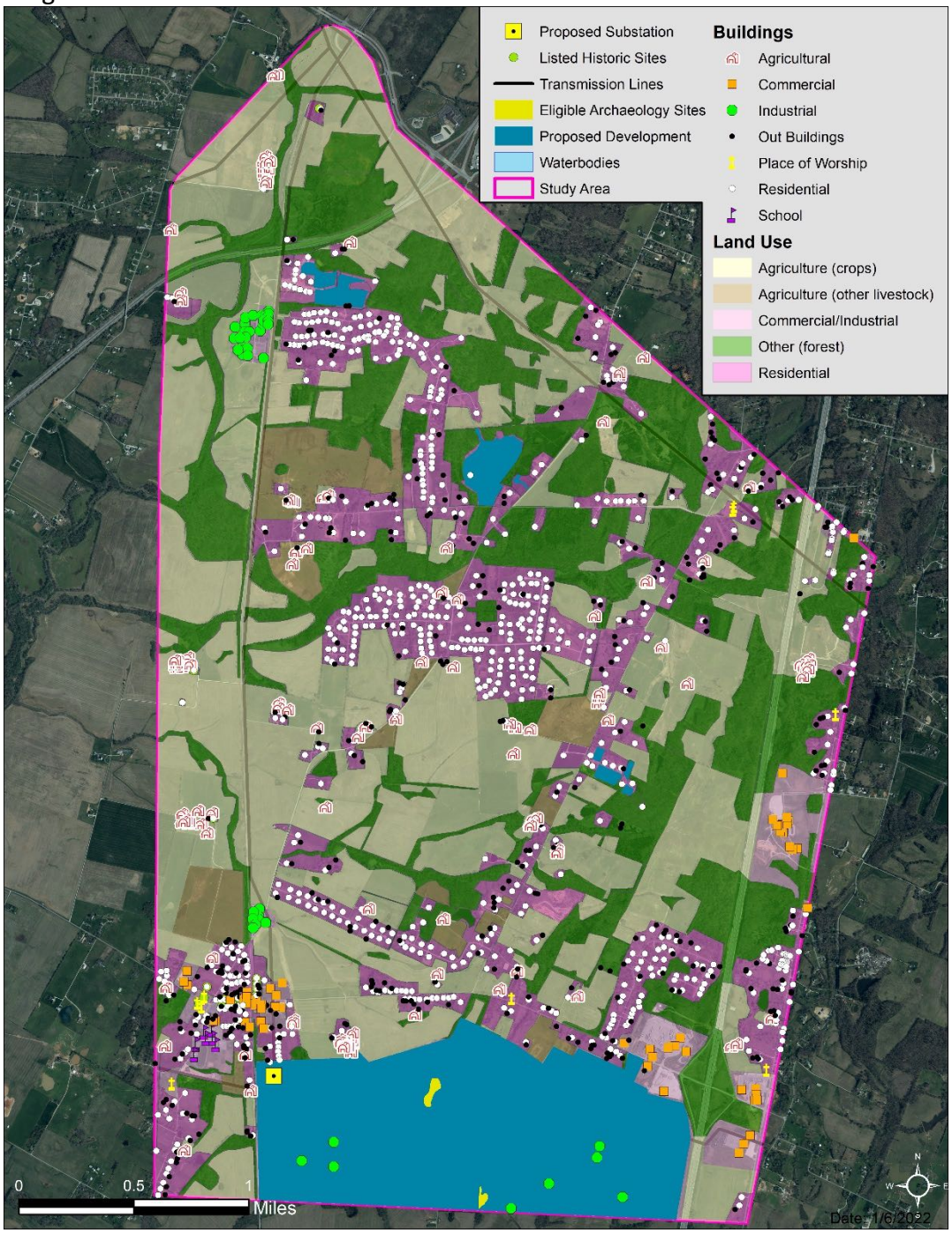


Figure 5 Built Source Data

The above map shows the source data in the Built Environment.

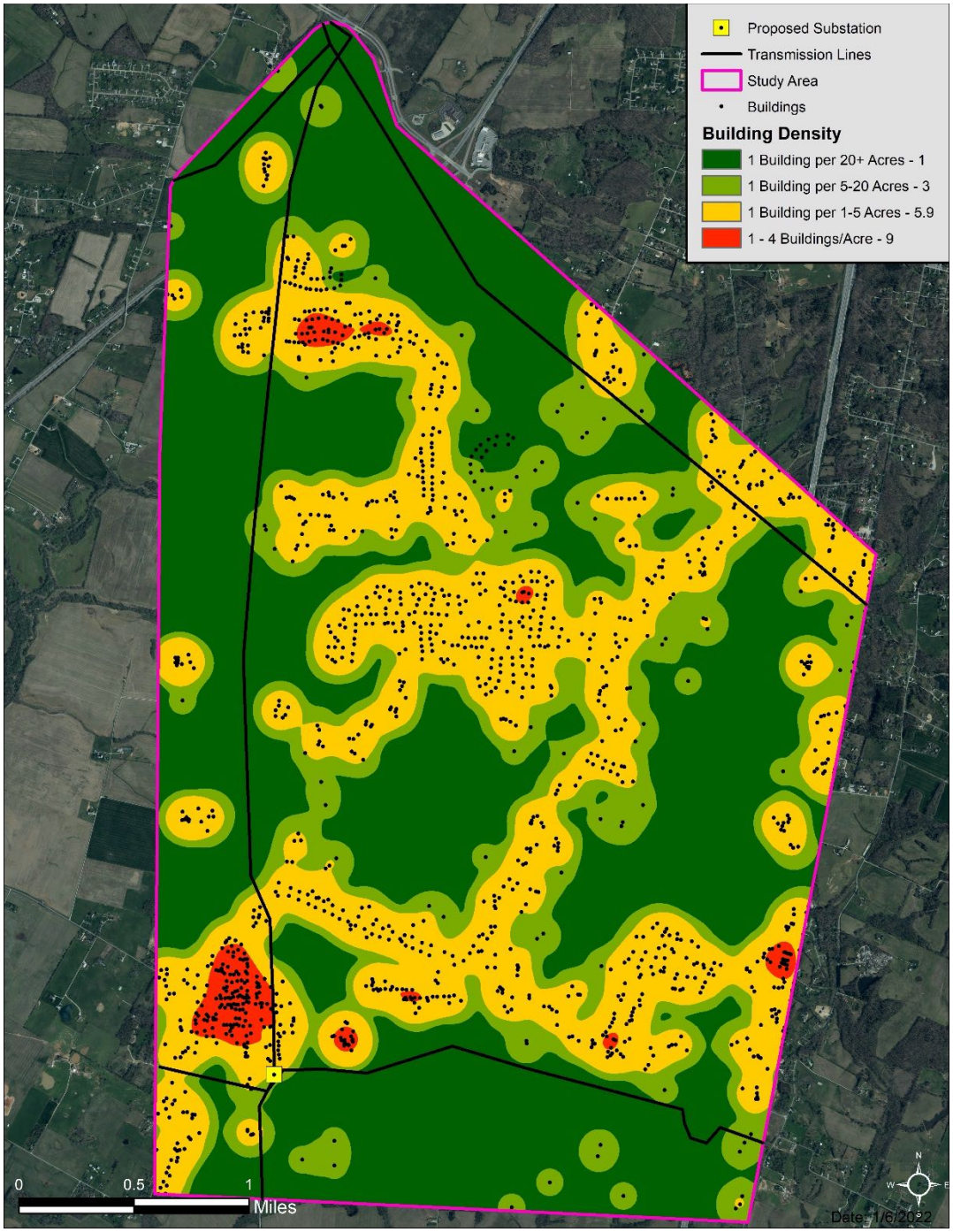


Figure 6 Building Density Suitability Grid

The Building Density layer is classified by the number of buildings per acre. The higher the density, the less suitable that location is for a potential transmission line. *Note: The legend of the following maps illustrates the categories from the Kentucky model, and the relative suitability values. Within each layer the number 1 represents the most suitable place for a transmission line (in that layer) and the number 9 represents the least suitable place.*

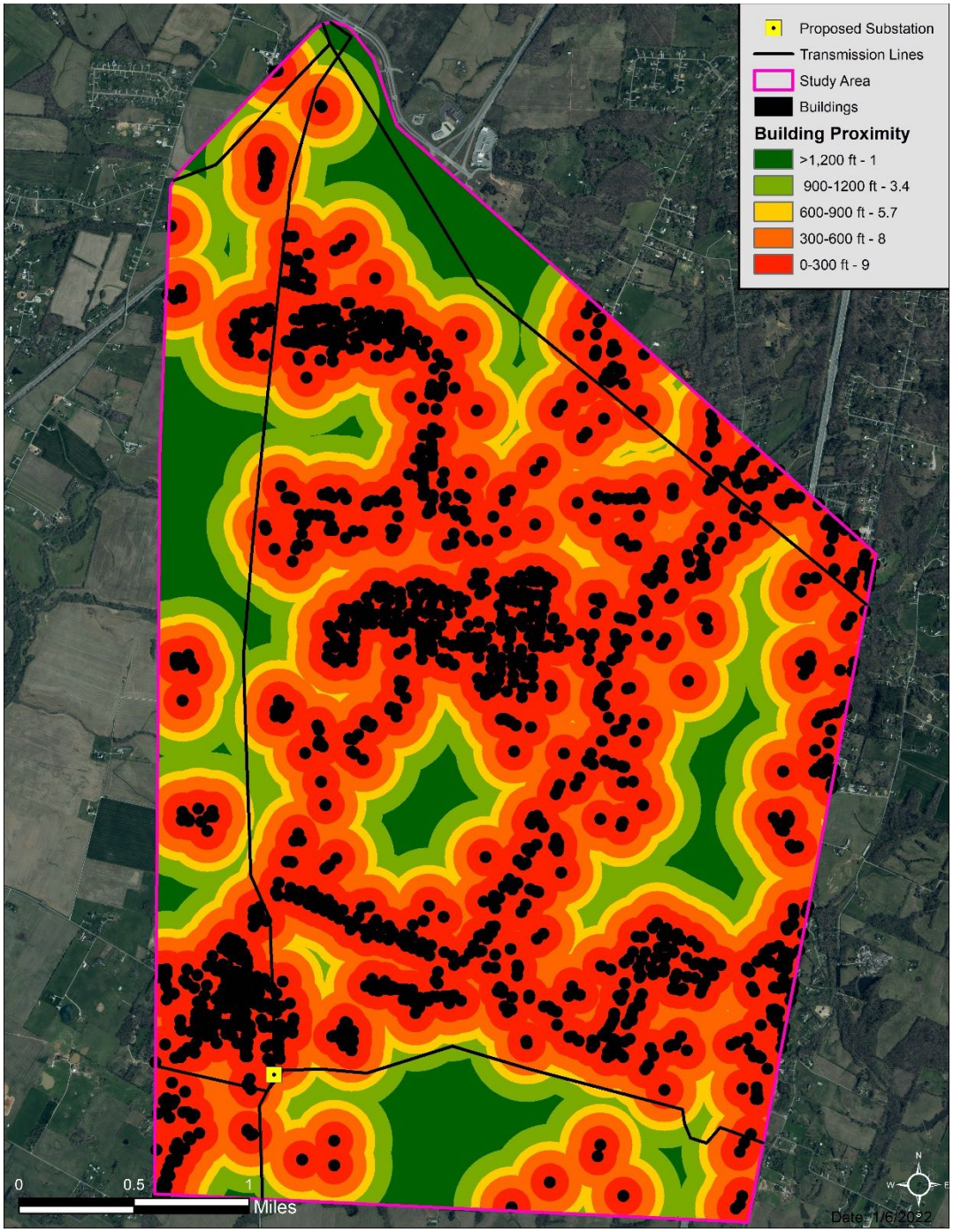


Figure 7 Building Proximity Suitability Grid

For the Building Proximity layer, the most suitable location for a potential transmission line is beyond 1,200 feet from a building. These areas are shown in dark green in the map above. The least suitable areas are within 300 feet of a building.

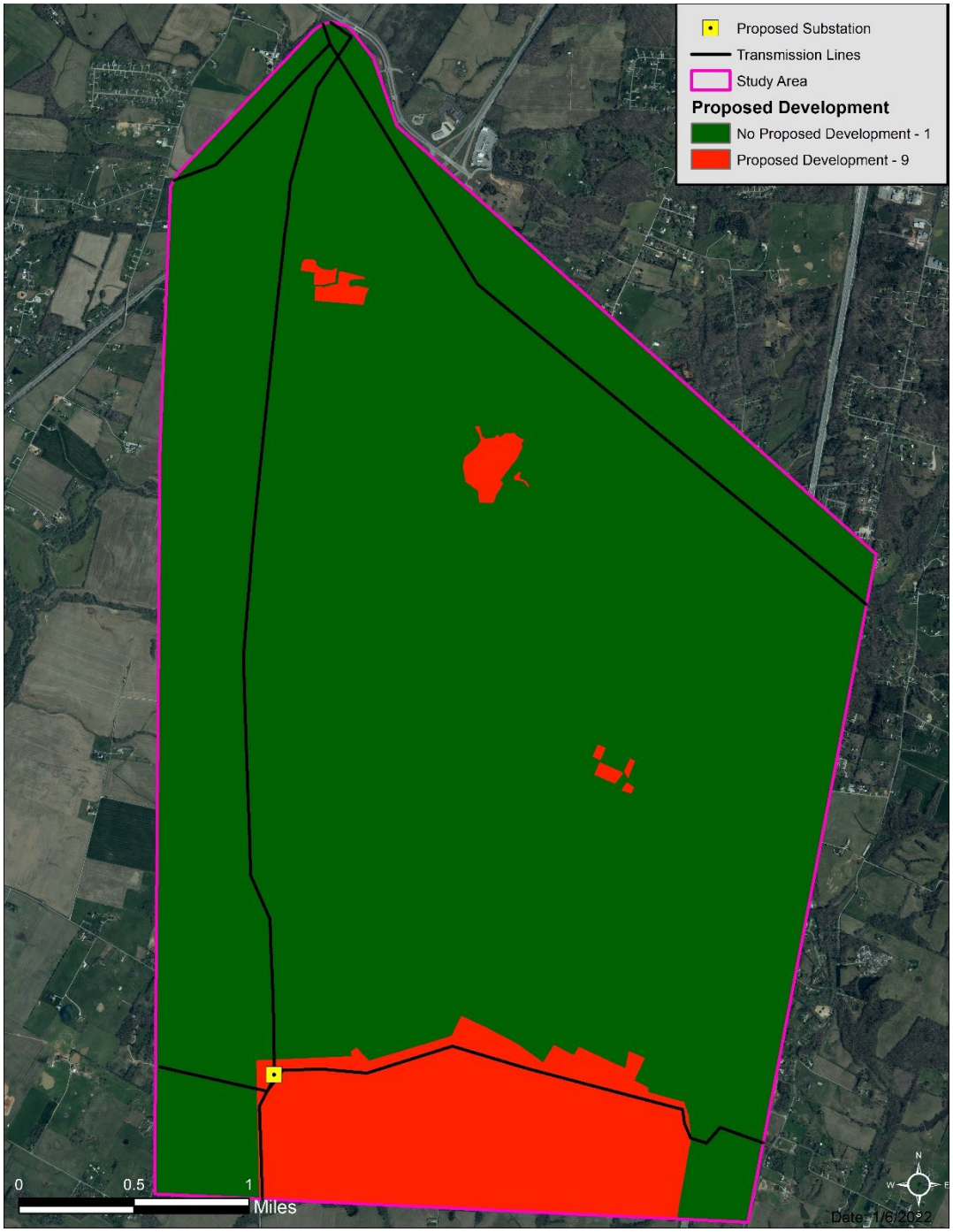


Figure 8 Proposed Development Suitability Grid

The Proposed Development suitability grid contains two options, either the location is a proposed development or not. The areas that are not a proposed development are more suitable for a new transmission line.

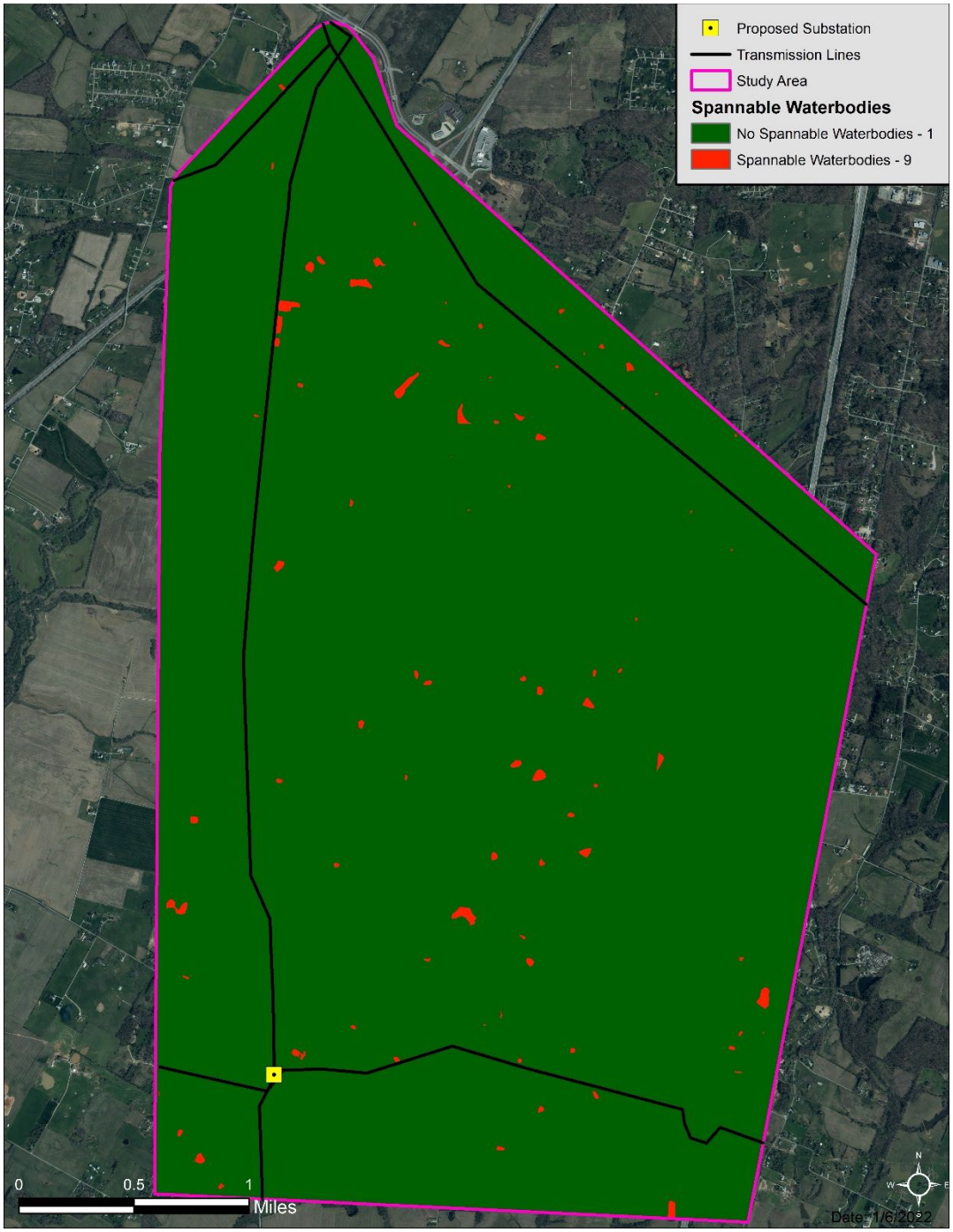


Figure 9 Spannable Lakes and Ponds Suitability Grid

The Spannable Lakes and Ponds suitability grid is characterized by two options, either the location is within a spannable lake and pond, or the location is not. The areas that are not in a spannable lake or pond are more suitable for a potential transmission line. A maximum span distance of 600’ was used for this analysis.

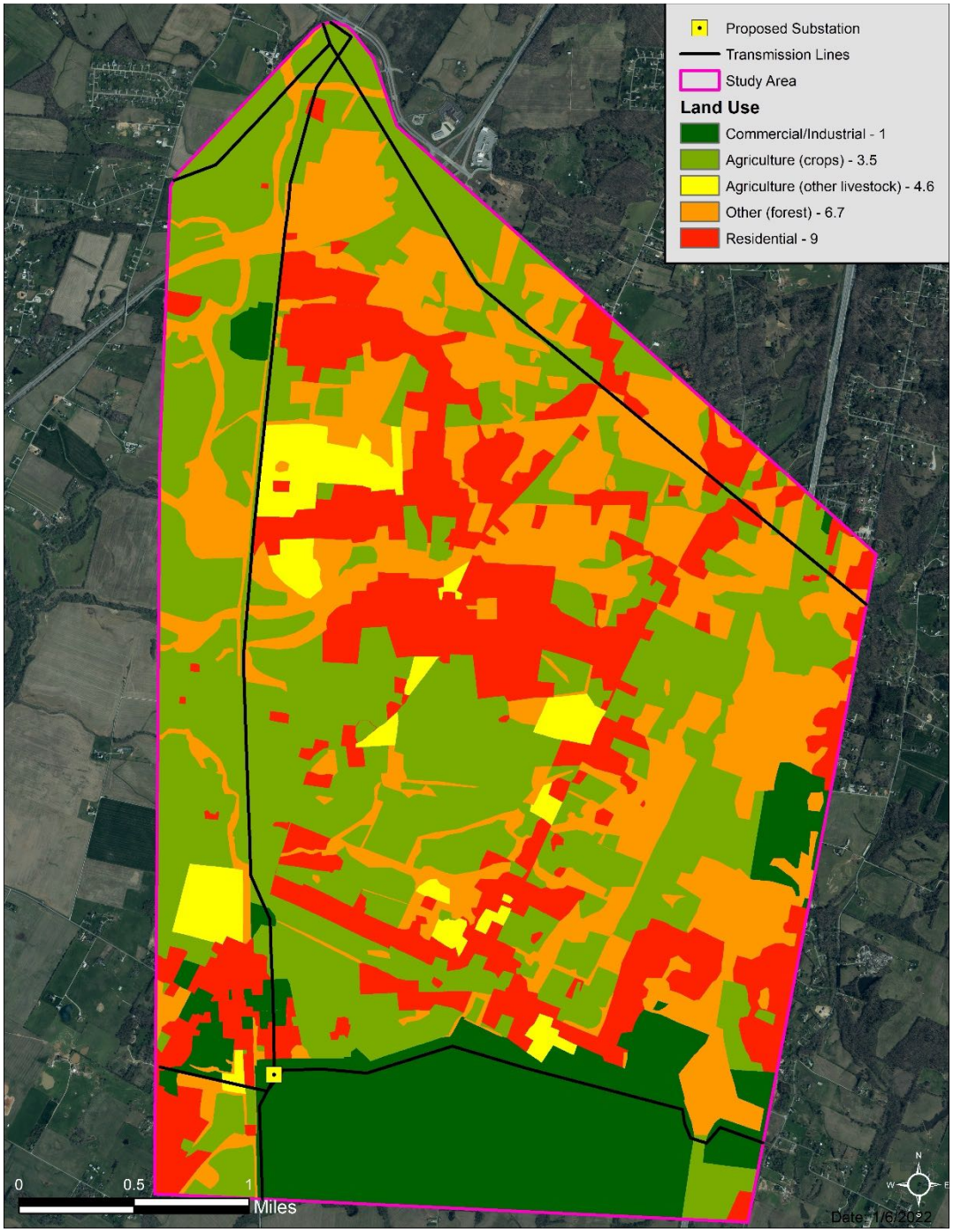


Figure 10 Land Use Suitability Grid

According to the Kentucky Model, from a Built Perspective the most suitable land use classification for a potential transmission line is an area with a commercial or industrial land use, while the least suitable classification is residential areas. An area with an agricultural land use classification is the second most suitable, while any other land use classification would be the third most suitable area. In this case the "other" classification consists of areas with trees.

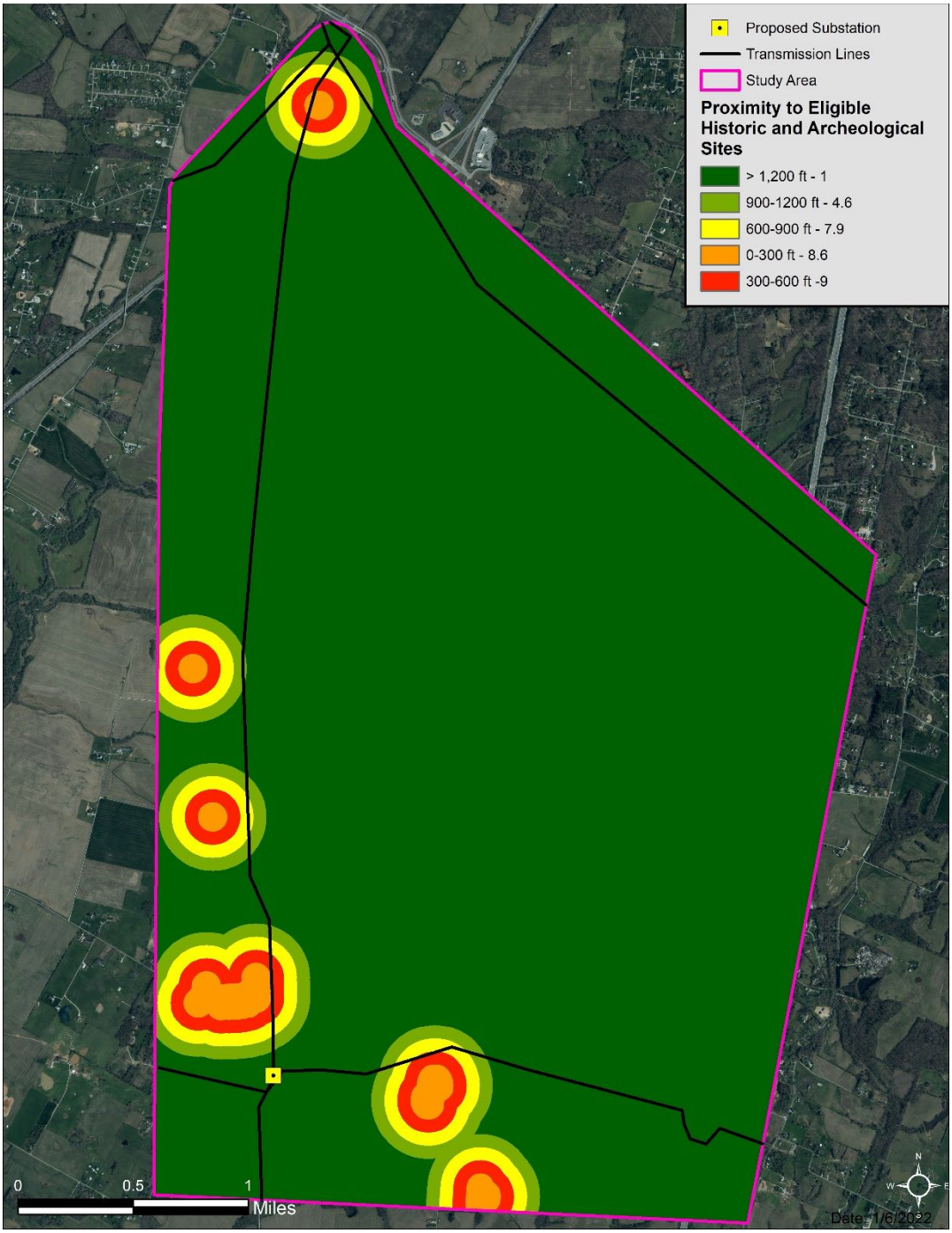


Figure 11 Proximity to Historic Sites Suitability Grid

The Proximity to Historic Sites and Archaeological layer is meant to protect the Historic and Archaeological sites in or near the study area. This is done by making the areas near the sites to be the least suitable, while the farthest away from the sites is the most suitable location for a potential transmission line.

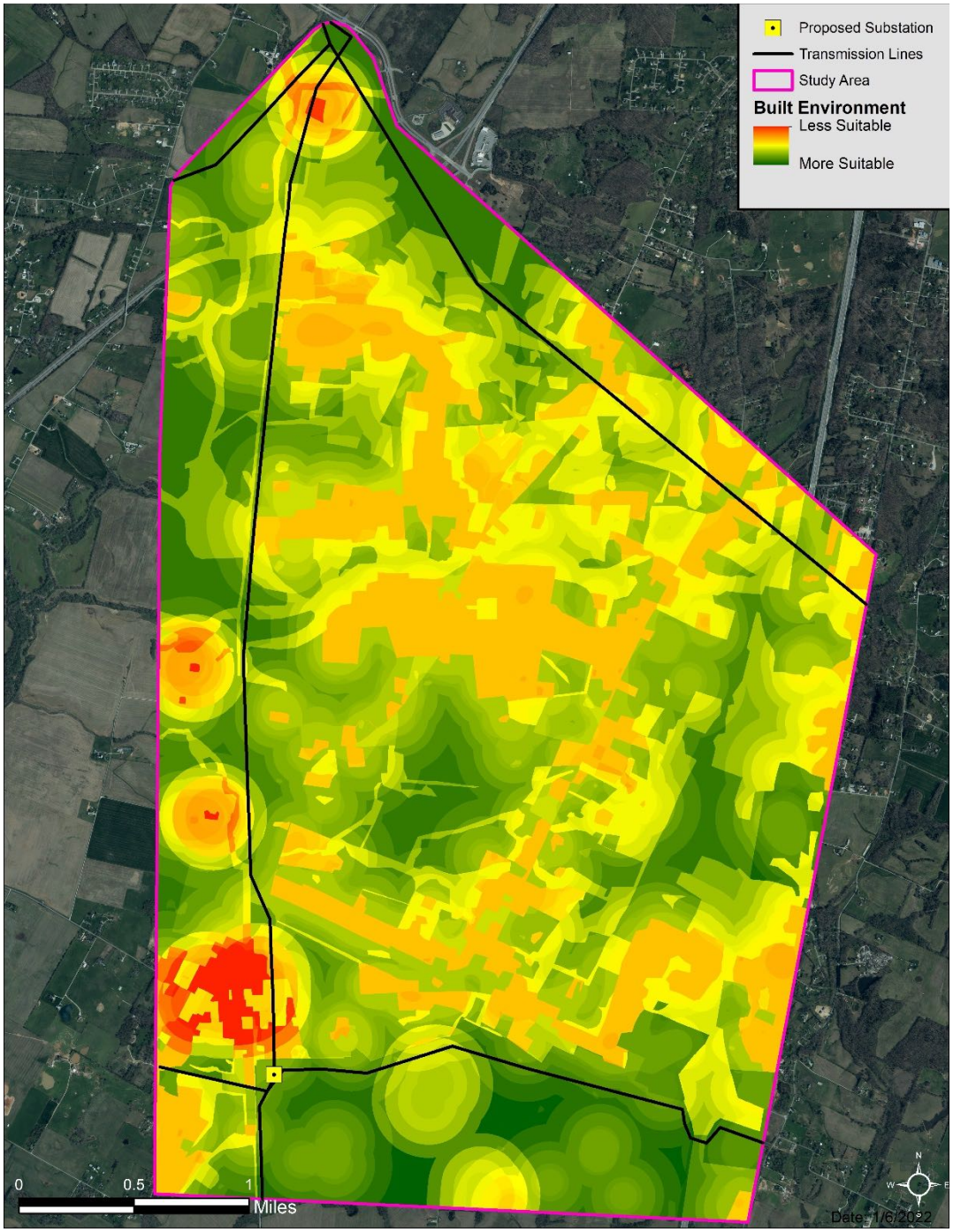


Figure 12 Built Suitability Grid

The suitability grids for each perspective are created by multiplying the values of the individual layer grids by the weights in the model and then combining them to create a weighted average suitability grid as shown above.

Natural Criteria

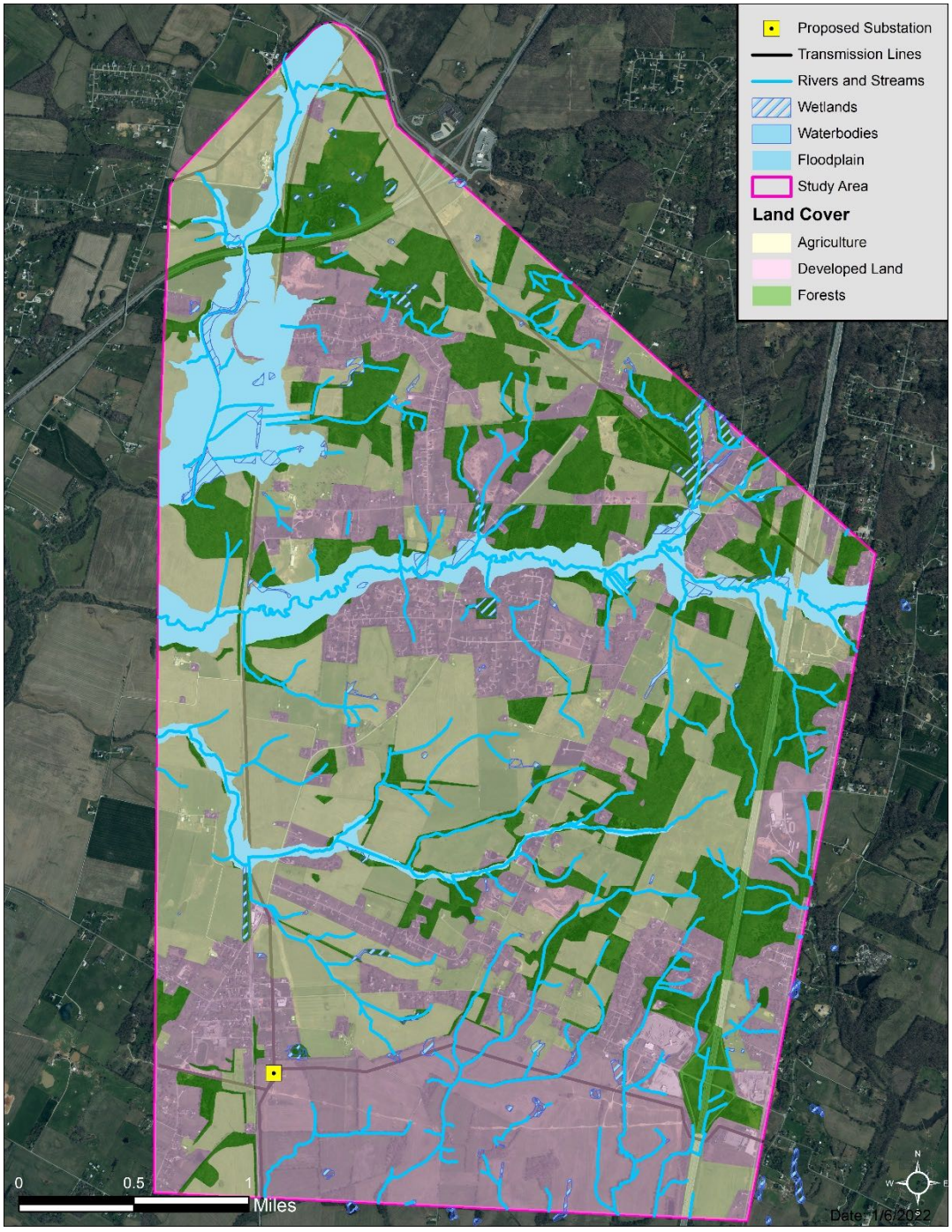


Figure 13 Source Data for the Natural Perspective

The Natural Perspective considers rivers, streams, and 100-year floodplain. The land cover is also considered when assessing the natural suitability of a potential transmission line in the area. The Wildlife Habitat was modeled utilizing a combination of forested lands and rivers. "Public Lands" were also considered with the Natural Perspective; however, none are present in the study area.

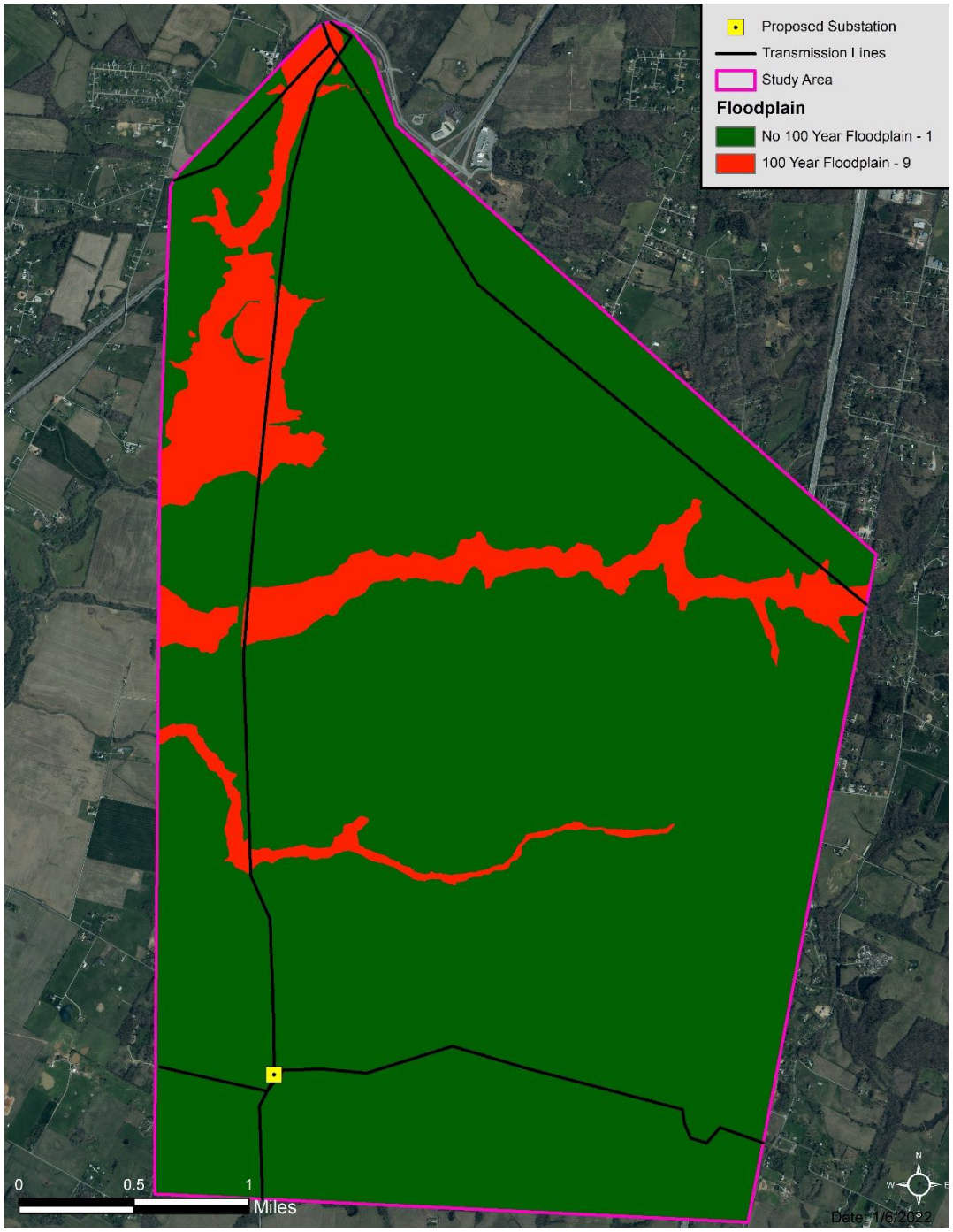


Figure 14 Floodplain Suitability Grid

The most suitable areas are not within a 100-year floodplain.

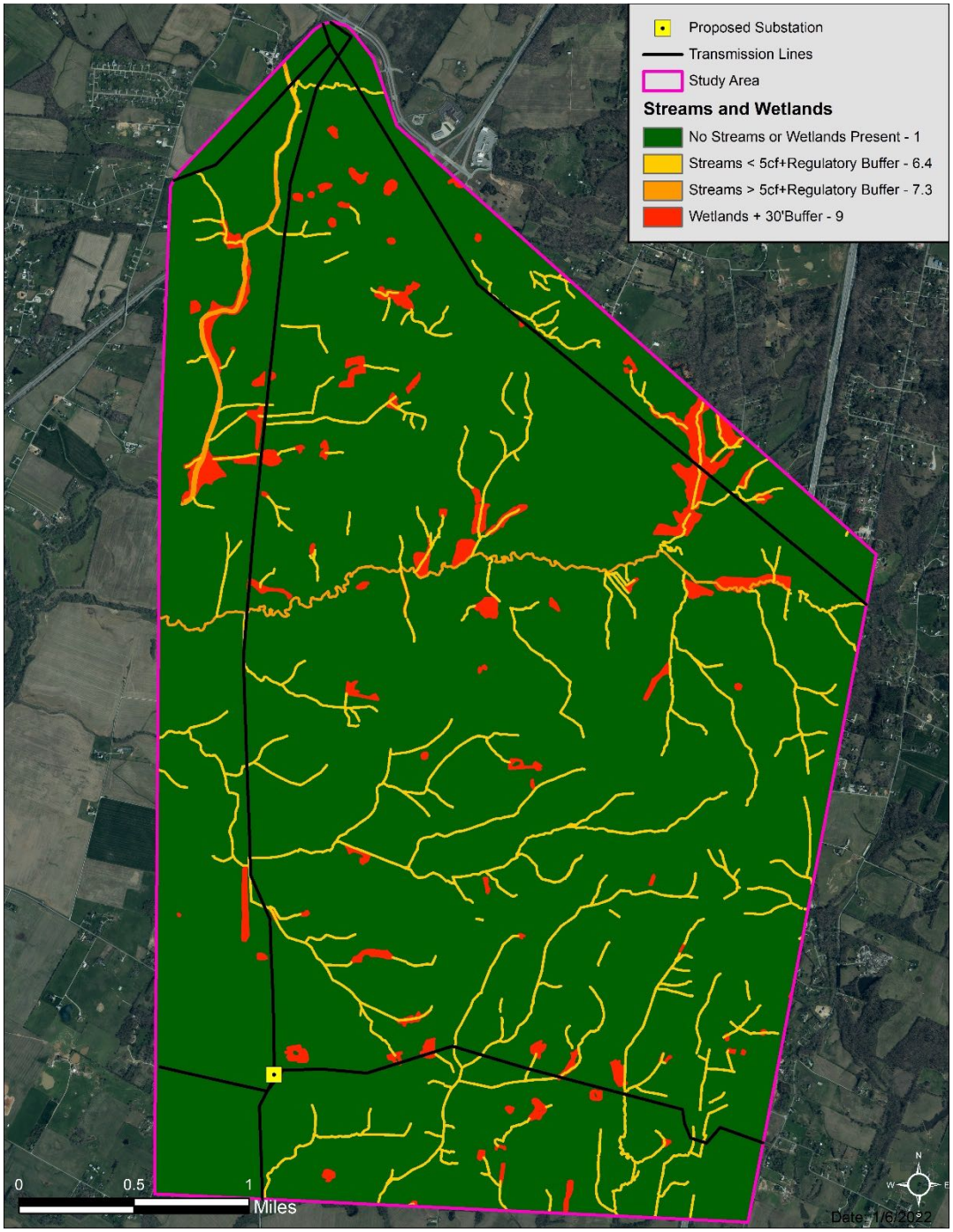


Figure 15 Streams and Wetlands Suitability Grid

Wetlands, plus a 30’ buffer are the least suitable location for a potential transmission line. Any streams with a flow greater than 5 cubic feet per second are the second least suitable location for a new transmission line. The most suitable areas do not contain wetlands or streams/rivers. No Outstanding State Resource Waters were identified within the study area.

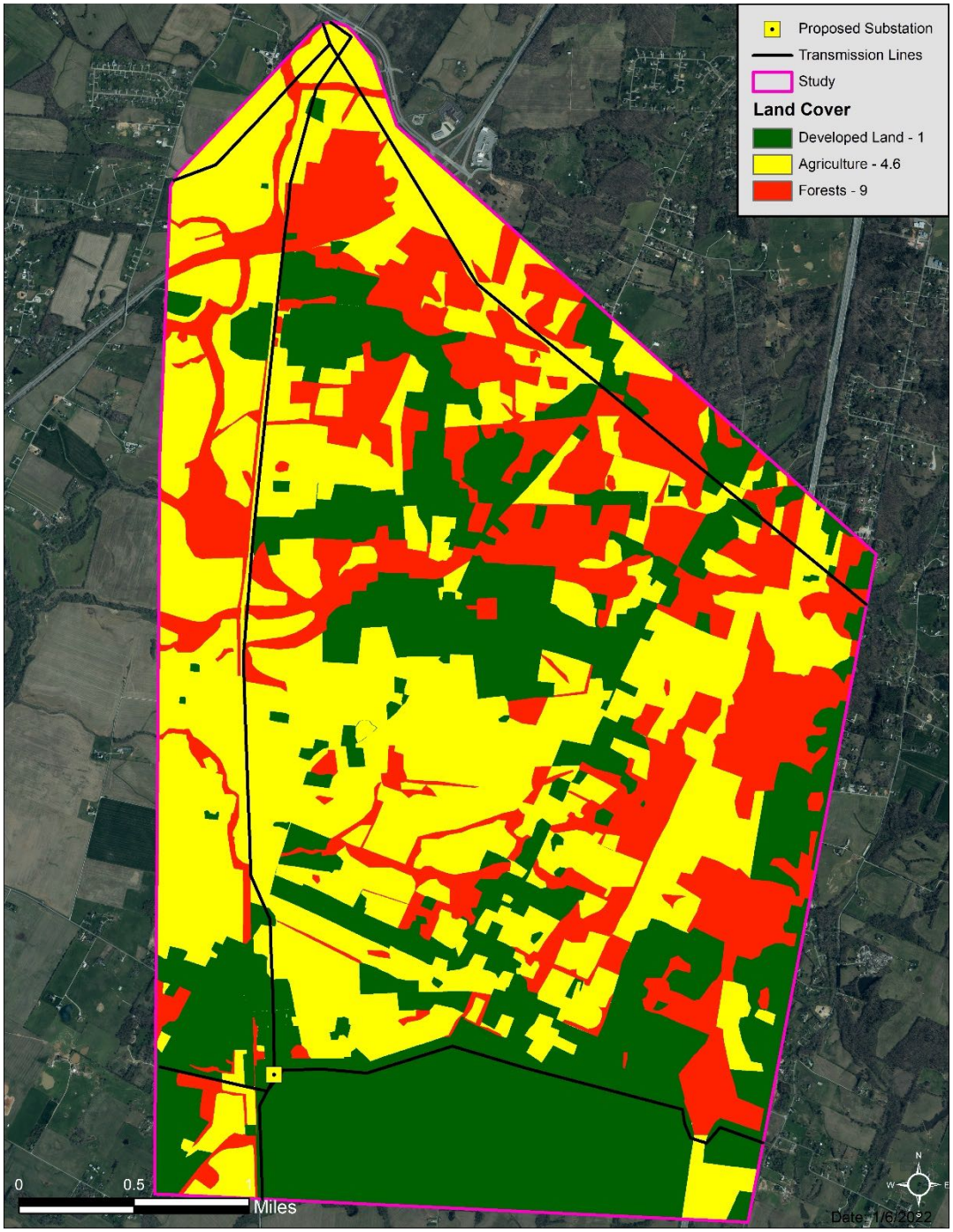


Figure 16 Land Cover Suitability Grid

The land cover is classified by developed land, agriculture, and forest. From a Natural Perspective, forested land is the least suitable area for a potential transmission line. Developed land is the most suitable area and agriculture land is rated near the middle.

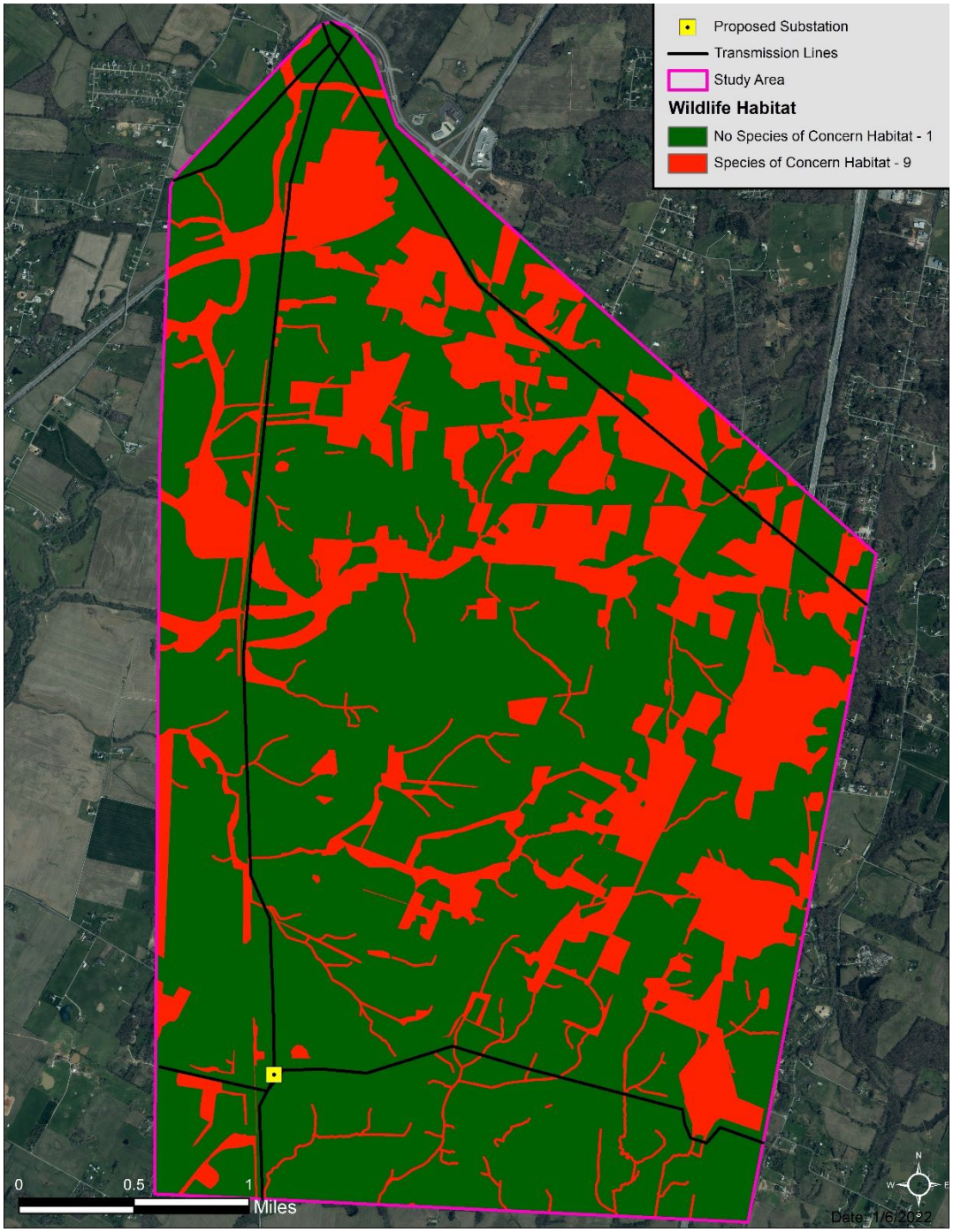


Figure 17 Wildlife Habitat Suitability Grid

The Kentucky Transmission Line Siting Methodology considers federally listed Designated Critical, Threatened, Endangered and Species of Concern habitat in the model that is used to identify alternate corridors. Team Spatial consulted with Arcadis to identify the listed species and determine the best method of modeling their habitat based on available data. Arcadis completed a Unites States Fish and Wildlife Services (USFWS) Information for Planning and Consultation (IPaC) database review that identified the names, federal status, and habitat of species that occurs within, or in close proximity to, the study area. Four

threatened/endangered species are known from the vicinity of the Project area, including the Indiana bat, the gray bat, northern long eared bat and snuffbox mussel. The USFWS did not identify critical habitat for these four species this study area.

The gray bat is a year-round cave obligate species. No caves were identified within a one-mile buffer around the study area per the Kentucky Speleological Survey (KSS).

The Indiana bat and northern long-eared bat summer roosting habitat includes exfoliating/loose tree bark of living and dead trees, or cavities and hollows of dead trees. The team considered forested lands within the study area as potentially suitable summer roosting habitat for these two bat species.

The snuffbox mussel inhabits small to medium sized rivers with sand, gravel, or cobble substrates and a swift current. To model this habitat, the team considered rivers and streams as potentially suitable habitat. The rivers and streams were buffered 15 feet either side of the river or stream centerline to model the waterbody or, in case of a larger river, the polygon stream data was used to model the habitat.

The USFWS IPaC identified the monarch butterfly as a candidate species known from the study area. This species is known to inhabits open fields and meadows with milkweed present. Candidate species do not receive statutory protection under the Endangered Species Act (ESA). The USFWS does encourage conservation efforts for these species because they may warrant future protection under the ESA. Therefore, the Monarch Butterfly habitat was not modeled in the species of concern layer.

Therefore, the Species of Concern layer, within the corridor model, includes forested areas and rivers and streams.

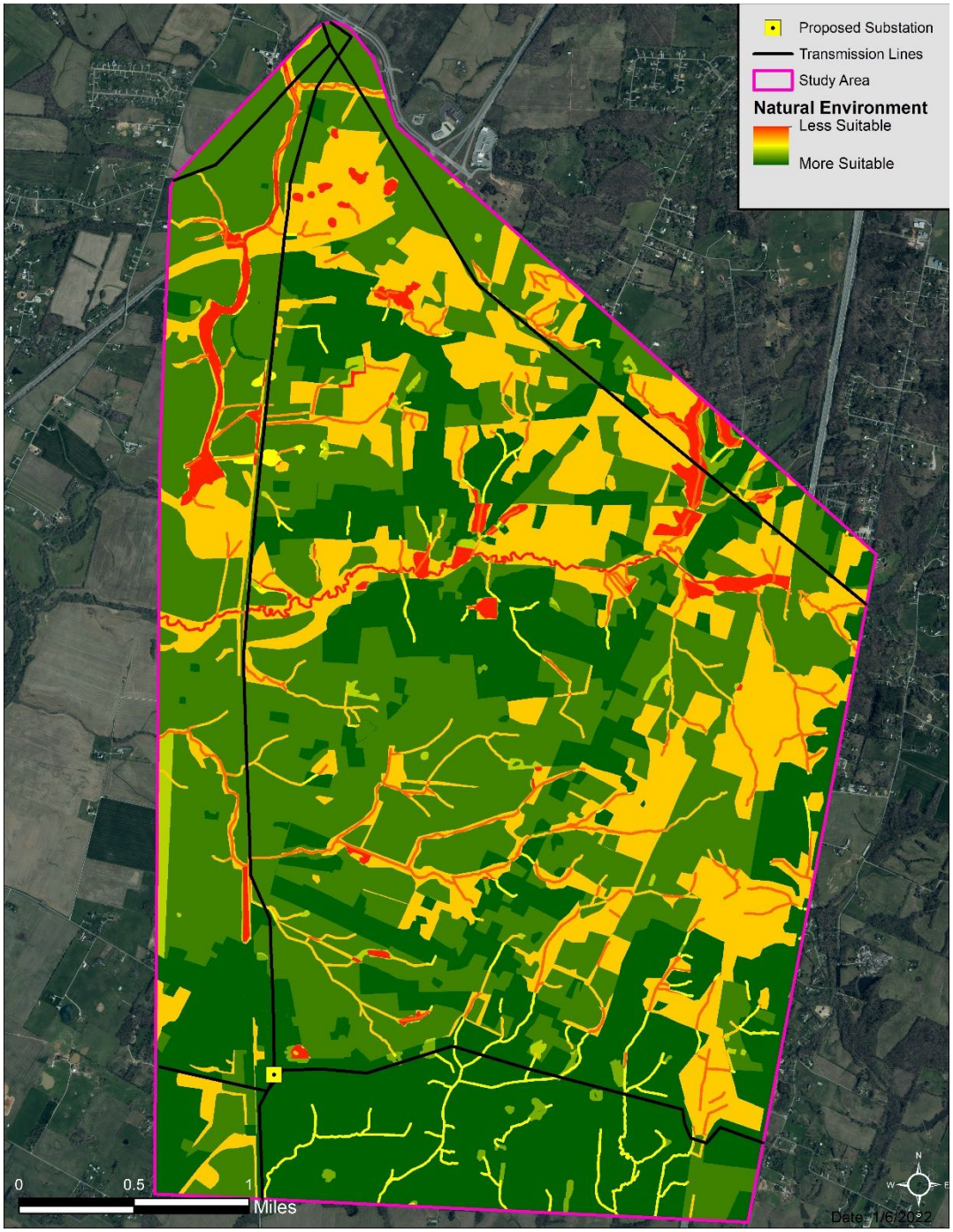


Figure 18 Overall Natural Suitability Grid

The suitability grids for each perspective are created by multiplying the values of the individual layer grids by the weights in the model and then combining them to create a weighted average suitability grid as shown above.

Engineering Criteria

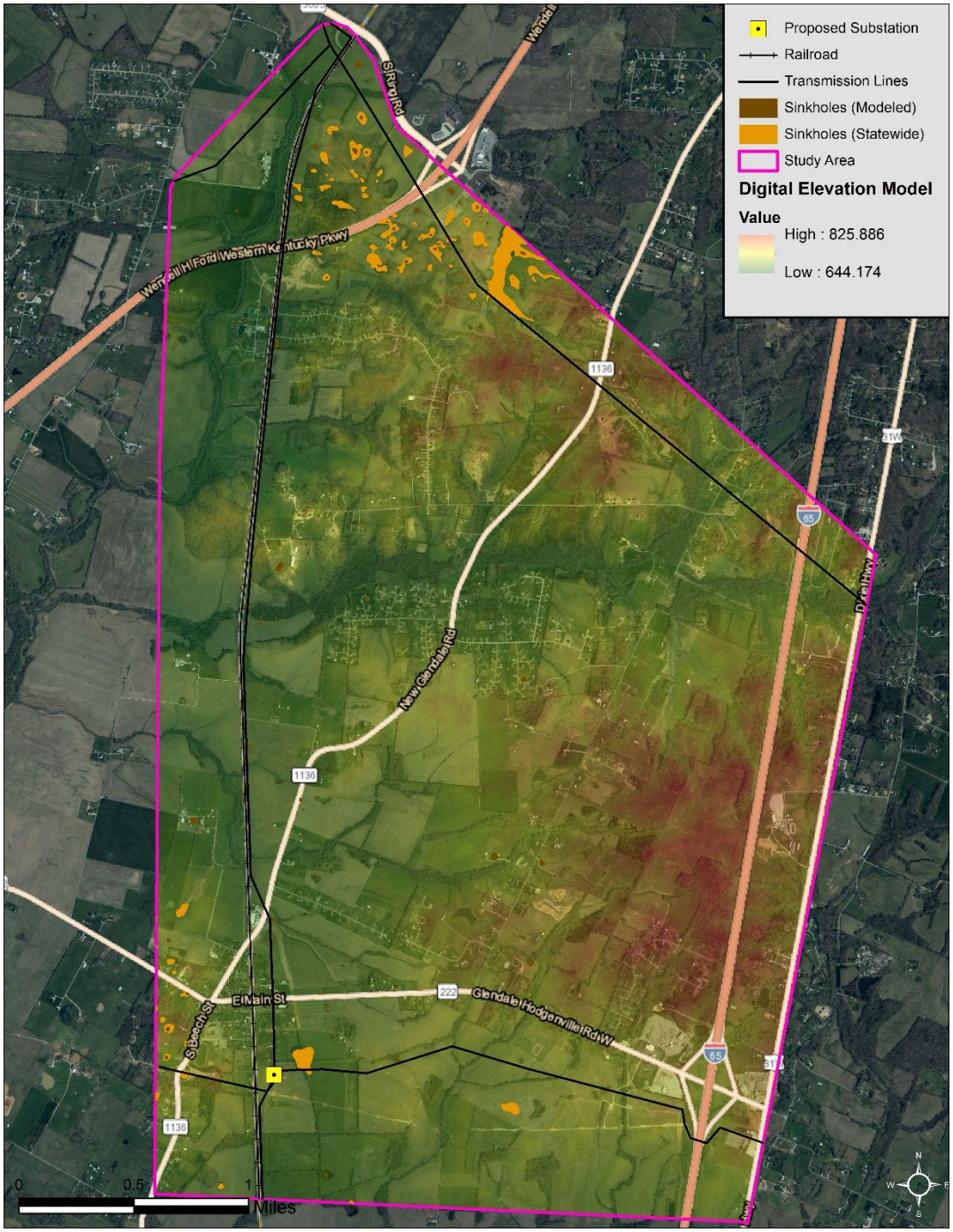


Figure 19 Engineering Perspective Source Data

The Engineering Perspective of the Alternate Corridor Model considers existing linear infrastructure, slope, and sinkholes.

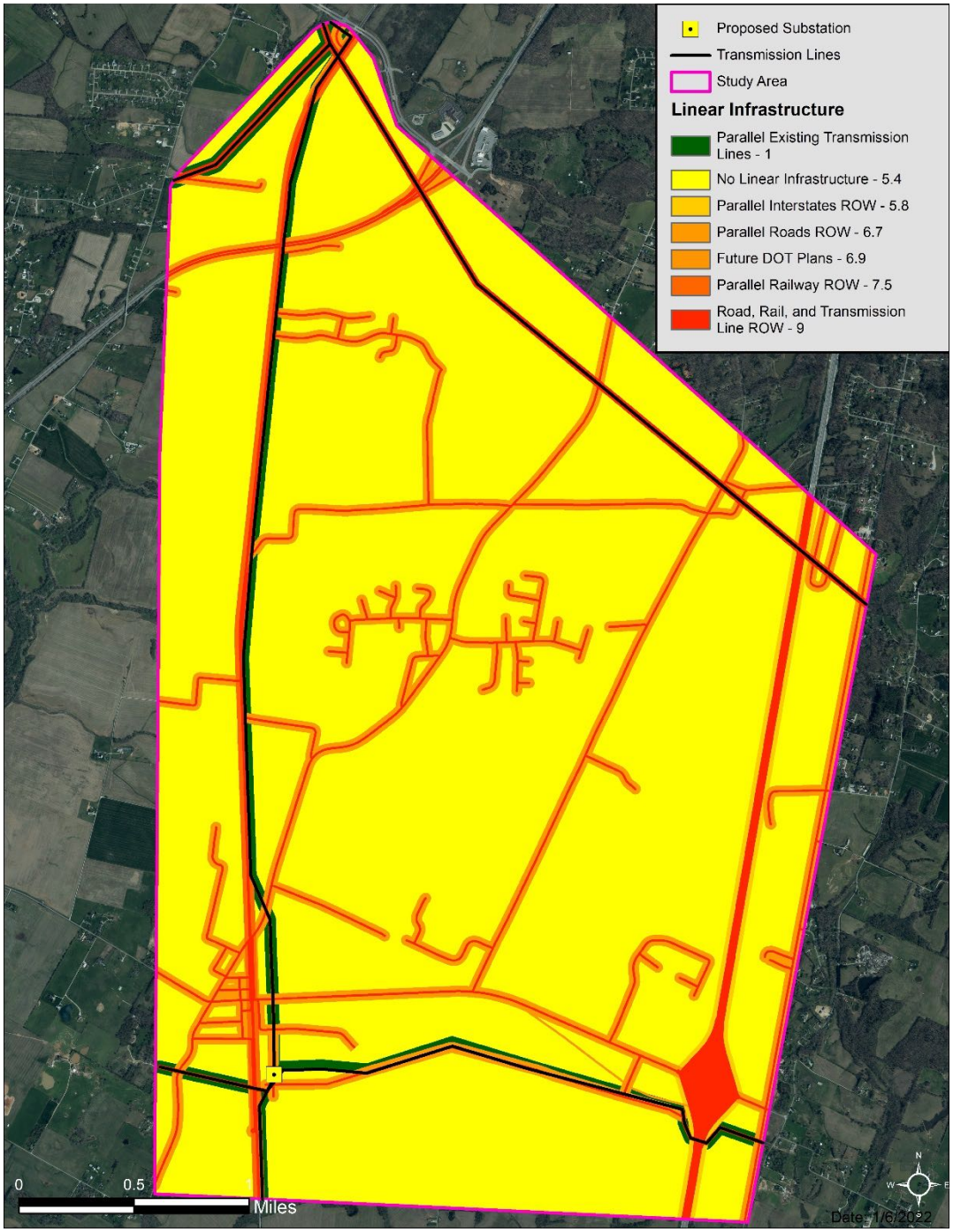


Figure 20 Linear Infrastructure Suitability Grid

The Linear Infrastructure layer considers co locating with roads, railroads, and existing transmission lines. The least suitable is an existing ROW for any linear infrastructure (road, railway, pipeline, or transmission line). Parallel transmission lines are considered the most suitable areas within this layer. There are no transmission line rebuild opportunities or scenic highways identified within the study area.

Figure 21 Linear Infrastructure Suitability Grid

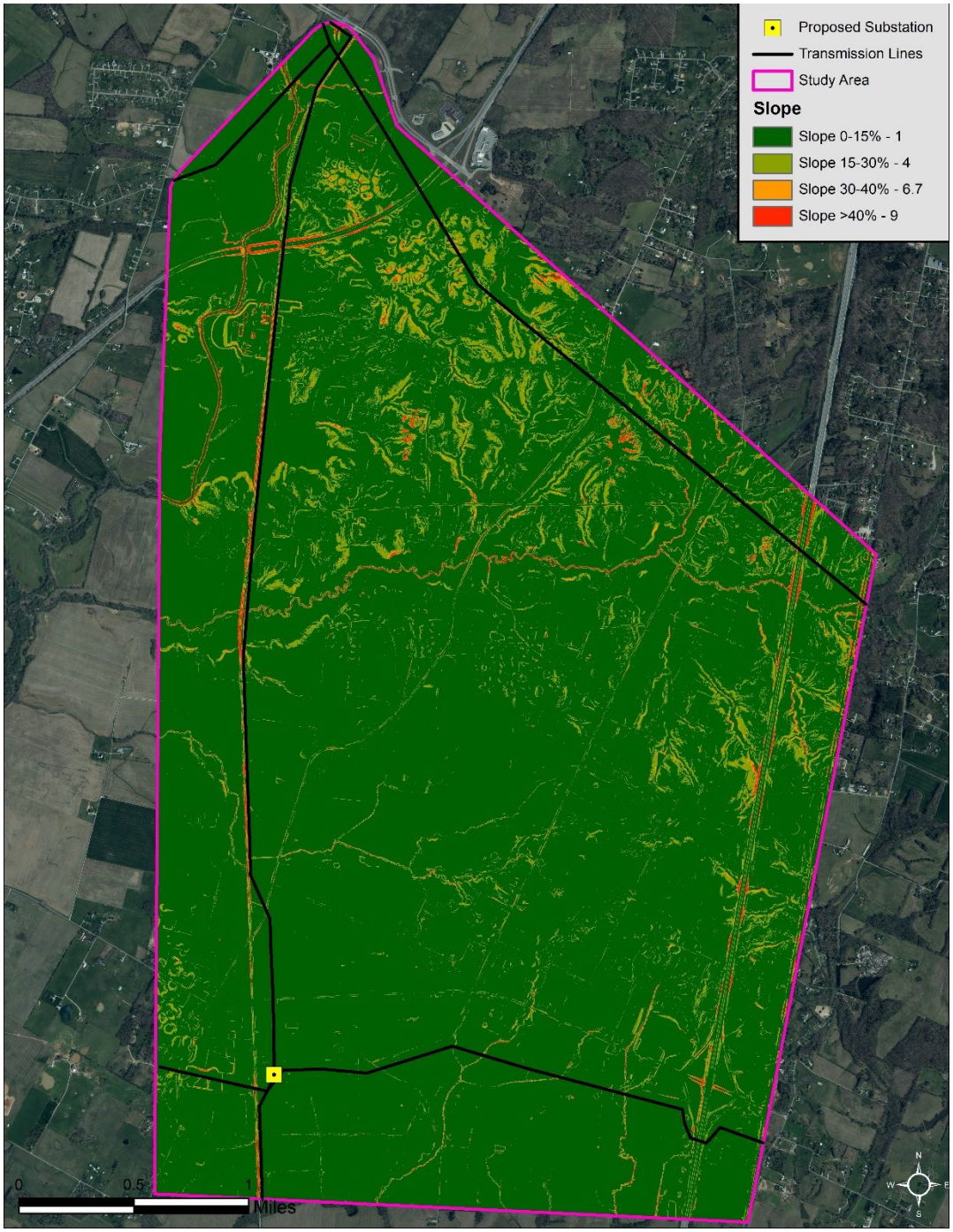


Figure 22 Slope Suitability Grid

The slope layer assesses the suitability in regard to the degree slope of the land. The higher the slope, the less suitable the location. Most of the study area has a slope less than 15%, which is the most suitable location for a transmission line.

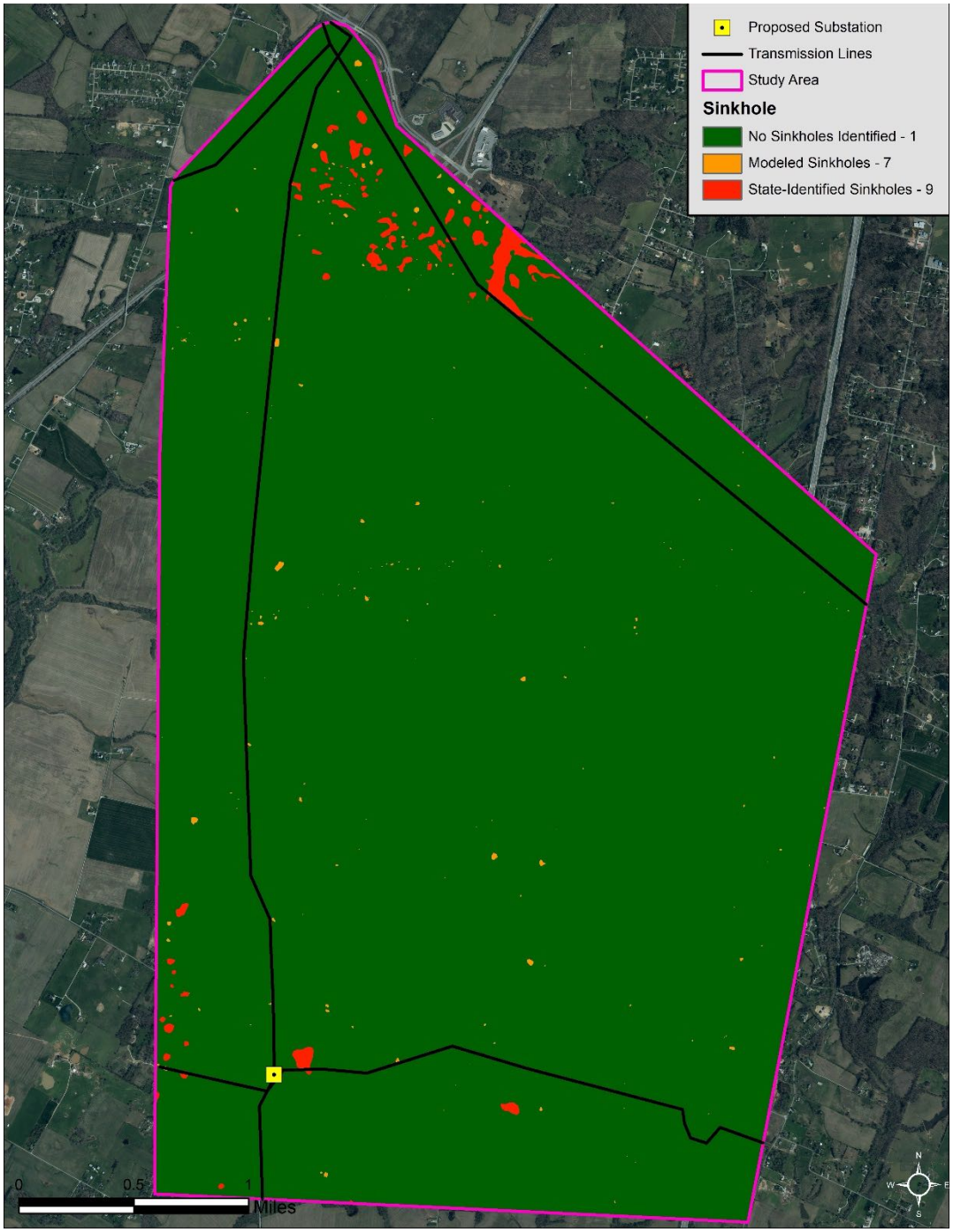


Figure 23 Sinkholes Suitability Grid

Even though it isn't included in the original Kentucky Corridor Model, sinkholes were considered as this project is within a karst area. The State-Identified sinkholes include those identified by the Kentucky Geological Survey and are considered the least suitable. While Modeled Sinkholes were identified using LiDAR data and a methodology developed by the University of Tennessee's Geography Department. The most suitable locations do not have sinkholes.

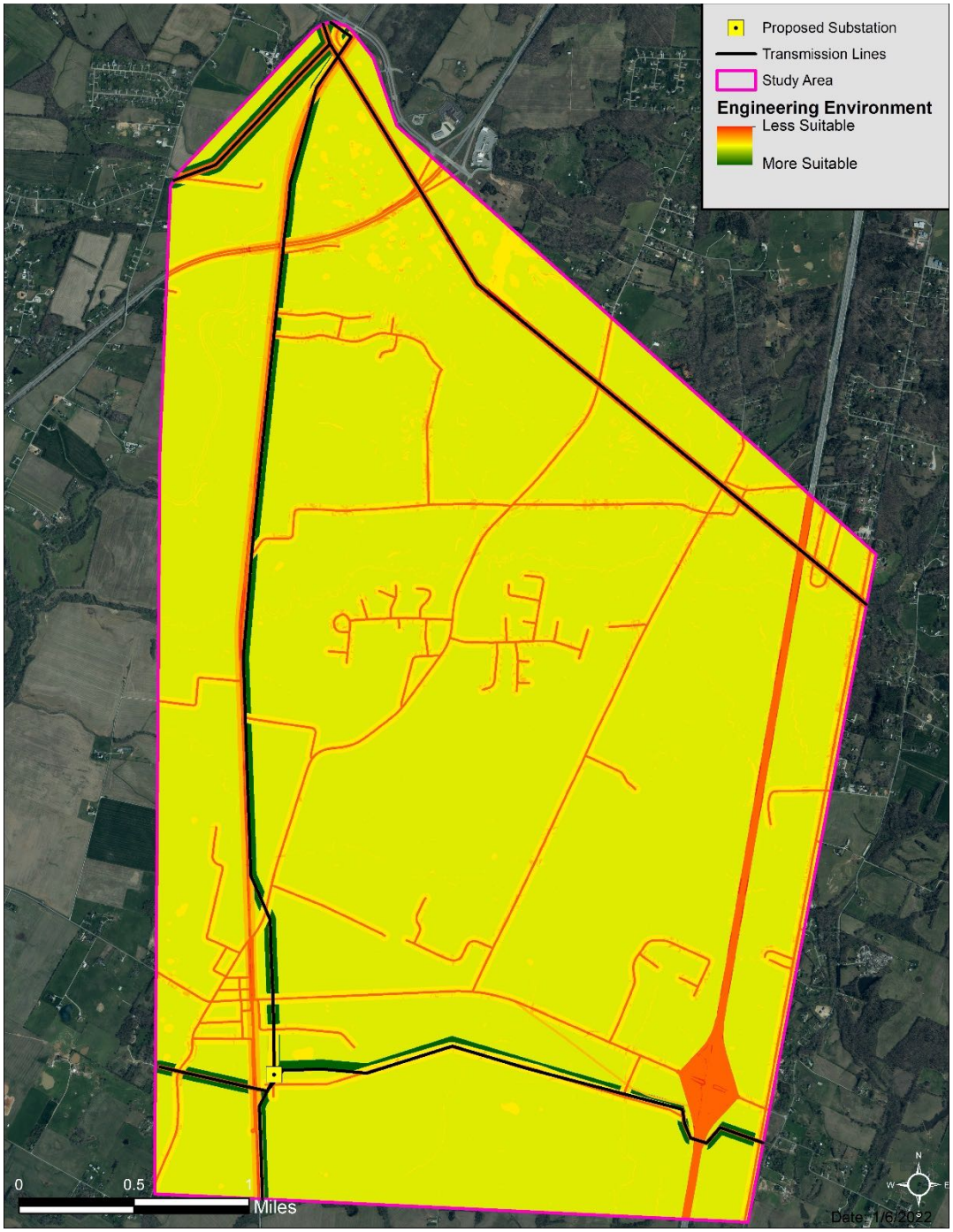


Figure 24 Engineering Suitability Grid

The suitability grids for each perspective are created by multiplying the values of the individual layer grids by the weights in the model and then combining them to create a weighted average suitability grid as shown above.

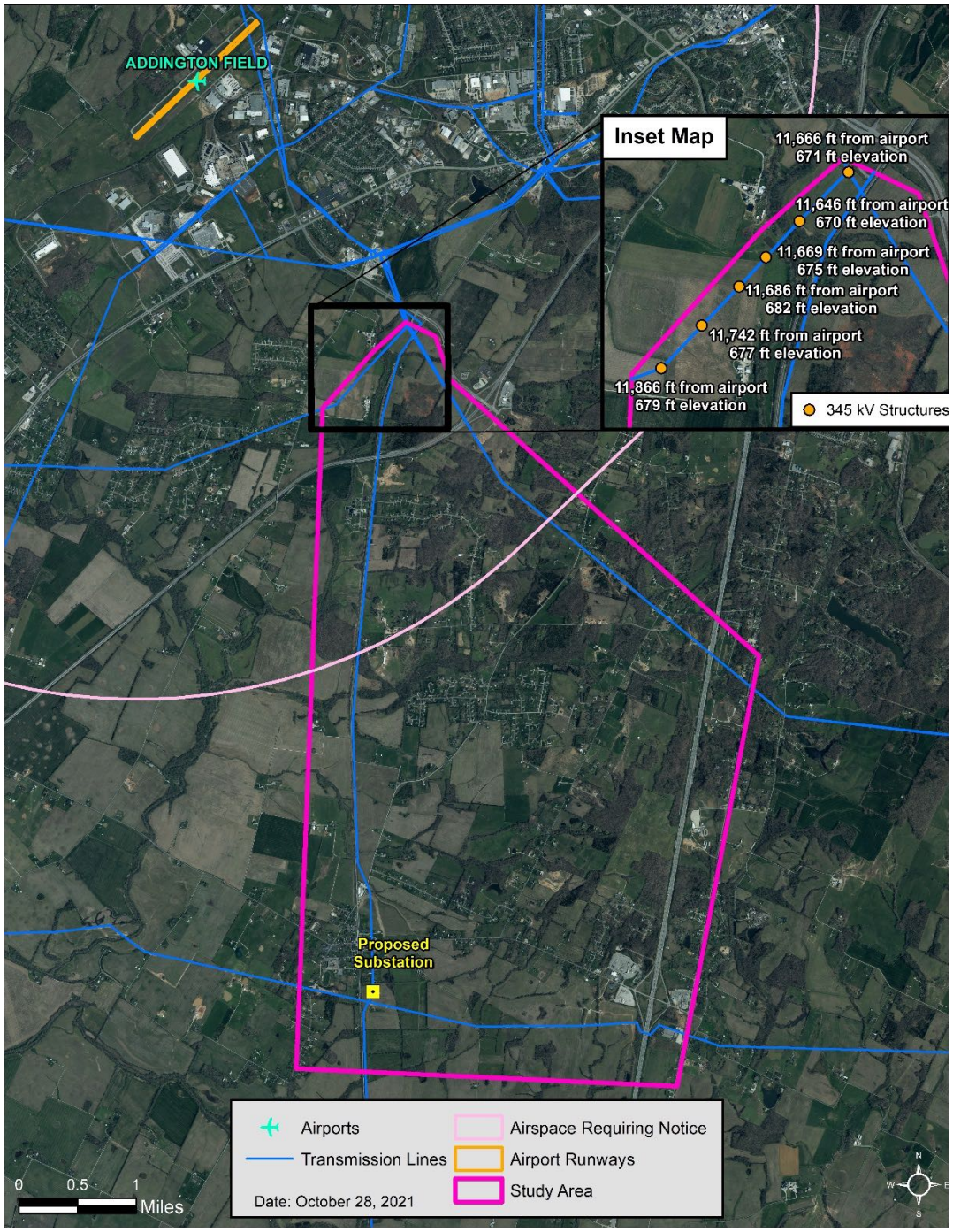


Figure 25 Airspace Requiring Notice Map

Figure 25 depicts airspace requiring notice based on Team Spatial's analysis of FAA regulations. It is recommended that LG&E/KU consult with an airspace expert for detailed analysis.

Built Emphasis Corridor

Figure 26 Built Emphasis Grid

The Built suitability grid is created by putting emphasis (5x) on the built perspective while taking into consideration the Natural and Engineering perspectives (1x).

Figure 27 Built Suitability Grid with the Alternate Corridor

The Built Alternate Corridor was created by calculating the top 3% of routes between the Proposed Ford Glendale 345kV Substation and the Existing LG&E/KU Transmission Lines.

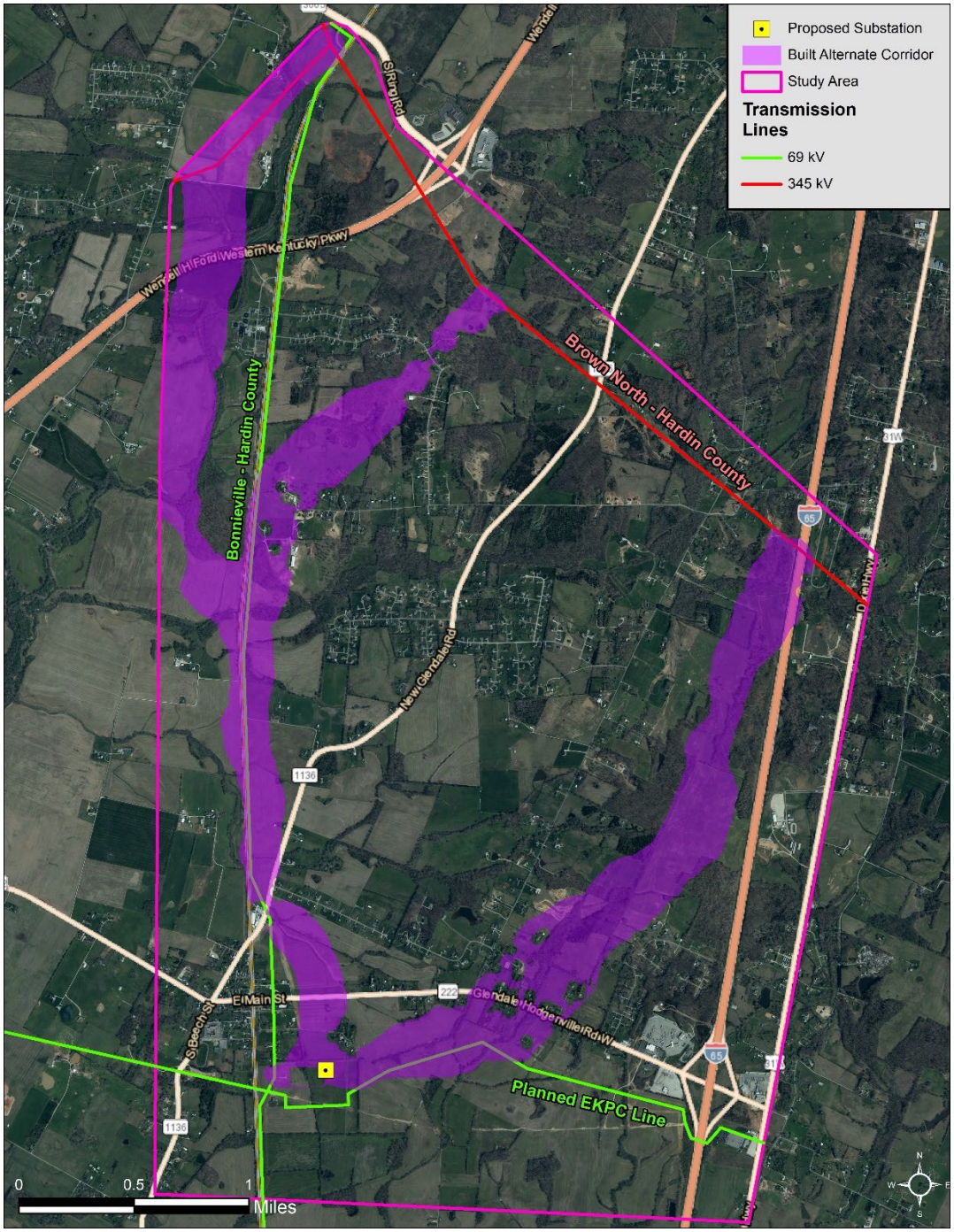


Figure 28 Built Alternate Corridor

Natural Emphasis Corridor

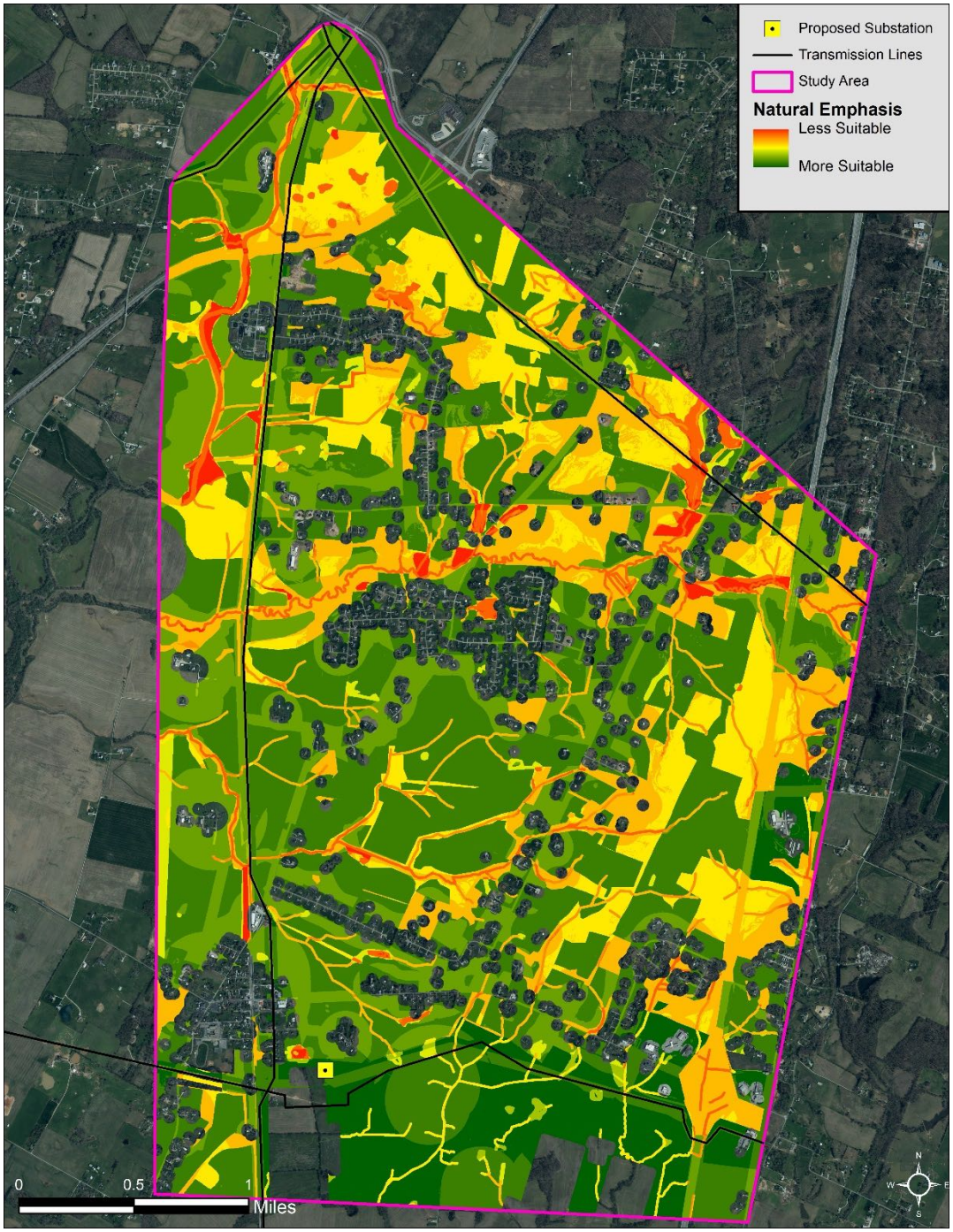


Figure 29 Natural Suitability Grid

The Natural suitability grid is created by putting emphasis (5x) on the natural perspective while taking into consideration the Built and Engineering perspectives (1x).

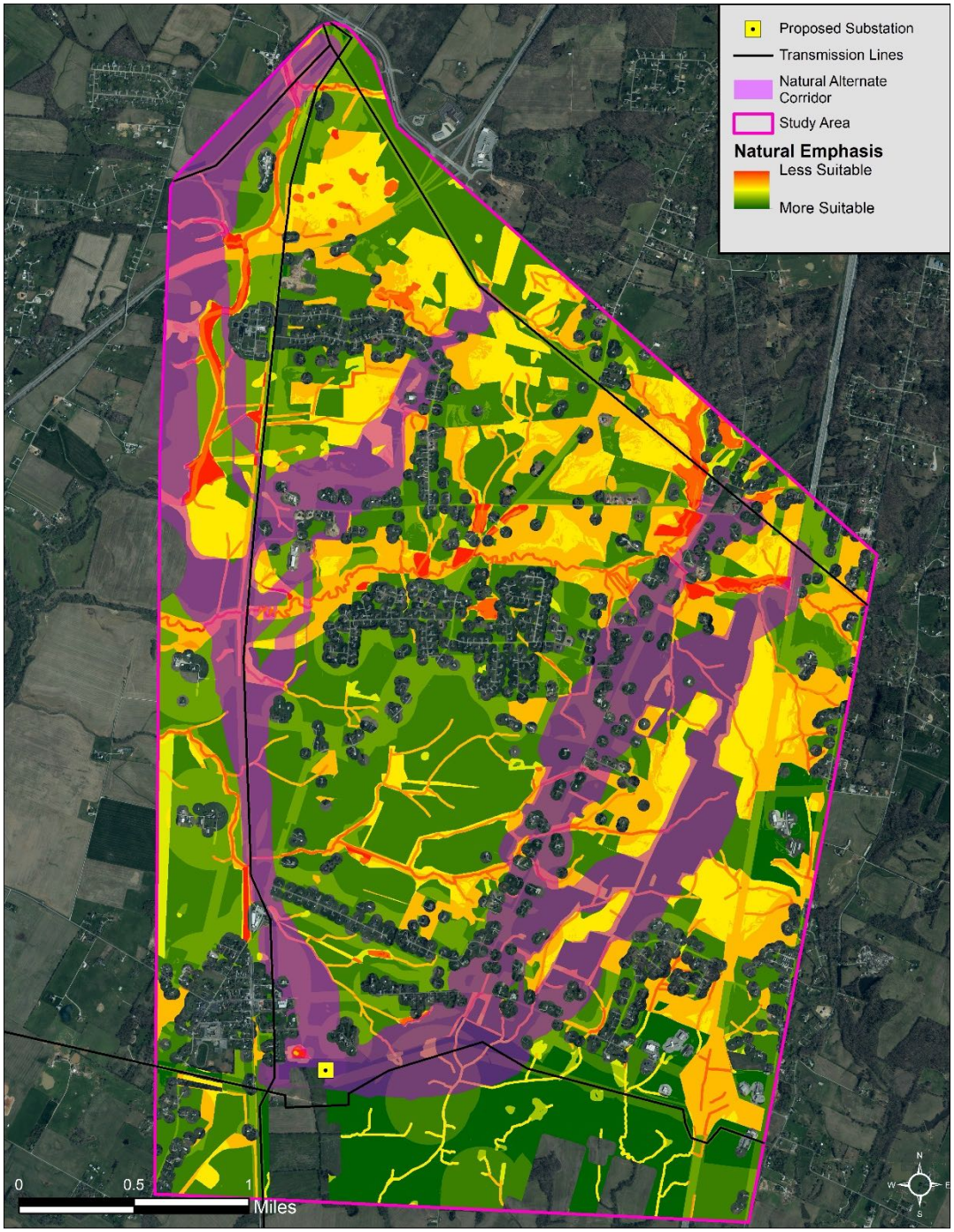


Figure 30 Natural Suitability Grid with the Alternate Corridor

The Natural Alternate Corridor was created by calculating the top 3% of routes between the Proposed Ford Glendale 345kV Substation and the Existing LG&E/KU Transmission Lines.

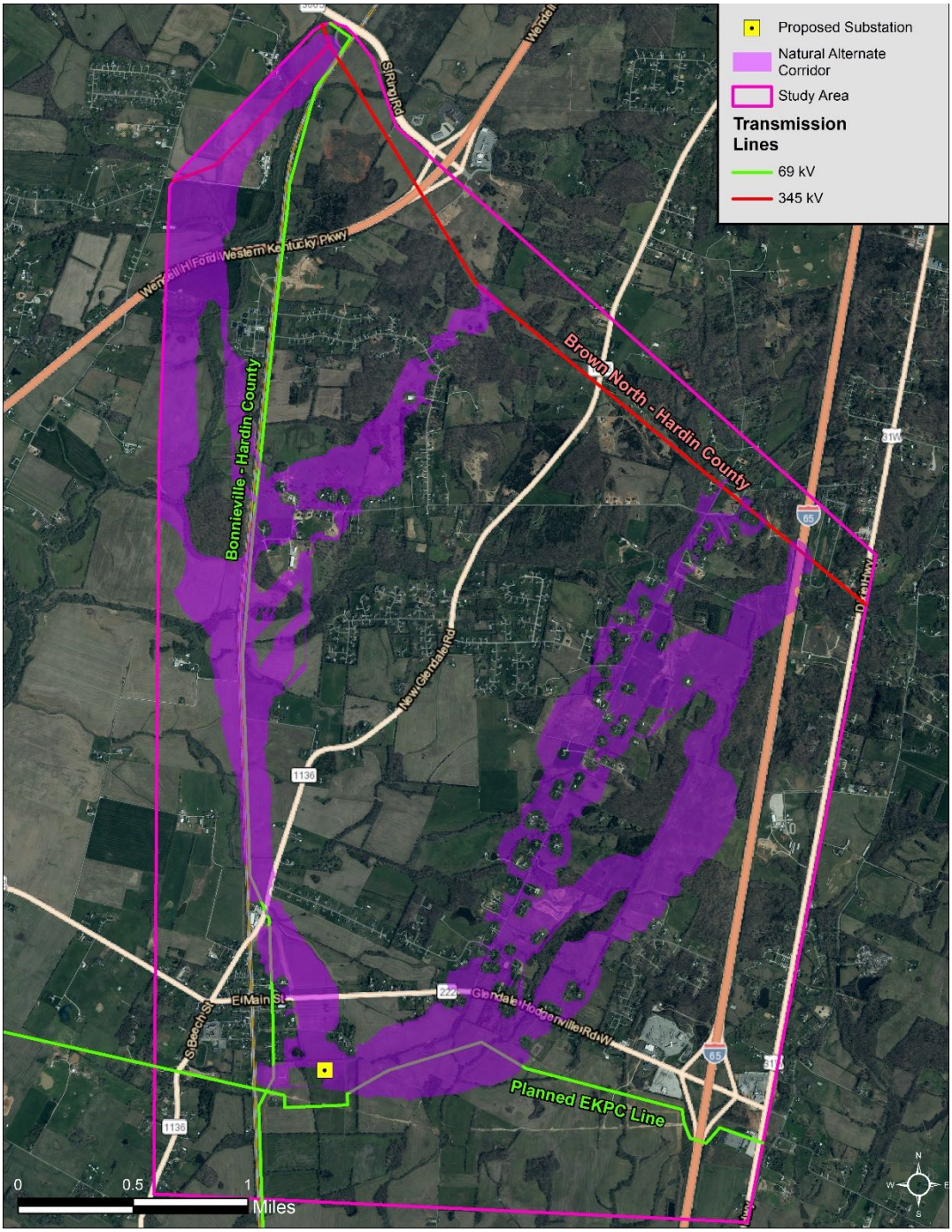


Figure 31 The Natural Alternate Corridor

Engineering Emphasis Corridor

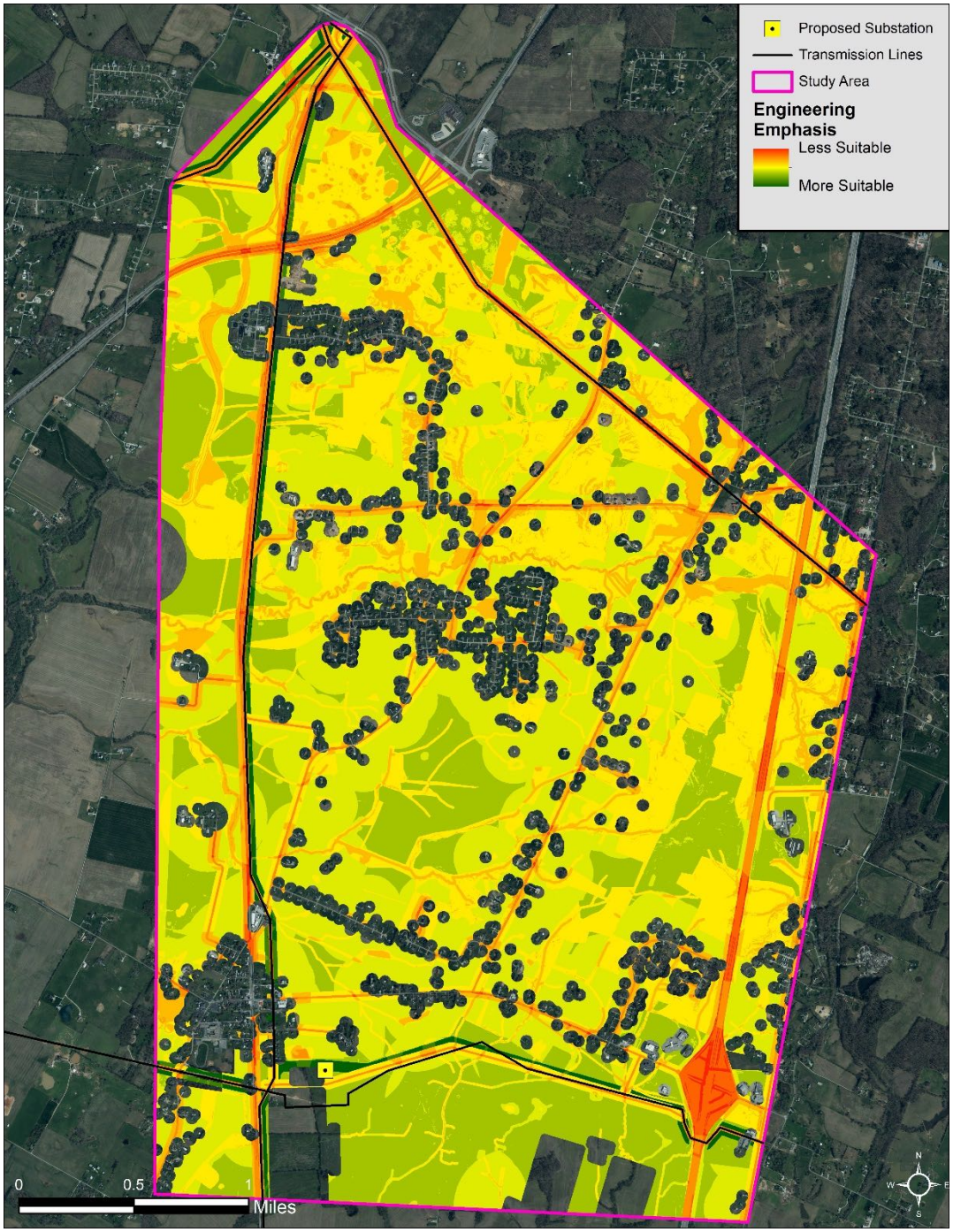


Figure 32 Engineering Suitability Grid

The Engineering suitability grid is created by putting emphasis (5x) on the engineering perspective while taking into consideration the Built and Natural perspectives (1x).

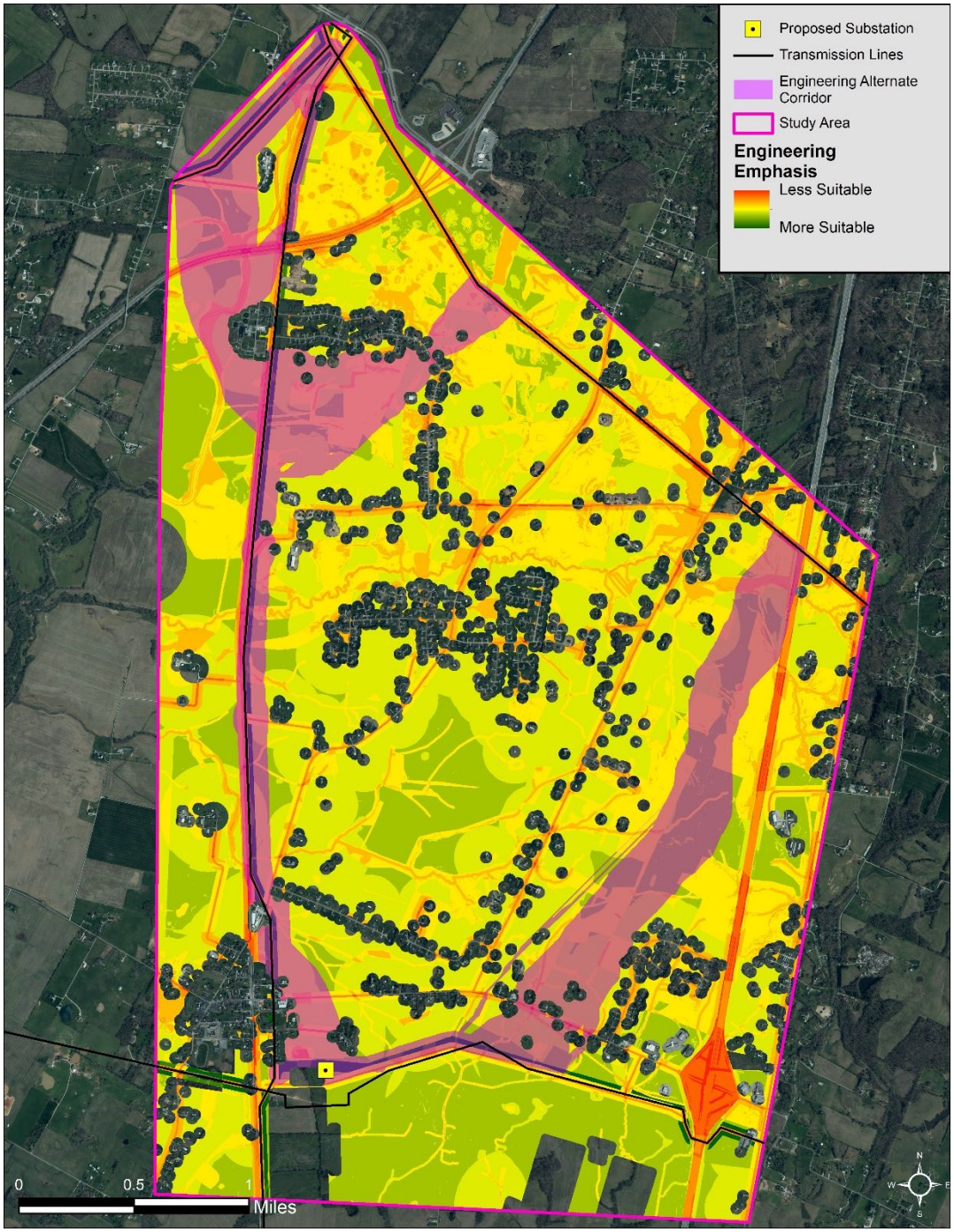


Figure 33 Engineering Suitability Grid with the Alternate Corridor

The Engineering Alternate Corridor was created by calculating the top 3% of routes between the Proposed Ford Glendale 345kV Substation and the Existing LG&E/KU Transmission Lines.

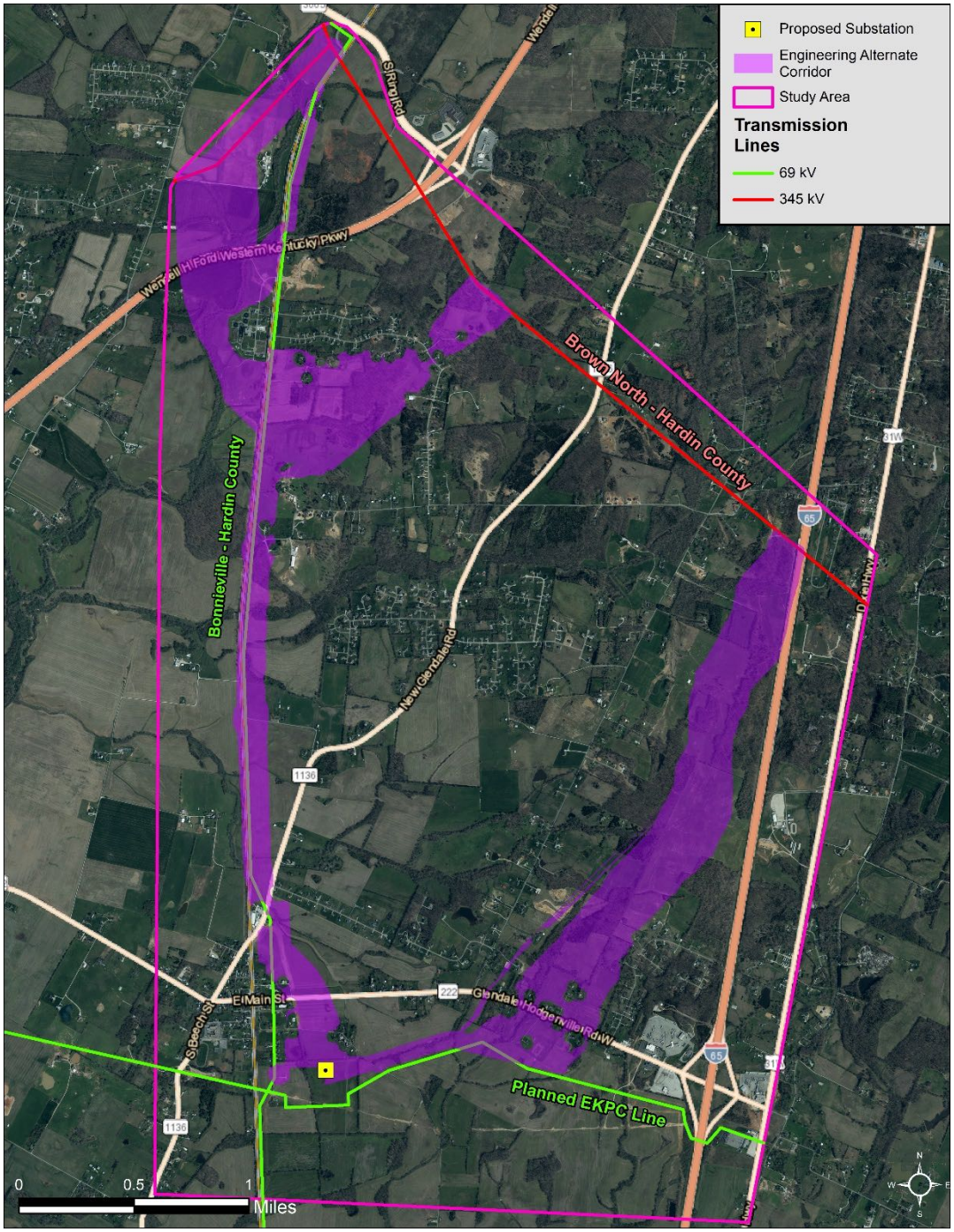


Figure 34 Engineering Alternate Corridor

TEAM SPATIAL

Simple Emphasis Corridor

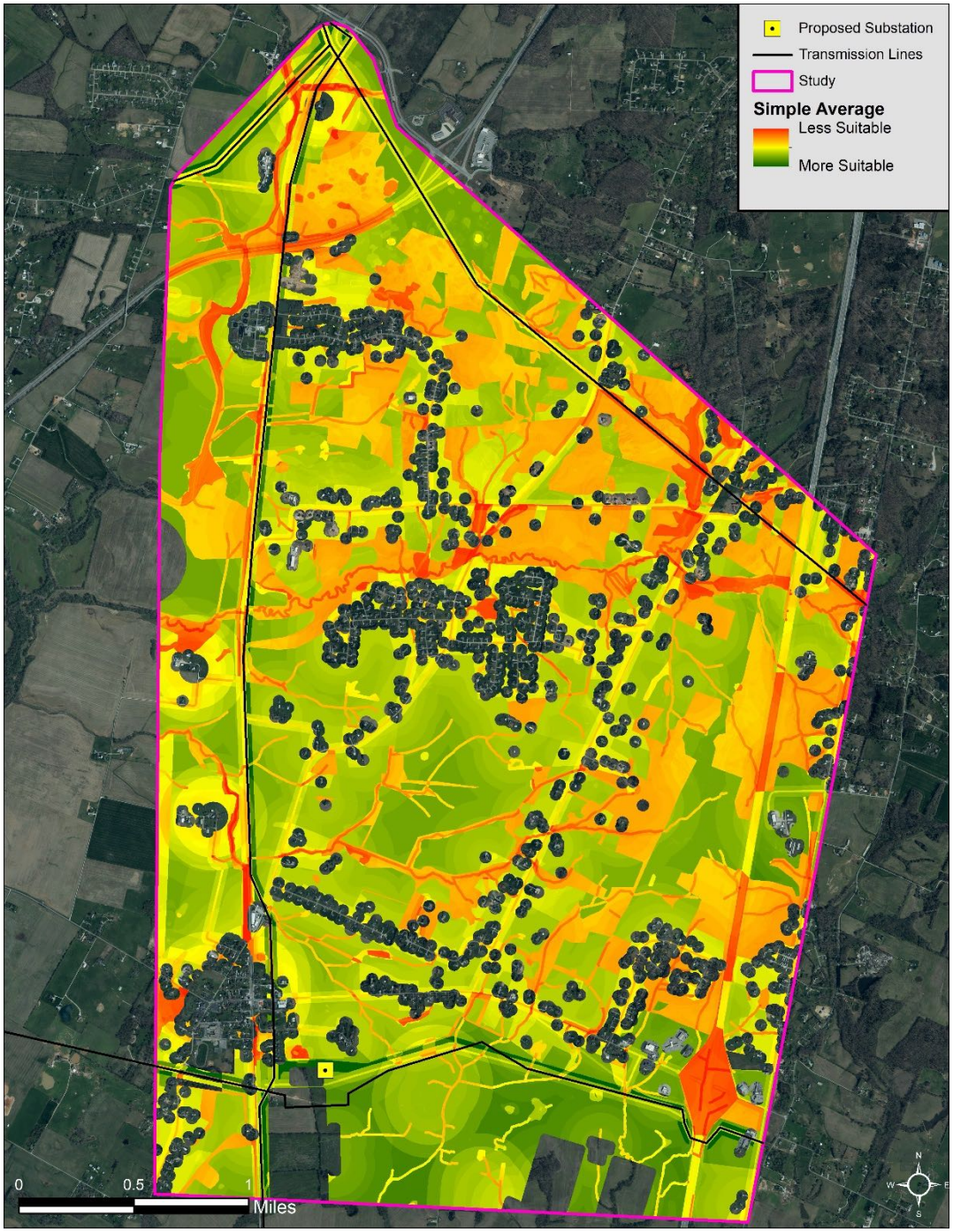


Figure 35 Simple Suitability Grid

The Simple Average suitability grid is created by putting equal emphasis on the Built, Natural, and Engineering perspectives.

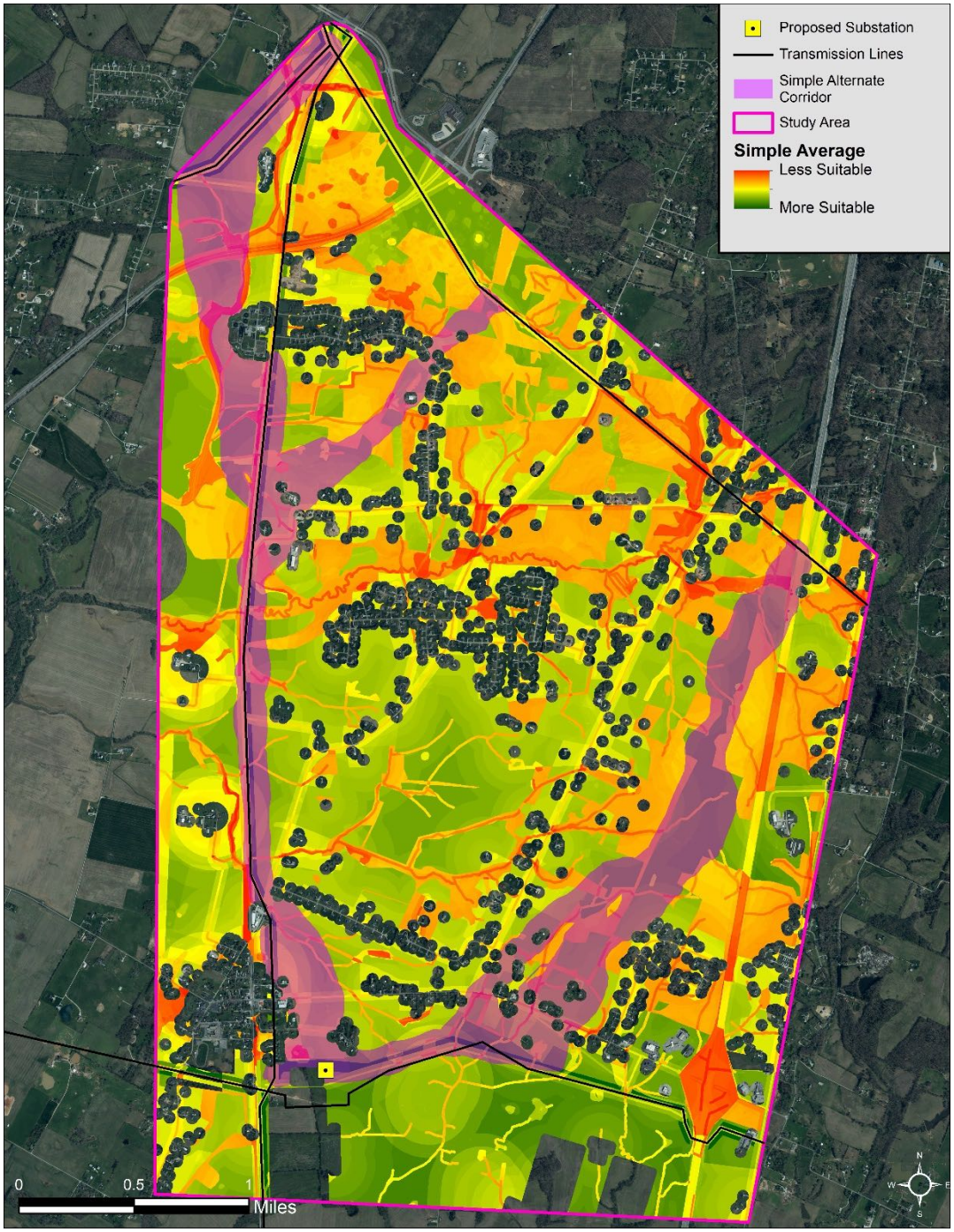


Figure 36 Simple Suitability Grid with the Alternate Corridor

The Simple Average Alternate Corridor was created by calculating the top 3% of routes between the Proposed Ford Glendale 345kV Substation and the Existing LG&E/KU Transmission Lines.

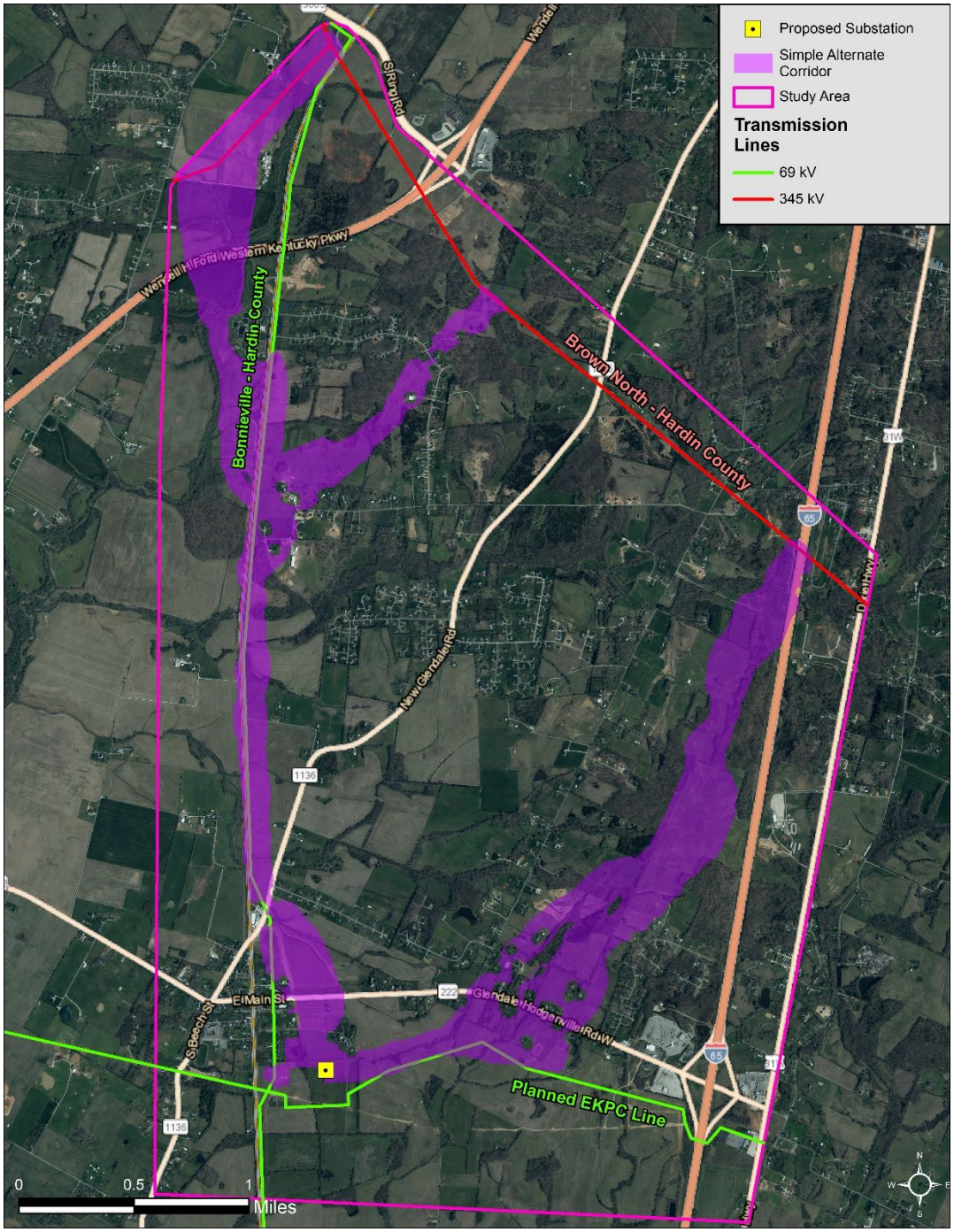


Figure 37 Simple Alternate Corridor

TEAM SPATIAL

Composite Alternative Corridors

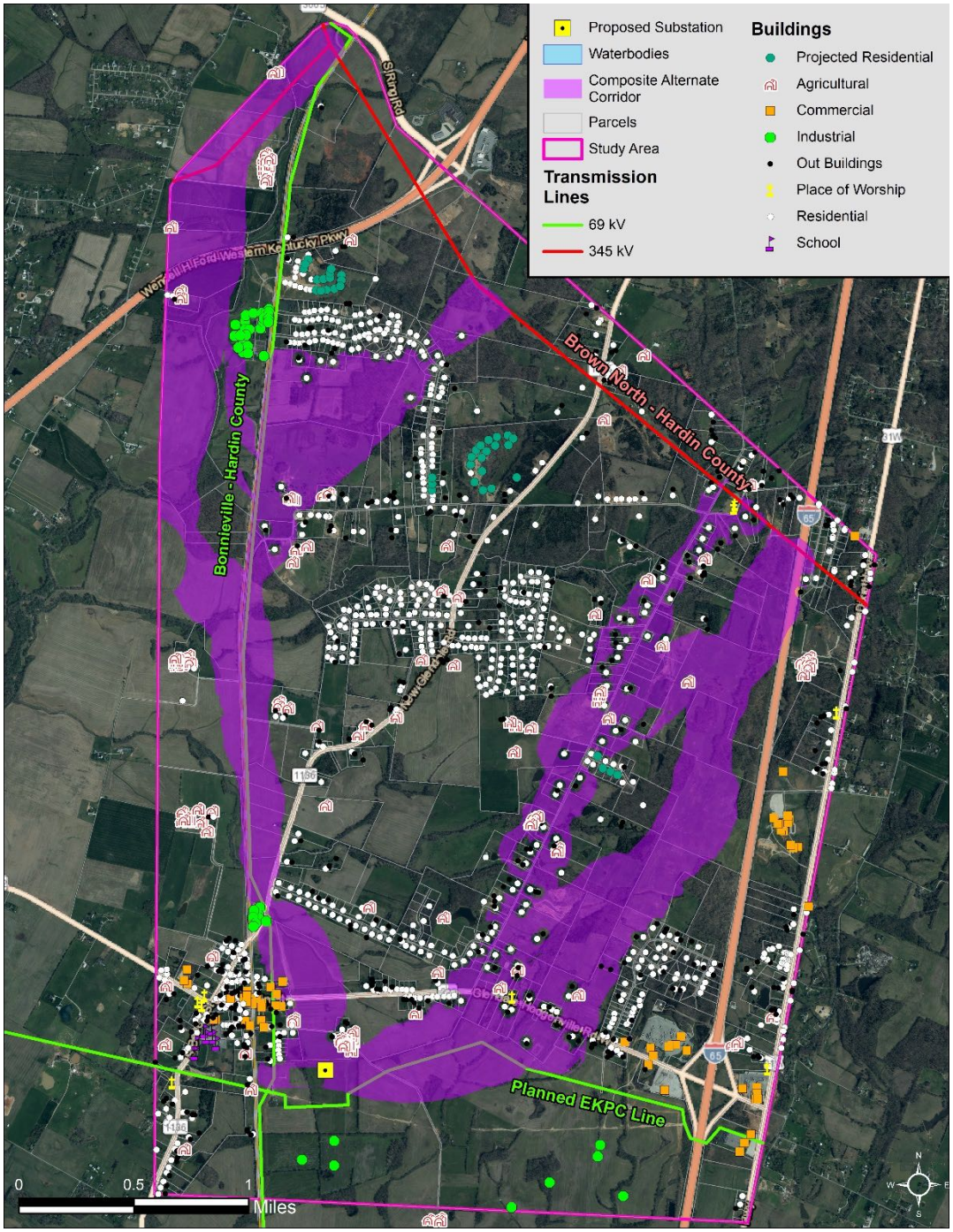


Figure 38 All Alternate Corridors

The above map shows all the alternate corridors combined as a single composite corridor.

TEAM SPATIAL

Western Alternate Routes

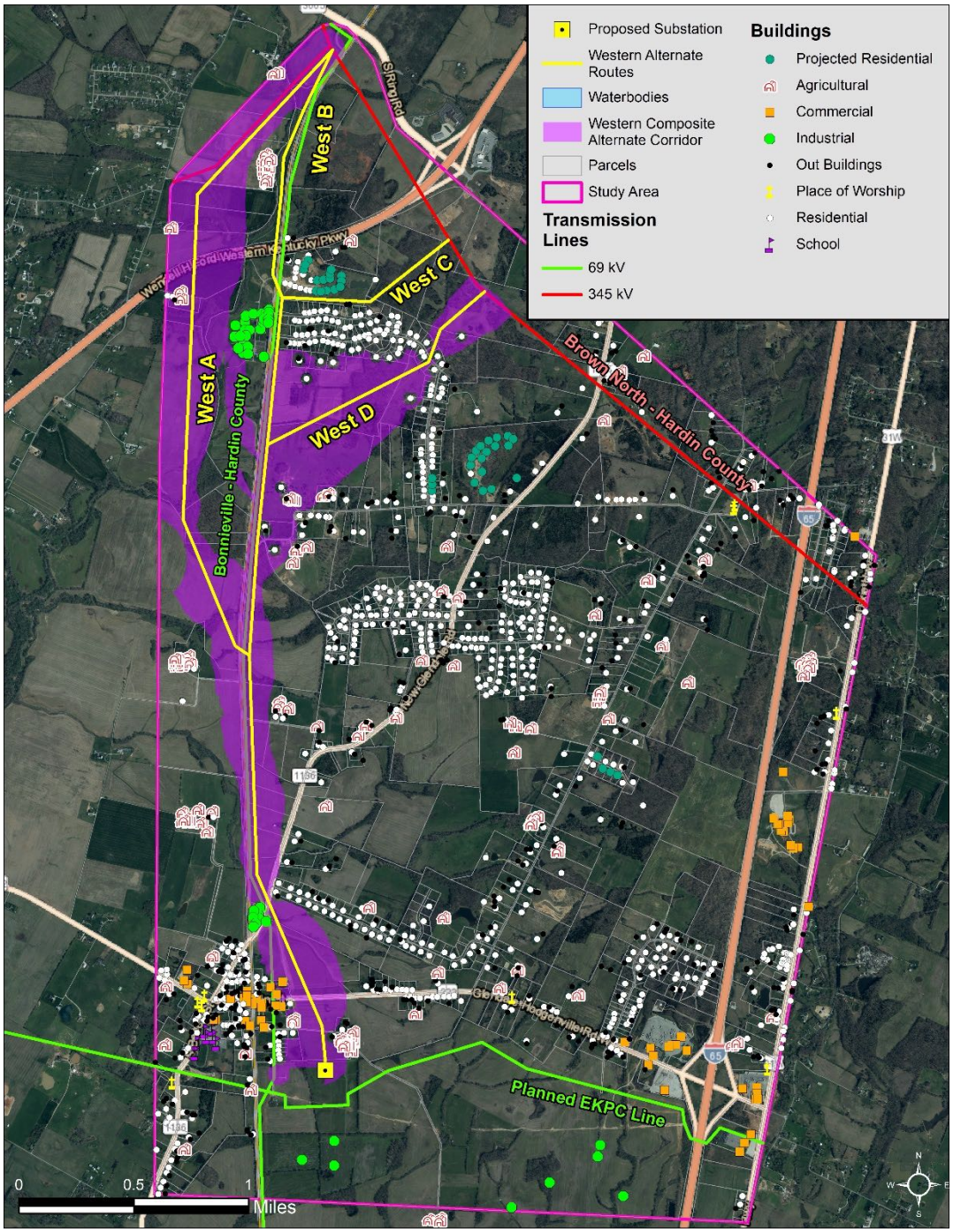


Figure 39 Western Alternate Routes with Composite Corridors

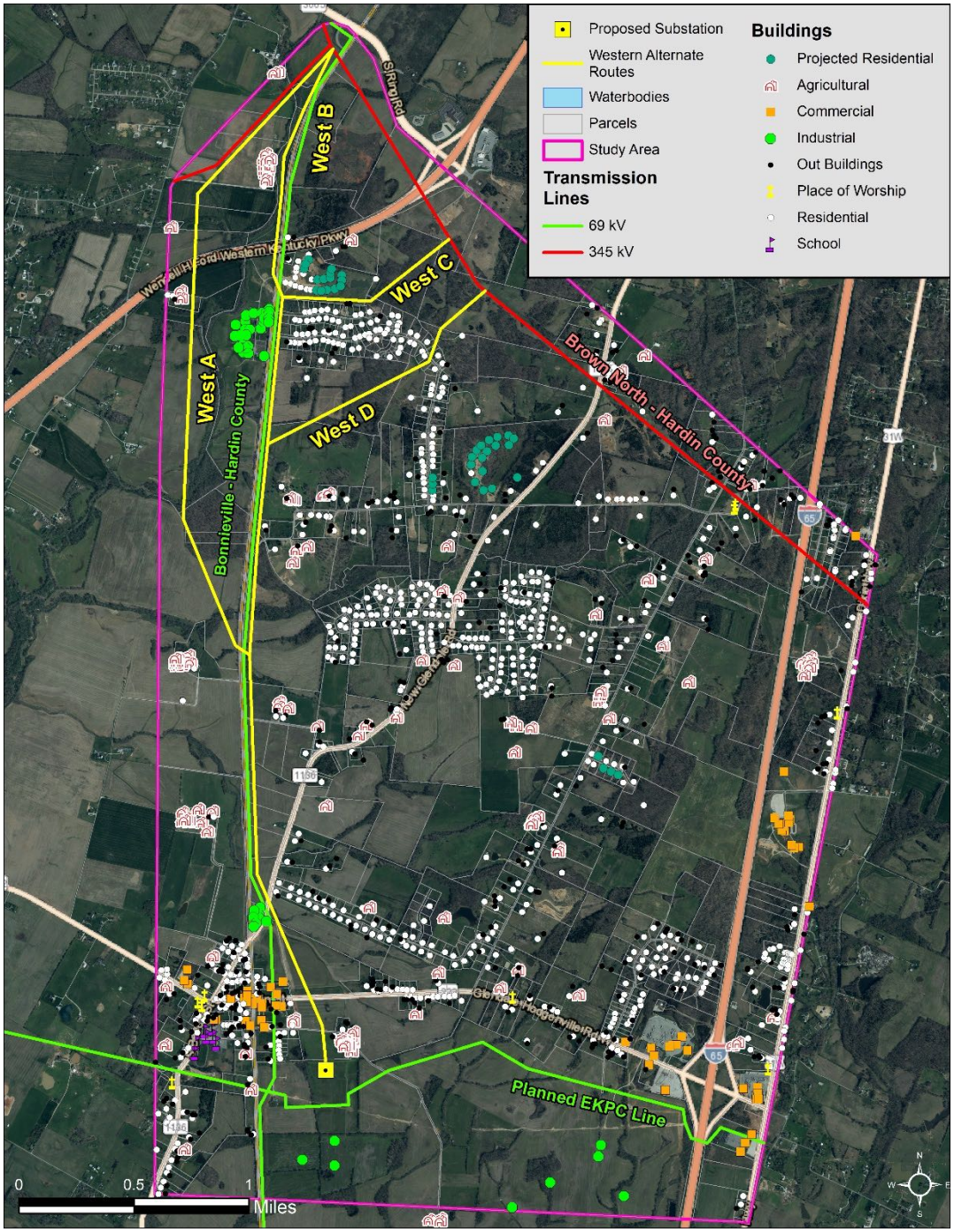


Figure 40 Western Alternate Routes

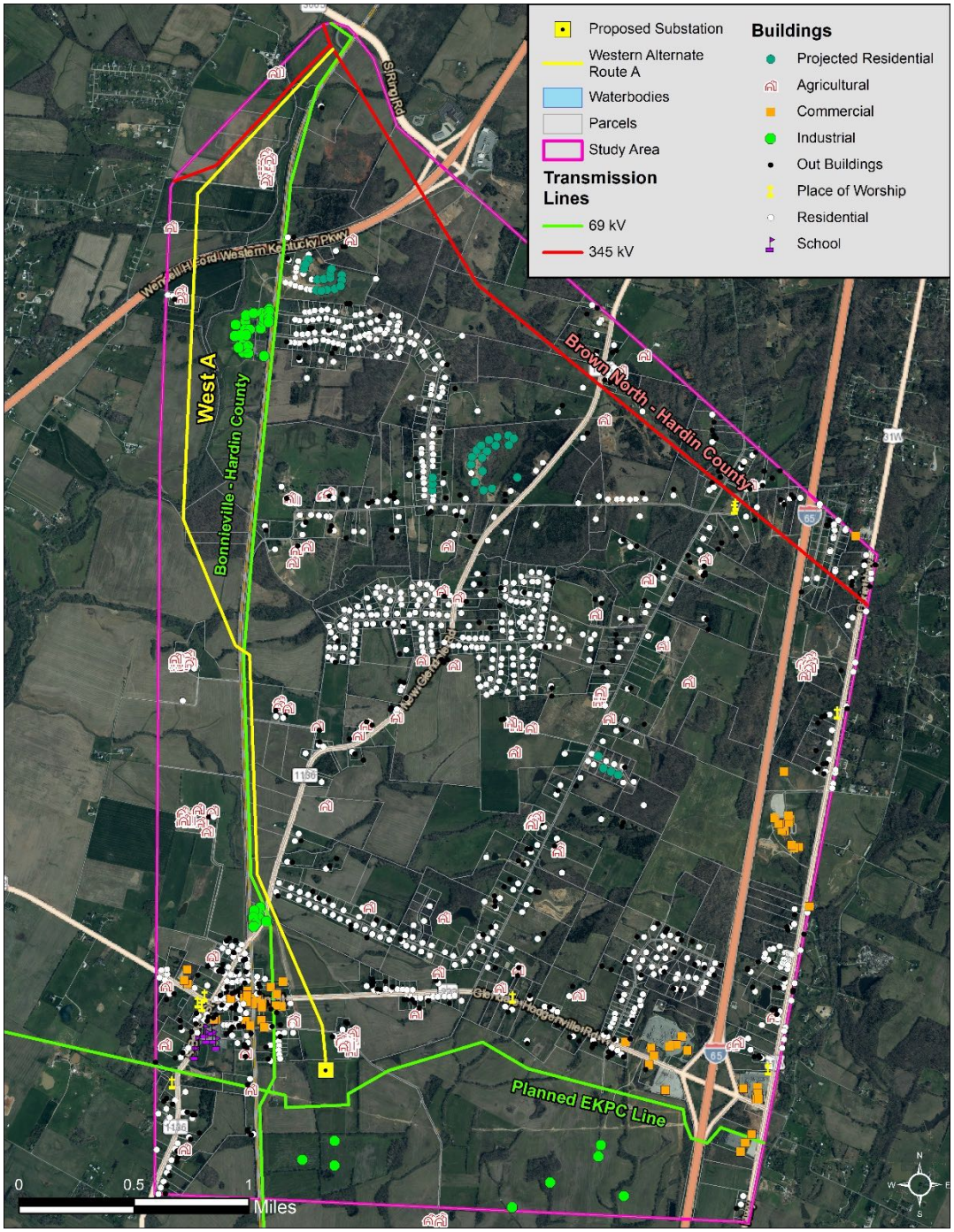


Figure 41 Western Alternate Route A

Western Alternate Route A taps into the Brown North – Hardin County 345 kV Transmission Line west of the Bonnieville – Hardin County 69 kV and goes southwest parallel to the existing 345 kV transmission line. Then it goes south cross country. The route then crosses over the railroad and parallels the Bonnieville – Hardin County 69 kV transmission line. The route turns to the southeast to avoid the downtown Glendale area and then terminate at the proposed substation.

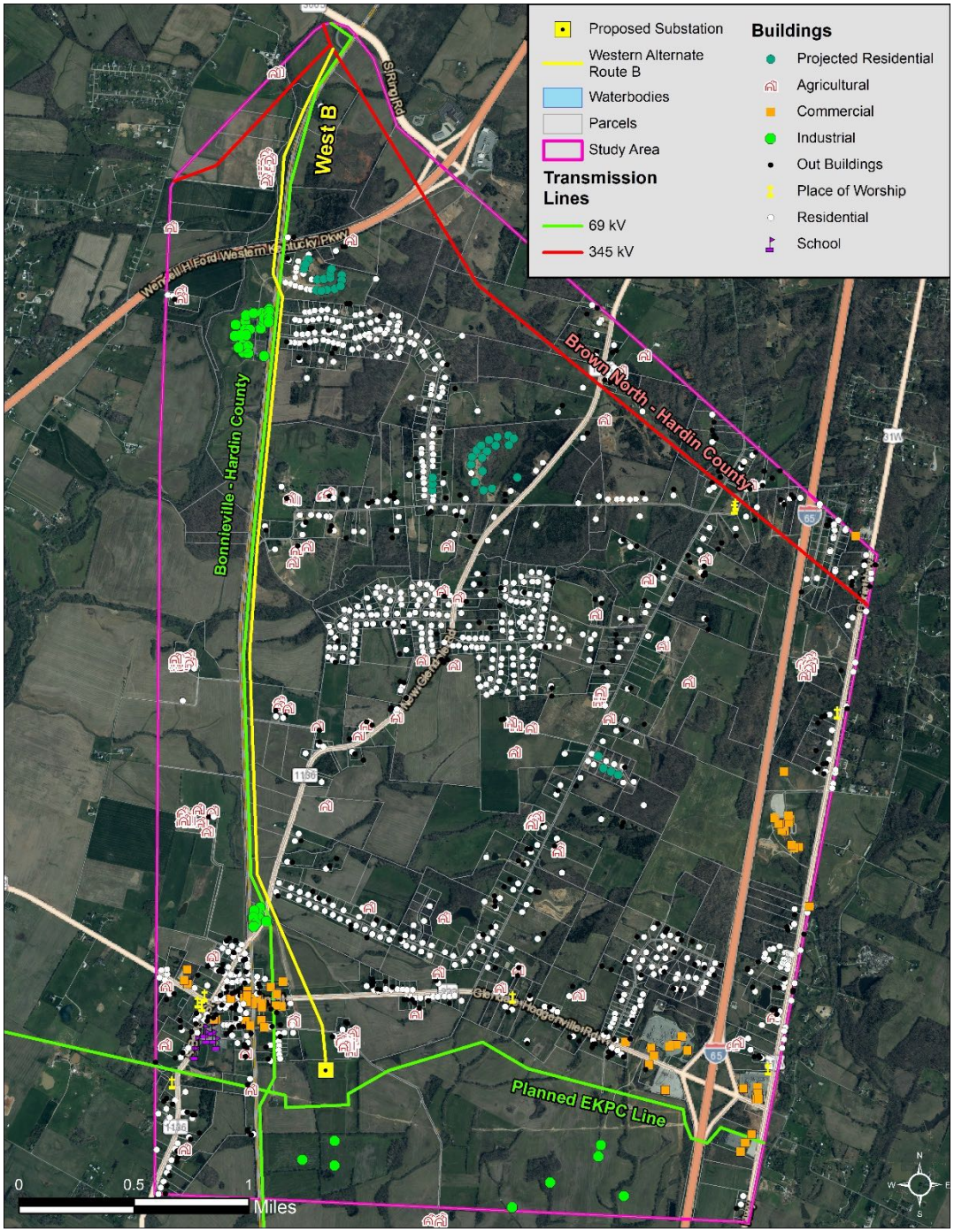


Figure 42 Western Alternate Route B

Western Alternate Route B taps into the Brown North – Hardin County 345 kV Transmission Line west of the Bonnieville – Hardin County 69 kV and goes southwest parallel the road and railroad until it crosses over before the wastewater plant. The route then parallels the Bonnieville – Hardin County 69 kV transmission line going south then turns the southeast to avoid the downtown Glendale area and then terminate at the proposed substation.

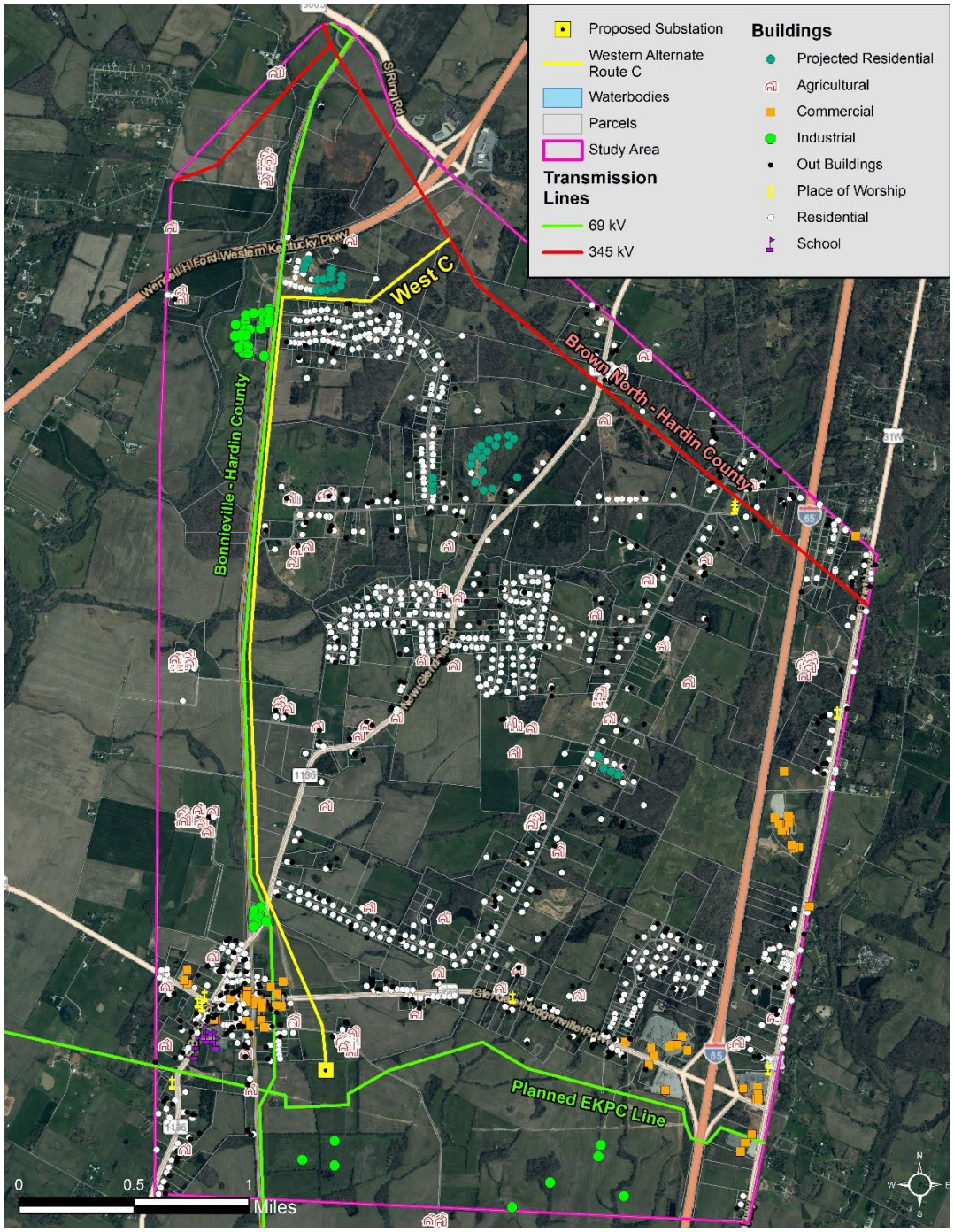


Figure 43 Western Alternate Route C

Western Alternate Route C taps into the Brown North – Hardin County 345 kV Transmission Line east of Western Kentucky Parkway and goes southwest cross country. Then the route goes west towards the Bonnieville – Hardin County 69 kV transmission line. Turning to the south, the route then parallels the Bonnieville – Hardin County 69 kV transmission line until it turns to the southeast to avoid the downtown Glendale area and then terminate at the proposed substation.

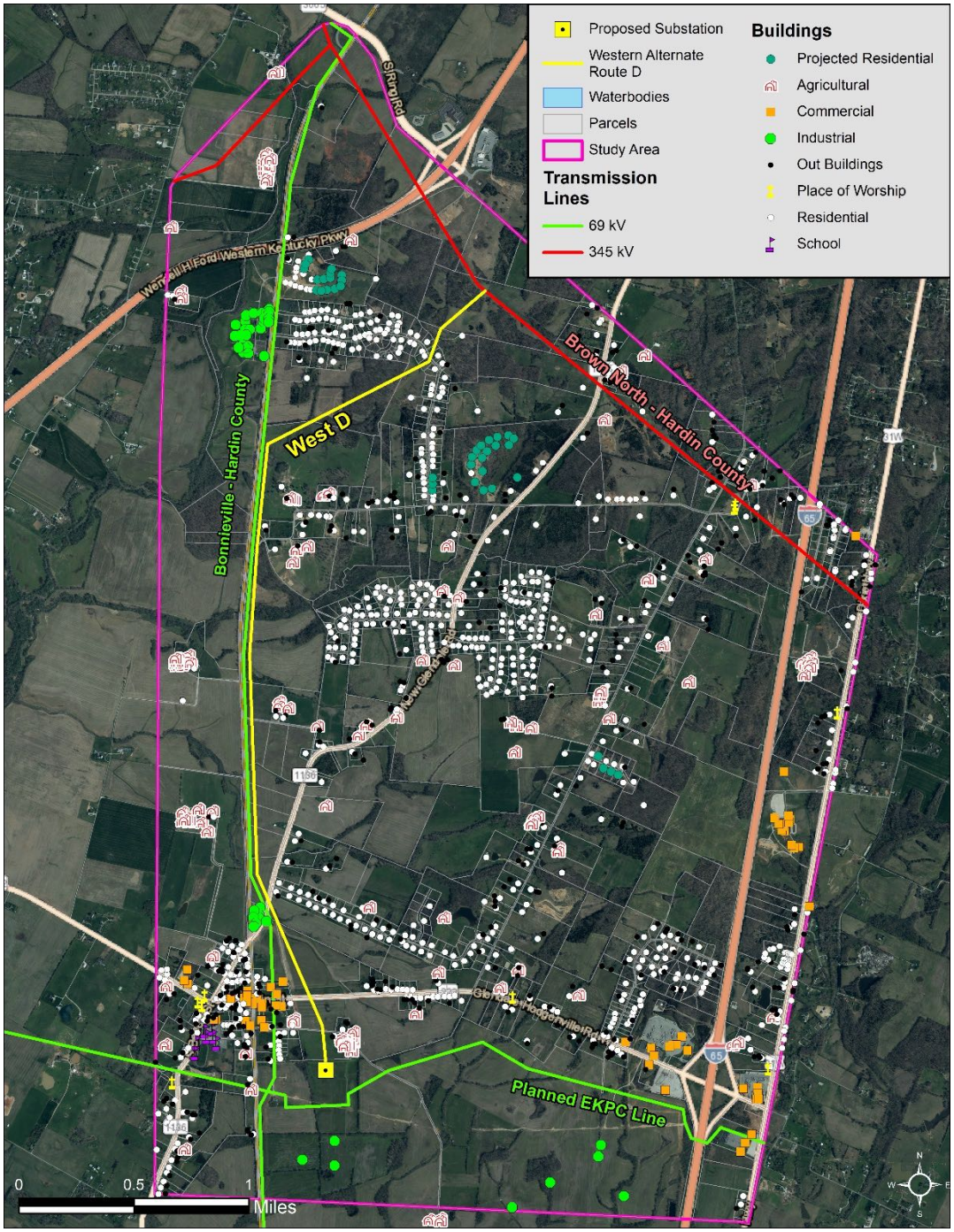


Figure 44 Western Alternate Route D

Western Alternate Route D taps into the Brown North – Hardin County 345 kV Transmission Line east of Western Kentucky Parkway and goes southwest through forested land. The route goes west towards the Bonnieville – Hardin County 69 kV transmission line. Turning to the south, the route then parallels the Bonnieville – Hardin County 69 kV transmission line until it turns to the southeast to avoid the downtown Glendale area and then terminate at the proposed substation.

The Alternate Route Evaluation Model is used by the project team to help identify the top routes. The Alternate Route Evaluation Model leverages weighted metrics to compare the Alternate Routes. The first step of the process is to compile data for each route. The metrics are grouped into three categories: Built, Natural, and Engineering.

The route data (Figure 45) is normalized on a scale from 0 to 1 with 0 being the best and 1 being the worst in each category. This allows comparisons of metrics in different units such as counts, acreage, and dollars. The percent parallel with roads and parallel existing transmission lines are inverted since the higher the number, the better it is for an alternate route.

The criteria are assigned weights based on its relative importance to the siting process. The weight for each criterion is represented by percentages, such as 35% residences within ROW and 10% Potential Historic structures within 600 feet of the Centerline. The weights within a perspective (built, natural, engineering) must total 100%.

The Alternate Route Evaluation Model places five times emphasis on each perspective to produce Built, Natural, and Engineering Emphasis Models. In addition, a Simple Average Model is implemented, which places equal emphasis on the three perspectives.

TEAM SPATIAL

	Route A	Route B	Route C	Route D
Built				
Residences Within the ROW	0	0	0	0
Out Buildings Within the ROW	0	0	2	0
Residences Within 300' of the Centerline	7	13	22	14
Projected Residences Within 300' of the Centerline	0	0	5	0
Commercial and Government Buildings within 300' of the Centerline	2	2	2	2
Industrial Buildings within 300' of the Centerline	4	10	10	4
Agricultural Buildings within 300' of the Centerline	4	4	2	2
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	0	0	0	0
Eligible or Listed Historic structures within 600' of the Centerline	0	1	0	0
Natural				
Tree Clearing (Acres)	20.9	16.9	19.8	20.4
Stream / River Crossings	16	11	10	8
ROW within Stream/River Buffer (AC within 15' of stream)	4.8	4.3	2.1	2.2
Wetlands (Acres)	3.1	2.8	3.6	2.4
Engineering				
Sinkholes within the ROW (AC)	2.8	2.8	4.4	3.1
% Parallel Railroads	20%	75%	57%	46%
% Parallel Existing Transmission Lines	40%	80%	62%	51%
% Parallel Roads	20%	75%	57%	46%
Total Project Costs	$19,469,092	$20,134,072	$17,808,900	$17,688,287
Construction Cost ($2.9M/mile)	$14,261,916	$13,633,698	$12,710,277	$11,923,924
Land Acquisition Cost	$131,296	$475,362	$236,623	$218,363
Angles	$3,640,000	$4,750,000	$4,070,000	$4,730,000
0-3° Angle ($90K)	$90,000	$450,000	$270,000	$180,000
3-26° Angle ($500K)	$2,000,000	$2,000,000	$1,500,000	$1,500,000
26-60° Angle ($750K)	$750,000	$1,500,000	$1,500,000	$2,250,000
26-80° Angle - Ford Property Only ($400K)	$800,000	$800,000	$800,000	$800,000
Clearing Cost ($40K/Acre)	$835,880	$675,013	$792,000	$816,000
Transmission Line Crossing ($600k/crossing)	$ 600,000	$ 600,000	$ -	$ -
Cost of Residence (100k/resident)	$ -	$ -	$ -	$ -
Length (Miles)	4.9	4.7	4.4	4.1
Number of Parcels Crossed	31	32	38	31

Figure 45 Western Routes Data

TEAM SPATIAL

Built	Route A	Route B	Route C	Route D
Residences Within the ROW	0.0	0.0	0.0	0.0
Normalized	-	-	-	-
Out Buildings Within the ROW	0.0	0.0	2.0	0.0
Normalized	0.0	0.0	1.0	0.0
Residences Within 300' of the Centerline	7.0	13.0	22.0	14.0
Normalized	0.0	0.4	1.0	0.5
Projected Residences Within 300' of the Centerline	0.0	0.0	5.0	0.0
Normalized	0.0	0.0	1.0	0.0
Commercial and Government Buildings within 300' of the Centerline	2.0	2.0	2.0	2.0
Normalized	-	-	-	-
Industrial Buildings within 300' of the Centerline	4.0	10.0	10.0	4.0
Normalized	0.0	1.0	1.0	0.0
Agricultural Buildings within 300' of the Centerline	4.0	4.0	2.0	2.0
Normalized	1.0	1.0	0.0	0.0
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	0.0	0.0	0.0	0.0
Normalized	-	-	-	-
Eligible or Listed Historic structures within 600' of the Centerline	0.0	1.0	0.0	0.0
Normalized	0.0	1.0	0.0	0.0
Natural				
Tree Clearing (Acres)	20.9	16.9	19.8	20.4
Normalized	1.0	0.0	0.7	0.9
Stream / River Crossings	16.0	11.0	10.0	8.0
Normalized	1.0	0.4	0.3	0.0
ROW within Stream/River Buffer (AC within 15' of stream)	4.8	4.3	2.1	2.2
Normalized	1.0	0.8	0.0	0.0
Wetlands (Acres)	3.1	2.8	3.6	2.4
Normalized	0.5	0.3	1.0	0.0
Engineering				
Sinkholes within the ROW (AC)	2.8	2.8	4.4	3.1
Normalized	0.0	0.0	1.0	0.2
% Parallel Railroads	0.20	0.75	0.57	0.46
Normalized	0.0	1.0	0.7	0.5
Inverted	1.0	0.0	0.3	0.5
% Parallel Existing Transmission Lines	0.40	0.80	0.62	0.51
Normalized	0.0	1.0	0.6	0.3
Inverted	1.0	0.0	0.4	0.7
% Parallel Roads	0.20	0.75	0.57	0.46
Normalized	0.0	1.0	0.7	0.5
Inverted	1.0	0.0	0.3	0.5
Total Project Costs	$ 19,469,092	$ 20,134,072	$ 17,808,900	$ 17,688,287
Normalized	0.7	1.0	0.0	0.0

Figure 46 Western Routes Normalized Data

TEAM SPATIAL

Built	72%	Route A	Route B	Route C	Route D
Residences Within the ROW	0%	-	-	-	-
Weighted		-	-	-	-
Out Buildings Within the ROW	5%	0.00	0.00	1.00	0.00
Weighted		0.00	0.00	0.05	0.00
Residences Within 300' of the Centerline	50%	0.00	0.40	1.00	0.47
Weighted		0.00	0.20	0.50	0.23
Projected Residences Within 300' of the Centerline	15%	0.00	0.00	1.00	0.00
Weighted		0.00	0.00	0.15	0.00
Commercial and Government Buildings within 300' of the Centerline	5%	-	-	-	-
Weighted		-	-	-	-
Industrial Buildings within 300' of the Centerline	5%	0.00	1.00	1.00	0.00
Weighted		0.00	0.05	0.05	0.00
Agricultural Buildings within 300' of the Centerline	5%	1.00	1.00	0.00	0.00
Weighted		0.05	0.05	0.00	0.00
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	0%	-	-	-	-
Weighted		-	-	-	-
Eligible or Listed Historic structures within 600' of the Centerline	15%	0.00	1.00	0.00	0.00
Weighted		0.00	0.15	0.00	0.00
TOTAL	100%	0.05	0.45	0.75	0.23
WEIGHTED TOTAL		0.04	0.32	0.54	0.17
Natural	14%				
Tree Clearing (Acres)	40%	1.00	0.00	0.73	0.88
Weighted		0.40	0.00	0.29	0.35
Stream / River Crossings	10%	1.00	0.38	0.25	0.00
Weighted		0.10	0.04	0.03	0.00
ROW within Stream/River Buffer (AC within 15' of stream)	10%	1.00	0.83	0.00	0.02
Weighted		0.10	0.08	0.00	0.00
Wetlands (Acres)	40%	0.53	0.29	1.00	0.00
Weighted		0.21	0.12	0.40	0.00
TOTAL	100%	0.81	0.24	0.72	0.35
WEIGHTED TOTAL		0.11	0.03	0.10	0.05
Engineering	14%				
Sinkholes within the ROW (AC)	5%	0.00	0.00	1.00	0.19
Weighted		0.00	0.00	0.05	0.01
% Parallel Railroads	0%	1.00	0.00	0.32	0.53
Weighted		0.00	0.00	0.00	0.00
% Parallel Existing Transmission Lines	30%	1.00	0.00	0.43	0.72
Weighted		0.30	0.00	0.13	0.22
% Parallel Roads	0%	1.00	0.00	0.32	0.53
Weighted		0.00	0.00	0.00	0.00
Total Project Costs	65%	0.73	1.00	0.05	0.00
Weighted		0.47	0.65	0.03	0.00
TOTAL	100%	0.77	0.65	0.21	0.22
WEIGHTED TOTAL		0.11	0.09	0.03	0.03
SUM OF WEIGHTED TOTALS		0.26	0.45	0.67	0.25

Figure 47 Western Built Emphasis

TEAM SPATIAL

Built	14%	Route A	Route B	Route C	Route D
Residences Within the ROW	0%	-	-	-	-
Weighted		-	-	-	-
Out Buildings Within the ROW	5%	0.00	0.00	1.00	0.00
Weighted		0.00	0.00	0.05	0.00
Residences Within 300' of the Centerline	50%	0.00	0.40	1.00	0.47
Weighted		0.00	0.20	0.50	0.23
Projected Residences Within 300' of the Centerline	15%	0.00	0.00	1.00	0.00
Weighted		0.00	0.00	0.15	0.00
Commercial and Government Buildings within 300' of the Centerline	5%	-	-	-	-
Weighted		-	-	-	-
Industrial Buildings within 300' of the Centerline	5%	0.00	1.00	1.00	0.00
Weighted		0.00	0.05	0.05	0.00
Agricultural Buildings within 300' of the Centerline	5%	1.00	1.00	0.00	0.00
Weighted		0.05	0.05	0.00	0.00
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	0%	-	-	-	-
Weighted		-	-	-	-
Eligible or Listed Historic structures within 600' of the Centerline	15%	0.00	1.00	0.00	0.00
Weighted		0.00	0.15	0.00	0.00
TOTAL	100%	0.05	0.45	0.75	0.23
WEIGHTED TOTAL		0.01	0.06	0.11	0.03
Natural	72%				
Tree Clearing (Acres)	40%	1.00	0.00	0.73	0.88
Weighted		0.40	0.00	0.29	0.35
Stream / River Crossings	10%	1.00	0.38	0.25	0.00
Weighted		0.10	0.04	0.03	0.00
ROW within Stream/River Buffer (AC within 15' of stream)	10%	1.00	0.83	0.00	0.02
Weighted		0.10	0.08	0.00	0.00
Wetlands (Acres)	40%	0.53	0.29	1.00	0.00
Weighted		0.21	0.12	0.40	0.00
TOTAL	100%	0.81	0.24	0.72	0.35
WEIGHTED TOTAL		0.58	0.17	0.52	0.25
Engineering	14%				
Sinkholes within the ROW (AC)	5%	0.00	0.00	1.00	0.19
Weighted		0.00	0.00	0.05	0.01
% Parallel Railroads	0%	1.00	0.00	0.32	0.53
Weighted		0.00	0.00	0.00	0.00
% Parallel Existing Transmission Lines	30%	1.00	0.00	0.43	0.72
Weighted		0.30	0.00	0.13	0.22
% Parallel Roads	0%	1.00	0.00	0.32	0.53
Weighted		0.00	0.00	0.00	0.00
Total Project Costs	65%	0.73	1.00	0.05	0.00
Weighted		0.47	0.65	0.03	0.00
TOTAL	100%	0.77	0.65	0.21	0.22
WEIGHTED TOTAL		0.11	0.09	0.03	0.03
SUM OF WEIGHTED TOTALS		0.70	0.32	0.65	0.32

Figure 48 Western Natural Emphasis

TEAM SPATIAL

Built	14%	Route A	Route B	Route C	Route D
Residences Within the ROW	0%	-	-	-	-
Weighted		-	-	-	-
Out Buildings Within the ROW	5%	0.00	0.00	1.00	0.00
Weighted		0.00	0.00	0.05	0.00
Residences Within 300' of the Centerline	50%	0.00	0.40	1.00	0.47
Weighted		0.00	0.20	0.50	0.23
Projected Residences Within 300' of the Centerline	15%	0.00	0.00	1.00	0.00
Weighted		0.00	0.00	0.15	0.00
Commercial and Government Buildings within 300' of the Centerline	5%	-	-	-	-
Weighted		-	-	-	-
Industrial Buildings within 300' of the Centerline	5%	0.00	1.00	1.00	0.00
Weighted		0.00	0.05	0.05	0.00
Agricultural Buildings within 300' of the Centerline	5%	1.00	1.00	0.00	0.00
Weighted		0.05	0.05	0.00	0.00
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	0%	-	-	-	-
Weighted		-	-	-	-
Eligible or Listed Historic structures within 600' of the Centerline	15%	0.00	1.00	0.00	0.00
Weighted		0.00	0.15	0.00	0.00
TOTAL	100%	0.05	0.45	0.75	0.23
WEIGHTED TOTAL		0.01	0.06	0.11	0.03
Natural	**14%**				
Tree Clearing (Acres)	40%	1.00	0.00	0.73	0.88
Weighted		0.40	0.00	0.29	0.35
Stream / River Crossings	10%	1.00	0.38	0.25	0.00
Weighted		0.10	0.04	0.03	0.00
ROW within Stream/River Buffer (AC within 15' of stream)	10%	1.00	0.83	0.00	0.02
Weighted		0.10	0.08	0.00	0.00
Wetlands (Acres)	40%	0.53	0.29	1.00	0.00
Weighted		0.21	0.12	0.40	0.00
TOTAL	100%	0.81	0.24	0.72	0.35
WEIGHTED TOTAL		0.11	0.03	0.10	0.05
Engineering	**72%**				
Sinkholes within the ROW (AC)	5%	0.00	0.00	1.00	0.19
Weighted		0.00	0.00	0.05	0.01
% Parallel Railroads	0%	1.00	0.00	0.32	0.53
Weighted		0.00	0.00	0.00	0.00
% Parallel Existing Transmission Lines	30%	1.00	0.00	0.43	0.72
Weighted		0.30	0.00	0.13	0.22
% Parallel Roads	0%	1.00	0.00	0.32	0.53
Weighted		0.00	0.00	0.00	0.00
Total Project Costs	65%	0.73	1.00	0.05	0.00
Weighted		0.47	0.65	0.03	0.00
TOTAL	100%	0.77	0.65	0.21	0.22
WEIGHTED TOTAL		0.56	0.47	0.15	0.16
SUM OF WEIGHTED TOTALS		0.68	0.56	0.36	0.24

Figure 49 Western Engineering Emphasis

TEAM SPATIAL

Built	33%	Route A	Route B	Route C	Route D
Residences Within the ROW	0%	-	-	-	-
Weighted		-	-	-	-
Out Buildings Within the ROW	5%	0.00	0.00	1.00	0.00
Weighted		0.00	0.00	0.05	0.00
Residences Within 300' of the Centerline	50%	0.00	0.40	1.00	0.47
Weighted		0.00	0.20	0.50	0.23
Projected Residences Within 300' of the Centerline	15%	0.00	0.00	1.00	0.00
Weighted		0.00	0.00	0.15	0.00
Commercial and Government Buildings within 300' of the Centerline	5%	-	-	-	-
Weighted		-	-	-	-
Industrial Buildings within 300' of the Centerline	5%	0.00	1.00	1.00	0.00
Weighted		0.00	0.05	0.05	0.00
Agricultural Buildings within 300' of the Centerline	5%	1.00	1.00	0.00	0.00
Weighted		0.05	0.05	0.00	0.00
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	0%	-	-	-	-
Weighted		-	-	-	-
Eligible or Listed Historic structures within 600' of the Centerline	15%	0.00	1.00	0.00	0.00
Weighted		0.00	0.15	0.00	0.00
TOTAL	100%	0.05	0.45	0.75	0.23
WEIGHTED TOTAL		0.02	0.15	0.25	0.08
Natural	33%				
Tree Clearing (Acres)	40%	1.00	0.00	0.73	0.88
Weighted		0.40	0.00	0.29	0.35
Stream / River Crossings	10%	1.00	0.38	0.25	0.00
Weighted		0.10	0.04	0.03	0.00
ROW within Stream/River Buffer (AC within 15' of stream)	10%	1.00	0.83	0.00	0.02
Weighted		0.10	0.08	0.00	0.00
Wetlands (Acres)	40%	0.53	0.29	1.00	0.00
Weighted		0.21	0.12	0.40	0.00
TOTAL	100%	0.81	0.24	0.72	0.35
WEIGHTED TOTAL		0.27	0.08	0.24	0.12
Engineering	33%				
Sinkholes within the ROW (AC)	5%	0.00	0.00	1.00	0.19
Weighted		0.00	0.00	0.05	0.01
% Parallel Railroads	0%	1.00	0.00	0.32	0.53
Weighted		0.00	0.00	0.00	0.00
% Parallel Existing Transmission Lines	30%	1.00	0.00	0.43	0.72
Weighted		0.30	0.00	0.13	0.22
% Parallel Roads	0%	1.00	0.00	0.32	0.53
Weighted		0.00	0.00	0.00	0.00
Total Project Costs	65%	0.73	1.00	0.05	0.00
Weighted		0.47	0.65	0.03	0.00
TOTAL	100%	0.77	0.65	0.21	0.22
WEIGHTED TOTAL		0.26	0.21	0.07	0.07
SUM OF WEIGHTED TOTALS		0.54	0.44	0.55	0.27

Figure 50 Western Simple Average

TEAM SPATIAL

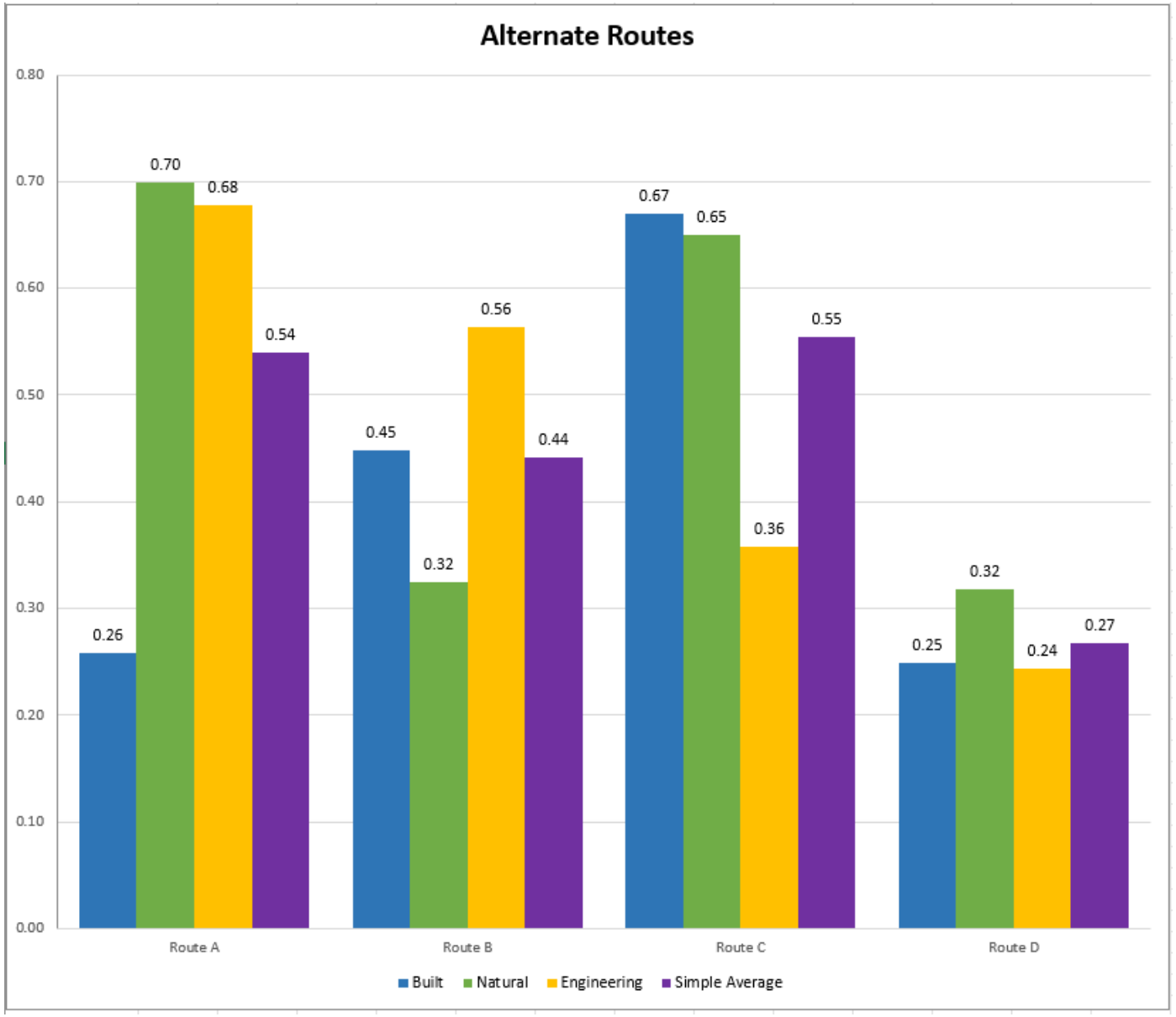


Figure 51 Western Alternate Route Graph

Route A scores the lowest (most suitable) from a Built Perspective. This is because Route A has among the fewest Residences within 300 feet of the centerline, zero Eligible or Listed Historic structures within 600' of the Centerline and the fewest Industrial Buildings within 300' of the Centerline. Route C scores the highest (least suitable) in the Built perspective since it has the most Residences within 300 feet of the centerline, most Projected Residences Within 300' of the Centerline, and Industrial Buildings within 300' of the Centerline.

Routes B and D score the best in the Natural Perspective because both routes have the least interactions in each Natural category. The highest score is Route A because it has the most tree clearing, the most stream/river crossings, and most ROW within Stream/River Buffer (AC within 15' of stream).

In the Engineering perspective, Route D has the lowest score with the lowest cost being the main factor. The cost is less since it is the shortest route and has zero transmission line crossings. Route A has the highest score since it has the 2nd highest Total Project Costs and parallels the least amount of existing transmission lines.

Route D has the lowest Simple Average score because it is the most suitable in two categories, which are the Natural and Engineering Perspectives. Route C has the highest Simple Average because it has the highest score in the Built perspective and 2nd highest score in the Natural perspective.

Route C scores the worst from a Built perspective and the 2nd worst from the Natural perspective, thus Route C was eliminated from further consideration. Route B comes very close to a historic structure and a couple of potential historic structures. In addition, Route B is potentially “unbuildable” due to the retention ponds that the route would traverse. Therefore, Route B was eliminated from further consideration. Routes A and C were taken into the expert judgement route selection phase.

Western Preferred Route Selection

The Expert Judgment Model is used by the transmission line experts on the project team to select the preferred route. The team determined the high-level siting criteria and assigned weights to represent the relative importance. Community Issues was weighed the most at 30% followed by Construction/Maintenance Accessibility and Cost at 25%, Natural Environment Considerations at 10%, and Schedule Delay Risk and Reliability at 5%.

Next the experts ranked each route for each of the criteria. Finally, the weights are applied, and the preferred route has the lowest total score.

For the Community criteria, Route A was given the best score since the route has less residences within 300’ of the centerline. Route D also receives a worse score since it crosses

over two parcels that have residences that would need to be bought for the transmission line to be built due to the proximity of the residences to the proposed route.

Route D was judged to be the worst route, considering schedule delay risk, since it is closer to more residences than Route A.

When considering Reliability, the team scored all the routes the same.

As for Natural Environment Considerations, Route D scores the best since it has least amount of stream and river crossings.

Route A crosses open farmland and open fields that can be accessed easier than the Route D, which crosses a more congested area. However, Route D parallels more roads, so the routes score equally from a Construction/Maintenance Accessibility consideration.

Route D scores the best in the cost category compared to Route A and the score was based on the relative cost compared to the lowest cost route.

When all factors were considered in the Expert Judgement Model, Route A was selected as the preferred route with the lowest score of 1.13 compared with a score of 1.35 for Route D.

Criteria	Weight	Route A	Route D
Community Issues	30%	1.0	2.0
Weighted			
Schedule Delay Risk	5%	1.0	2.0
Weighted			
Reliability	5%	1.0	1.0
Weighted			
Natural Environment Considerations	10%	2.0	1.0
Weighted			
Construction/Maintenance Accessibility	25%	1.0	1.0
Weighted			
Cost	25%	1.1	1.0
Weighted			
TOTAL	**100%**	**1.13**	**1.35**

Figure 52 Western Expert Judgement Model

TEAM SPATIAL

Western Preferred Route Description

Western Alternate Route A taps into the Brown North – Hardin County 345 kV Transmission Line west of the Bonnieville – Hardin County 69 kV and goes southwest parallel to the existing 345 kV transmission line. Then it goes south cross country. The route then crosses over the railroad and parallels the Bonnieville – Hardin County 69 kV transmission line. The route turns to the southeast to avoid the downtown Glendale area. Finally, the route turns west to terminate at the proposed substation.

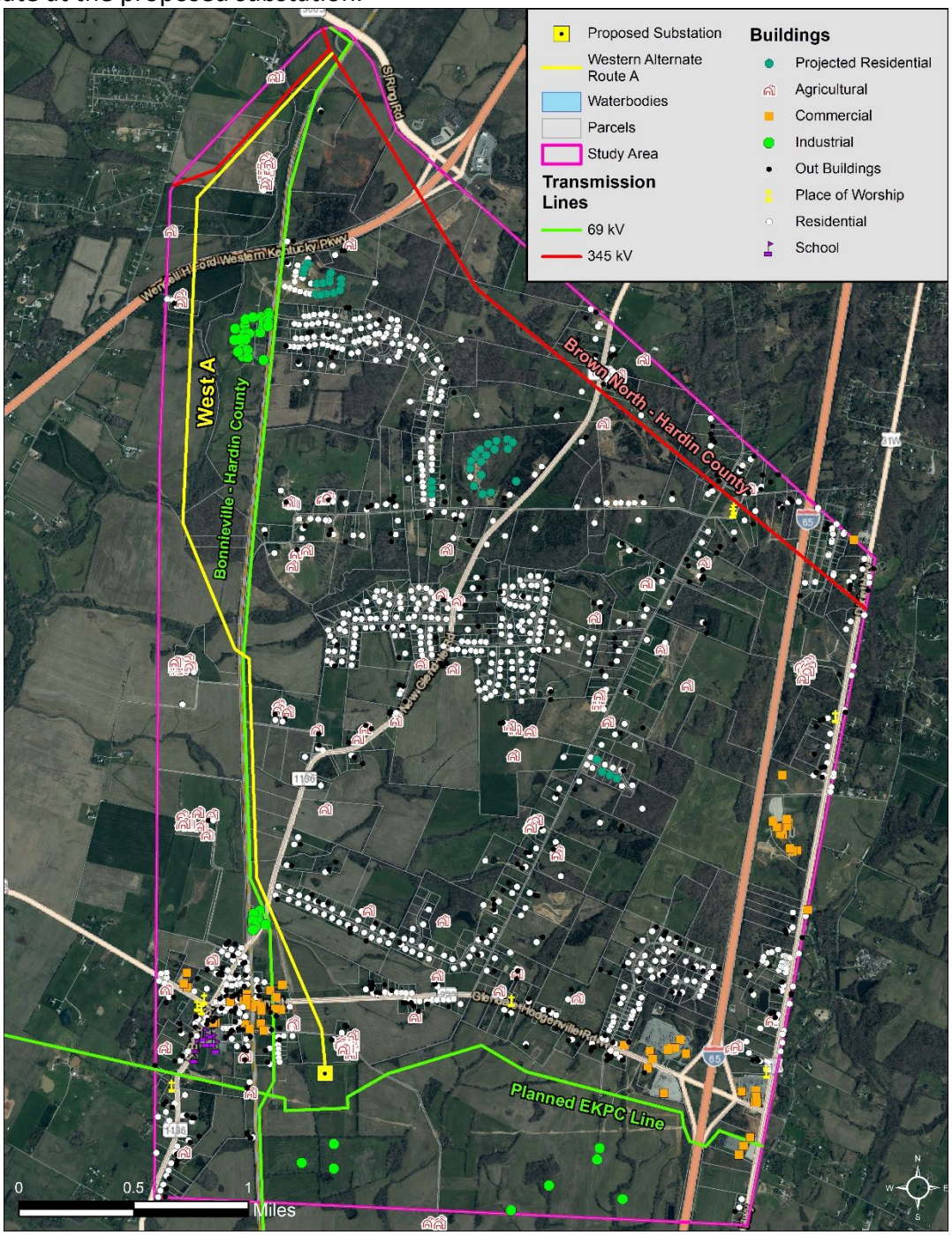


Figure 53 Western Preferred Route

TEAM SPATIAL

Eastern Alternate Routes

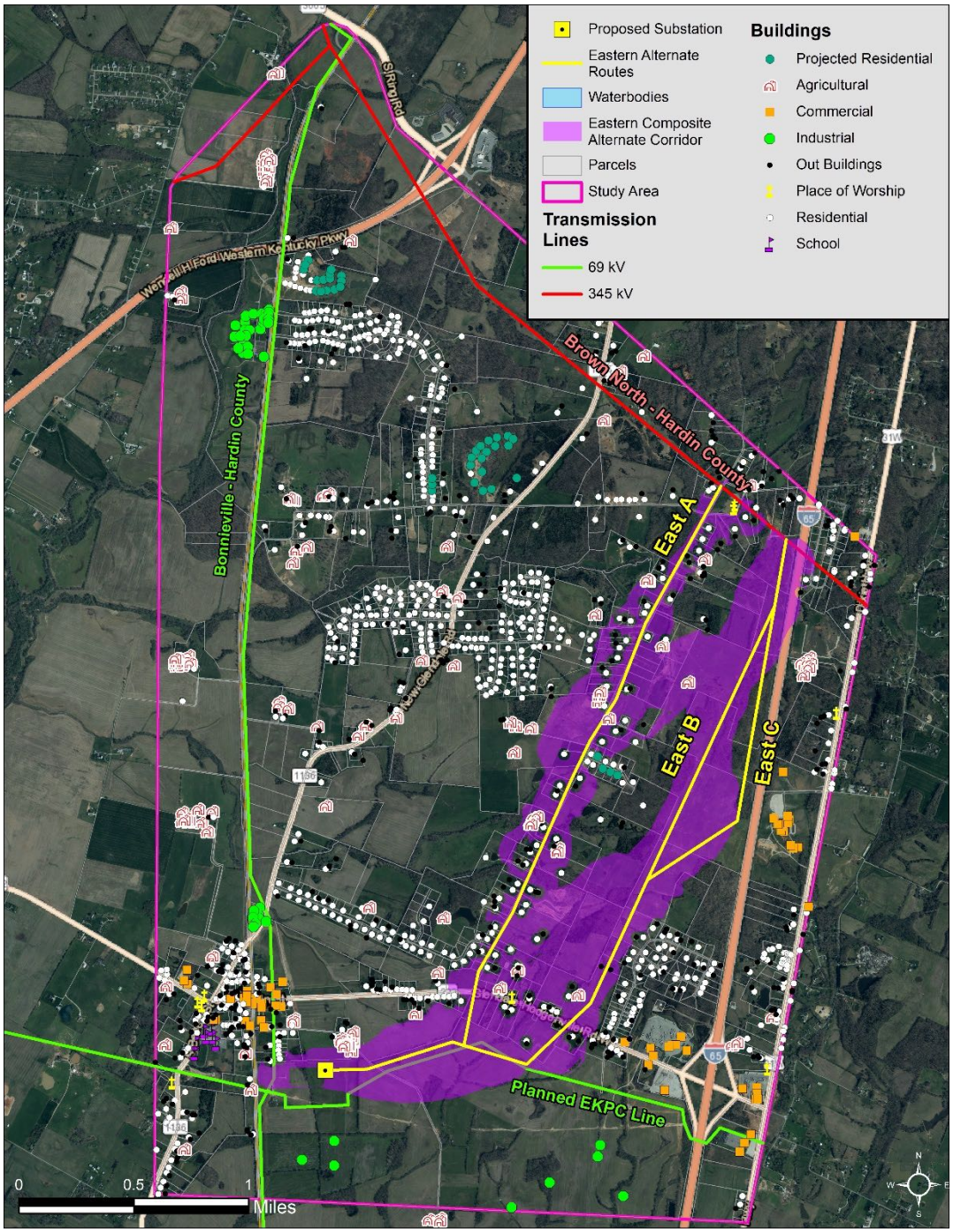


Figure 54 Eastern Alternate Routes with Composite Corridors

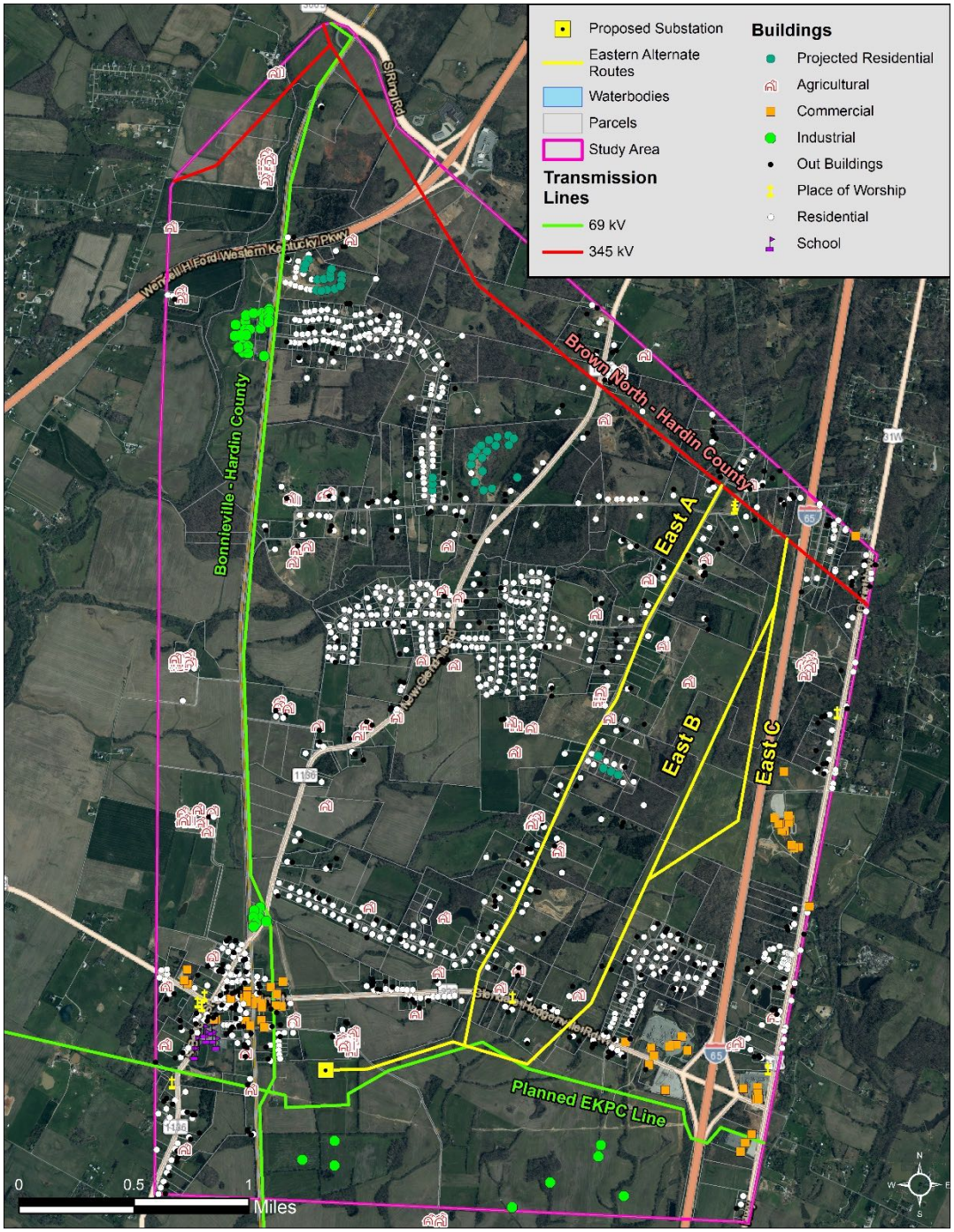


Figure 55 Eastern Alternate Routes

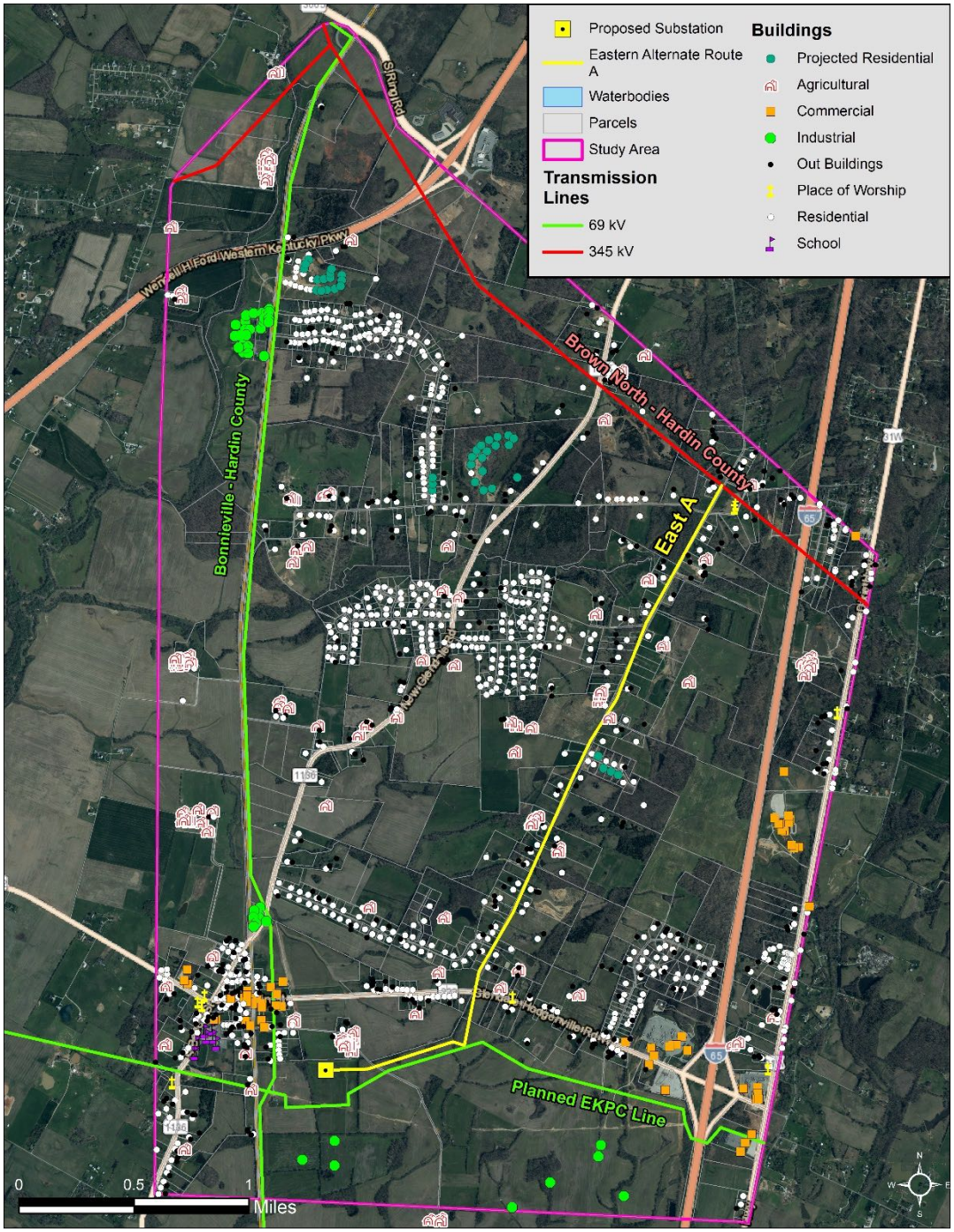


Figure 56 Eastern Alternate Route A

Eastern Alternate Route A taps into the Brown North – Hardin County 345 kV transmission line and parallels Mud Splash Road going southwest. The line continues to parallel Mud Splash Road until it parallels the planned EKPC 69 kV transmission line to the west and the route finishes at the proposed substation.

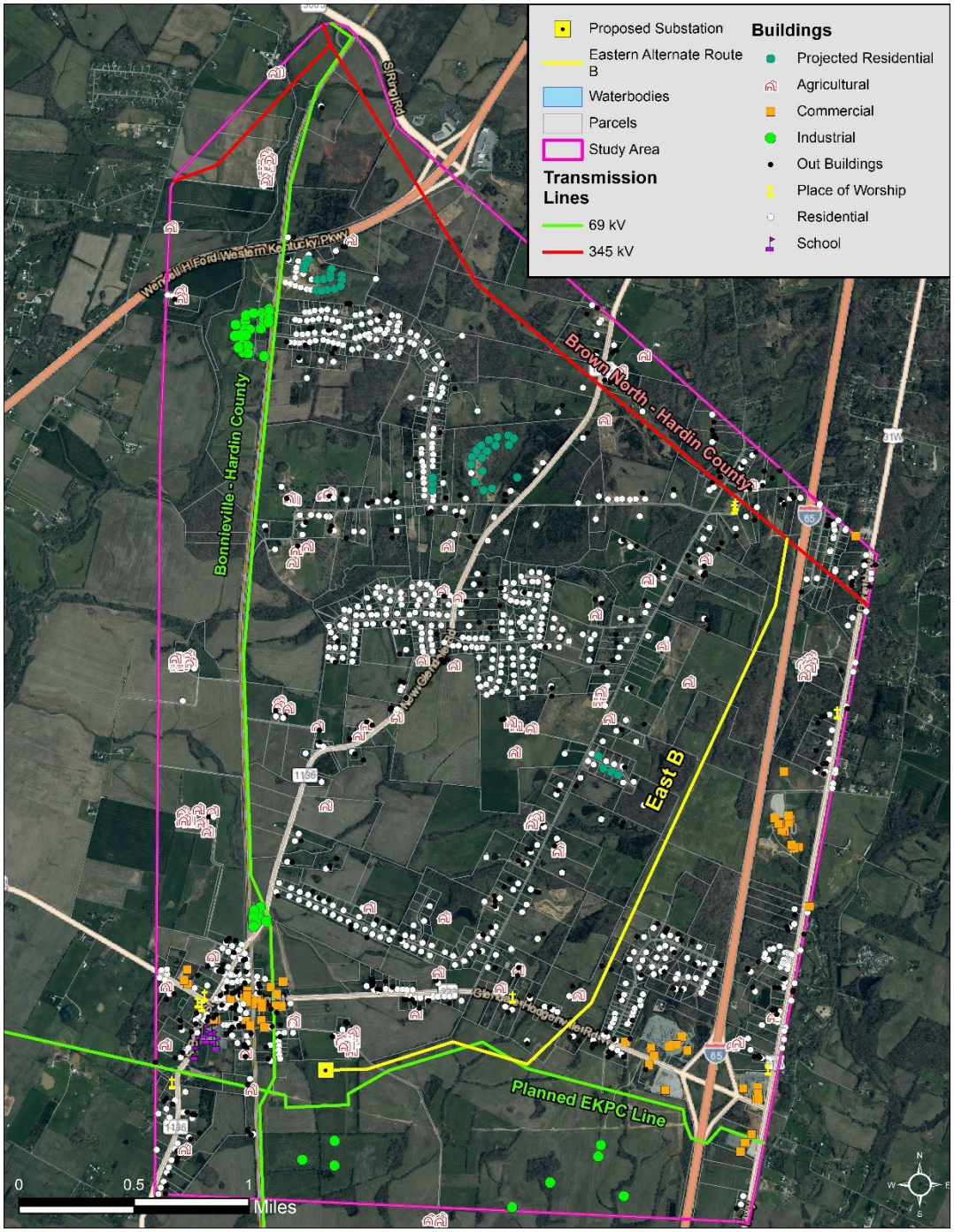


Figure 57 Eastern Alternate Route B

Eastern Alternate Route B taps into the Brown North – Hardin County 345 kV transmission line just west of Interstate 65 to go southwest through forested land and turns to parallel the Planned EKPC 69 kV transmission line to the west. The route finishes at the proposed substation.

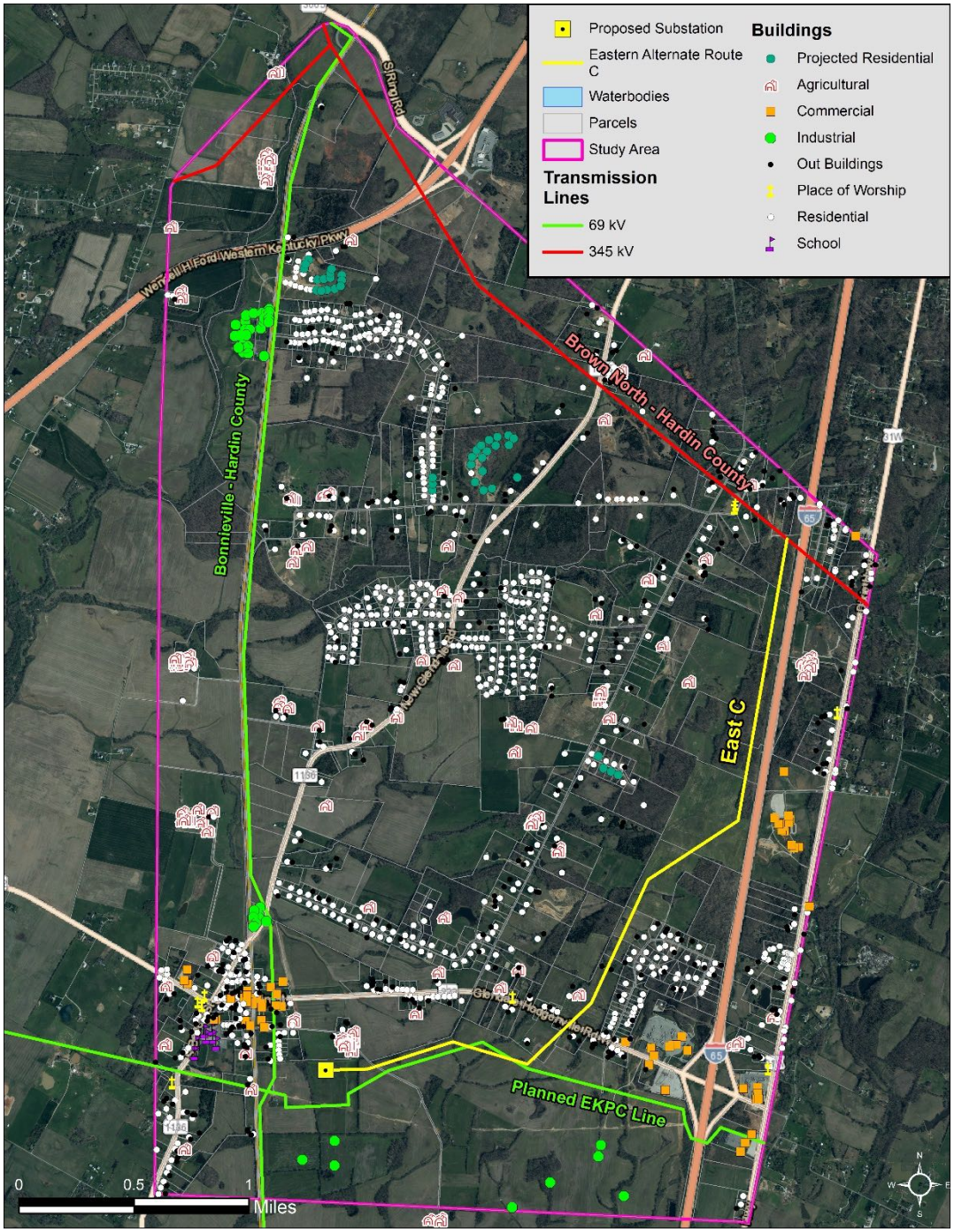


Figure 58 Eastern Alternate Route C

Eastern Alternate Route C taps into the Brown North – Hardin County 345 kV transmission line just west of Interstate 65. The route goes south paralleling Interstate 65 and then goes southwest through open land until it parallels the Planned EKPC 69 kV transmission line to the west and the route finishes at the proposed substation.

The Alternate Route Evaluation Model leverages weighted metrics to compare the Alternate Routes. The first step of the process is to compile data for each route. The metrics are grouped into three categories: Built, Natural, and Engineering.

The route data (Figure 45) is normalized on a scale from 0 to 1 with 0 being the best and 1 being the worst in each category. This allows comparisons of metrics in different units such as counts, acreage, and dollars. The percent parallel with roads and parallel existing transmission lines are inverted since the higher the number, the better it is for an alternate route.

The criteria are assigned weights based on its relative importance to the siting process. The weight for each criterion is represented by percentages, such as 35% residences within ROW and 10% Potential Historic structures within 600 feet of the Centerline. The weights within a perspective (built, natural, engineering) must total 100%.

The Alternate Route Evaluation Model places five times emphasis on each perspective to produce Built, Natural, and Engineering Emphasis Models. In addition, a Simple Average Model is implemented, which places equal emphasis on the three perspectives.

TEAM SPATIAL

	Route A	Route B	Route C
Built			
Residences Within the ROW	0	0	0
Out Buildings Within the ROW	1	1	1
Residences Within 300' of the Centerline	45	4	4
Projected Residences Within 300' of the Centerline	1	0	0
Commercial and Government Buildings within 300' of the Centerline	0	0	0
Industrial Buildings within 300' of the Centerline	0	0	0
Agricultural Buildings within 300' of the Centerline	2	1	1
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	1	0	0
Eligible or Listed Historic structures within 600' of the Centerline	0	0	0
Natural			
Tree Clearing (Acres)	9.4	12.4	24.5
Stream / River Crossings	7	9	8
ROW within Stream/River Buffer (AC within 15' of stream)	1.5	1.8	1.7
Wetlands (Acres)	1.9	3.8	3.7
Engineering			
Sinkholes within the ROW (AC)	1.4	1.4	1.4
% Parallel Railroads	0%	0%	0%
% Parallel Planned Transmission Lines	24%	31%	30%
% Parallel Roads	69%	0%	0%
Total Project Costs	$15,846,287	$14,822,945	$16,363,257
Construction Cost ($2.9M/mile)	$10,333,442	$10,838,863	$11,136,632
Land Acquisition Cost	$535,535	$185,793	$186,476
Angles	$4,790,000	$3,550,000	$4,550,000
0-3° Angle ($90K)	$90,000	$0	$0
3-26° Angle ($500K)	$3,500,000	$2,000,000	$1,500,000
26-60° Angle ($750K)	$0	$750,000	$2,250,000
26-80° Angle - Ford Property Only ($400K)	$1,200,000	$800,000	$800,000
Clearing Cost ($20K/Acre)	$187,309	$248,289	$490,148
Transmission Line Crossing ($600k/crossing)	$ -	$ -	$ -
Cost of Residence (100k/resident)	$ -	$ -	$ -
Length (Miles)	3.6	3.7	3.8
Number of Parcels Crossed	84	16	15

Figure 59 Eastern Routes Data

TEAM SPATIAL

Built	Route A	Route B	Route C
Residences Within the ROW	0.0	0.0	0.0
Normalized	-	-	-
Out Buildings Within the ROW	1.0	1.0	1.0
Normalized	-	-	-
Residences Within 300' of the Centerline	45.0	4.0	4.0
Normalized	1.0	0.0	0.0
Projected Residences Within 300' of the Centerline	1.0	0.0	0.0
Normalized	1.0	0.0	0.0
Commercial and Government Buildings within 300' of the Centerline	0.0	0.0	0.0
Normalized	-	-	-
Industrial Buildings within 300' of the Centerline	0.0	0.0	0.0
Normalized	-	-	-
Agricultural Buildings within 300' of the Centerline	2.0	1.0	1.0
Normalized	1.0	0.0	0.0
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	1.0	0.0	0.0
Normalized	1.0	0.0	0.0
Eligible or Listed Historic structures within 600' of the Centerline	0.0	0.0	0.0
Normalized	-	-	-
Natural			
Tree Clearing (Acres)	9.4	12.4	24.5
Normalized	0.0	0.2	1.0
Stream / River Crossings	7.0	9.0	8.0
Normalized	0.0	1.0	0.5
ROW within Stream/River Buffer (AC within 15' of stream)	1.5	1.8	1.7
Normalized	0.0	1.0	0.5
Wetlands (Acres)	1.9	3.8	3.7
Normalized	0.0	1.0	0.9
Engineering			
Sinkholes within the ROW (AC)	1.4	1.4	1.4
Normalized	-	-	-
% Parallel Railroads	0	0	0
Normalized	-	-	-
Inverted	-	-	-
% Parallel Planned Transmission Lines	24%	31%	30%
Normalized	0.0	1.0	0.9
Inverted	1.0	0.0	0.1
% Parallel Roads	69%	0	0
Normalized	1.0	0.0	0.0
Inverted	0.0	1.0	1.0
Total Project Costs	$ 15,846,287	$ 14,822,945	$ 16,363,257
Normalized	0.7	0.0	1.0

Figure 60 Eastern Routes Normalized Data

TEAM SPATIAL

Built	72%	Route A	Route B	Route C
Residences Within the ROW	0%	-	-	-
Weighted		-	-	-
Out Buildings Within the ROW	10%	-	-	-
Weighted		-	-	-
Residences Within 300' of the Centerline	60%	1.00	0.00	0.00
Weighted		0.60	0.00	0.00
Projected Residences Within 300' of the Centerline	10%	1.00	0.00	0.00
Weighted		0.10	0.00	0.00
Commercial and Government Buildings within 300' of the Centerline	0%	-	-	-
Weighted		-	-	-
Industrial Buildings within 300' of the Centerline	0%	-	-	-
Weighted		-	-	-
Agricultural Buildings within 300' of the Centerline	5%	1.00	0.00	0.00
Weighted		0.05	0.00	0.00
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	15%	1.00	0.00	0.00
Weighted		0.15	0.00	0.00
Eligible or Listed Historic structures within 600' of the Centerline	0%	-	-	-
Weighted		-	-	-
TOTAL	100%	0.90	0.00	0.00
WEIGHTED TOTAL		0.65	0.00	0.00
Natural	**14%**			
Tree Clearing (Acres)	40%	0.00	0.20	1.00
Weighted		0.00	0.08	0.40
Stream / River Crossings	10%	0.00	1.00	0.50
Weighted		0.00	0.10	0.05
ROW within Stream/River Buffer (AC within 15' of stream)	10%	0.00	1.00	0.46
Weighted		0.00	0.10	0.05
Wetlands (Acres)	40%	0.00	1.00	0.91
Weighted		0.00	0.40	0.37
TOTAL	100%	0.00	0.68	0.86
WEIGHTED TOTAL		0.00	0.10	0.12
Engineering	**14%**			
Sinkholes within the ROW (AC)	5%	-	-	-
Weighted		-	-	-
% Parallel Railroads	0%	-	-	-
Weighted		-	-	-
% Parallel Planned Transmission Lines	25%	1.00	0.00	0.13
Weighted		0.25	0.00	0.03
% Parallel Roads	0%	0.00	1.00	1.00
Weighted		0.00	0.00	0.00
Total Project Costs	70%	0.66	0.00	1.00
Weighted		0.47	0.00	0.70
TOTAL	100%	0.72	0.00	0.73
WEIGHTED TOTAL		0.10	0.00	0.10
SUM OF WEIGHTED TOTALS		0.75	0.10	0.22

Figure 61 Eastern Built Emphasis

TEAM SPATIAL

Built	14%	Route A	Route B	Route C
Residences Within the ROW	0%	-	-	-
Weighted		-	-	-
Out Buildings Within the ROW	10%	-	-	-
Weighted		-	-	-
Residences Within 300' of the Centerline	60%	1.00	0.00	0.00
Weighted		0.60	0.00	0.00
Projected Residences Within 300' of the Centerline	10%	1.00	0.00	0.00
Weighted		0.10	0.00	0.00
Commercial and Government Buildings within 300' of the Centerline	0%	-	-	-
Weighted		-	-	-
Industrial Buildings within 300' of the Centerline	0%	-	-	-
Weighted		-	-	-
Agricultural Buildings within 300' of the Centerline	5%	1.00	0.00	0.00
Weighted		0.05	0.00	0.00
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	15%	1.00	0.00	0.00
Weighted		0.15	0.00	0.00
Eligible or Listed Historic structures within 600' of the Centerline	0%	-	-	-
Weighted		-	-	-
TOTAL	100%	0.90	0.00	0.00
WEIGHTED TOTAL		0.13	0.00	0.00
Natural	**72%**			
Tree Clearing (Acres)	40%	0.00	0.20	1.00
Weighted		0.00	0.08	0.40
Stream / River Crossings	10%	0.00	1.00	0.50
Weighted		0.00	0.10	0.05
ROW within Stream/River Buffer (AC within 15' of stream)	10%	0.00	1.00	0.46
Weighted		0.00	0.10	0.05
Wetlands (Acres)	40%	0.00	1.00	0.91
Weighted		0.00	0.40	0.37
TOTAL	100%	0.00	0.68	0.86
WEIGHTED TOTAL		0.00	0.49	0.62
Engineering	**14%**			
Sinkholes within the ROW (AC)	5%	-	-	-
Weighted		-	-	-
% Parallel Railroads	0%	-	-	-
Weighted		-	-	-
% Parallel Planned Transmission Lines	25%	1.00	0.00	0.13
Weighted		0.25	0.00	0.03
% Parallel Roads	0%	0.00	1.00	1.00
Weighted		0.00	0.00	0.00
Total Project Costs	70%	0.66	0.00	1.00
Weighted		0.47	0.00	0.70
TOTAL	100%	0.72	0.00	0.73
WEIGHTED TOTAL		0.10	0.00	0.10
SUM OF WEIGHTED TOTALS		0.23	0.49	0.72

Figure 62 Eastern Natural Emphasis

TEAM SPATIAL

Built	14%	Route A	Route B	Route C
Residences Within the ROW	0%	-	-	-
Weighted		-	-	-
Out Buildings Within the ROW	10%	-	-	-
Weighted		-	-	-
Residences Within 300' of the Centerline	60%	1.00	0.00	0.00
Weighted		0.60	0.00	0.00
Projected Residences Within 300' of the Centerline	10%	1.00	0.00	0.00
Weighted		0.10	0.00	0.00
Commercial and Government Buildings within 300' of the Centerline	0%	-	-	-
Weighted		-	-	-
Industrial Buildings within 300' of the Centerline	0%	-	-	-
Weighted		-	-	-
Agricultural Buildings within 300' of the Centerline	5%	1.00	0.00	0.00
Weighted		0.05	0.00	0.00
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	15%	1.00	0.00	0.00
Weighted		0.15	0.00	0.00
Eligible or Listed Historic structures within 600' of the Centerline	0%	-	-	-
Weighted		-	-	-
TOTAL	100%	0.90	0.00	0.00
WEIGHTED TOTAL		0.13	0.00	0.00
Natural	**14%**			
Tree Clearing (Acres)	40%	0.00	0.20	1.00
Weighted		0.00	0.08	0.40
Stream / River Crossings	10%	0.00	1.00	0.50
Weighted		0.00	0.10	0.05
ROW within Stream/River Buffer (AC within 15' of stream)	10%	0.00	1.00	0.46
Weighted		0.00	0.10	0.05
Wetlands (Acres)	40%	0.00	1.00	0.91
Weighted		0.00	0.40	0.37
TOTAL	100%	0.00	0.68	0.86
WEIGHTED TOTAL		0.00	0.10	0.12
Engineering	**72%**			
Sinkholes within the ROW (AC)	5%	-	-	-
Weighted		-	-	-
% Parallel Railroads	0%	-	-	-
Weighted		-	-	-
% Parallel Planned Transmission Lines	25%	1.00	0.00	0.13
Weighted		0.25	0.00	0.03
% Parallel Roads	0%	0.00	1.00	1.00
Weighted		0.00	0.00	0.00
Total Project Costs	70%	0.66	0.00	1.00
Weighted		0.47	0.00	0.70
TOTAL	100%	0.72	0.00	0.73
WEIGHTED TOTAL		0.51	0.00	0.53
SUM OF WEIGHTED TOTALS		0.64	0.10	0.65

Figure 63 Eastern Engineering Emphasis

TEAM SPATIAL

Built	33%	Route A	Route B	Route C
Residences Within the ROW	0%	-	-	-
Weighted		-	-	-
Out Buildings Within the ROW	10%	-	-	-
Weighted		-	-	-
Residences Within 300' of the Centerline	60%	1.00	0.00	0.00
Weighted		0.60	0.00	0.00
Projected Residences Within 300' of the Centerline	10%	1.00	0.00	0.00
Weighted		0.10	0.00	0.00
Commercial and Government Buildings within 300' of the Centerline	0%	-	-	-
Weighted		-	-	-
Industrial Buildings within 300' of the Centerline	0%	-	-	-
Weighted		-	-	-
Agricultural Buildings within 300' of the Centerline	5%	1.00	0.00	0.00
Weighted		0.05	0.00	0.00
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	15%	1.00	0.00	0.00
Weighted		0.15	0.00	0.00
Eligible or Listed Historic structures within 600' of the Centerline	0%	-	-	-
Weighted		-	-	-
TOTAL	100%	0.90	0.00	0.00
WEIGHTED TOTAL		0.30	0.00	0.00
Natural	**33%**			
Tree Clearing (Acres)	40%	0.00	0.20	1.00
Weighted		0.00	0.08	0.40
Stream / River Crossings	10%	0.00	1.00	0.50
Weighted		0.00	0.10	0.05
ROW within Stream/River Buffer (AC within 15' of stream)	10%	0.00	1.00	0.46
Weighted		0.00	0.10	0.05
Wetlands (Acres)	40%	0.00	1.00	0.91
Weighted		0.00	0.40	0.37
TOTAL	100%	0.00	0.68	0.86
WEIGHTED TOTAL		0.00	0.22	0.28
Engineering	**33%**			
Sinkholes within the ROW (AC)	5%	-	-	-
Weighted		-	-	-
% Parallel Railroads	0%	-	-	-
Weighted		-	-	-
% Parallel Planned Transmission Lines	25%	1.00	0.00	0.13
Weighted		0.25	0.00	0.03
% Parallel Roads	0%	0.00	1.00	1.00
Weighted		0.00	0.00	0.00
Total Project Costs	70%	0.66	0.00	1.00
Weighted		0.47	0.00	0.70
TOTAL	100%	0.72	0.00	0.73
WEIGHTED TOTAL		0.24	0.00	0.24
SUM OF WEIGHTED TOTALS		0.53	0.22	0.53

Figure 64 Eastern Simple Average

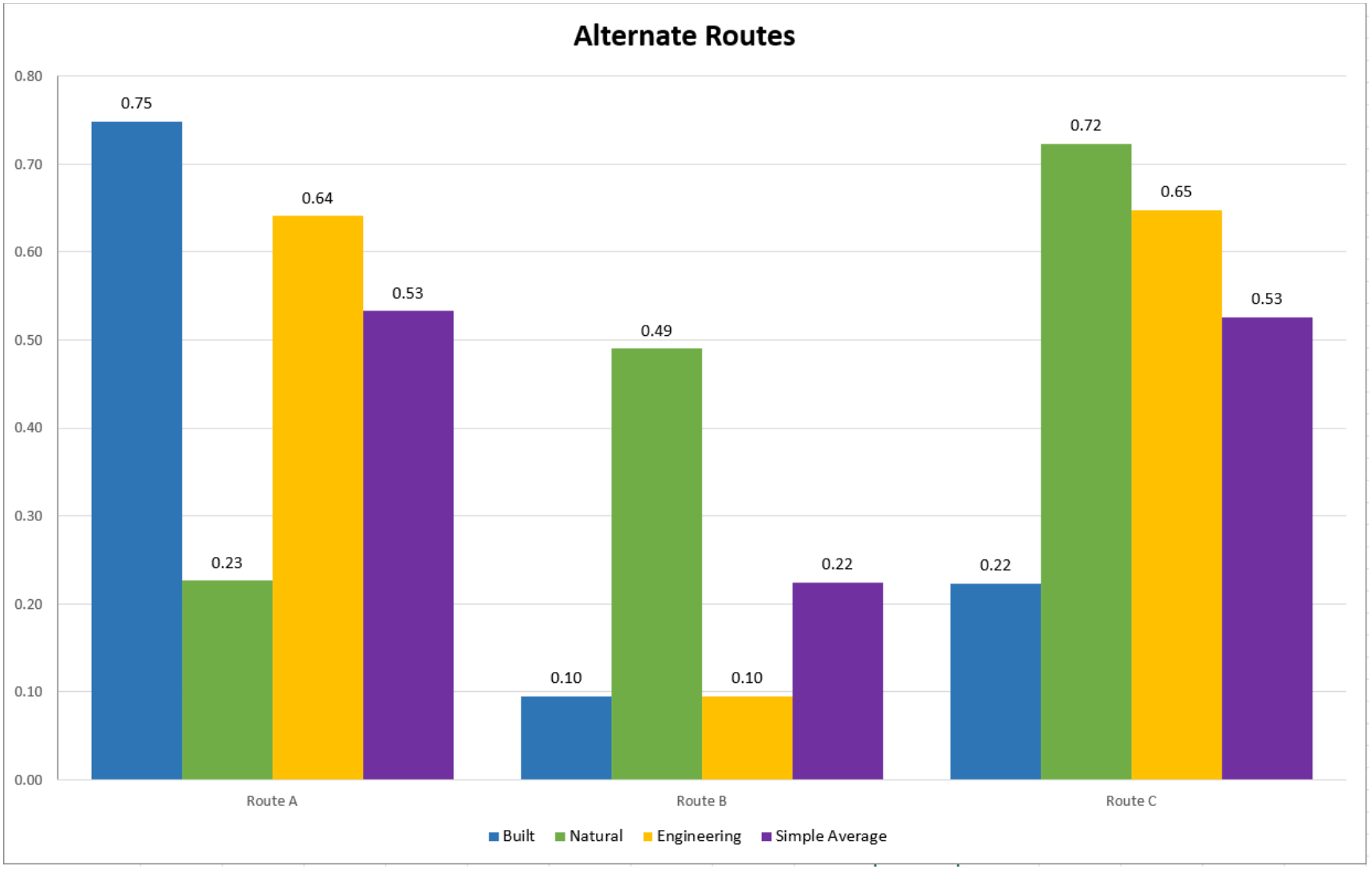


Figure 65 Eastern Alternate Route Graph

Route B scores the lowest (most suitable) from a Built Perspective. This is because Route B has among the lowest scores in all Built metrics. Route C has the same Built metrics as Route B, however, Route C scores higher than Route B in the other perspectives. The partial weights from the other perspectives mean that Route C scores higher than Route B from a Built perspective. Route A scores the highest (least suitable) in the Built perspective since it has the most of every Built metric.

Route A scores the best in the Natural Perspective because it has the least amount of all of the Natural metrics. The highest score is Route C for because it has the most tree clearing.

In the Engineering perspective, Route B has the lowest score with the lowest cost being the main factor along with the most percentage of parallel planned transmission line. The cost is less since it is the lowest angle costs and has the lowest land acquisition costs. Route C has the highest score since it has the highest Total Project Costs.

Route B has the lowest Simple Average score because it is the most suitable in two categories, which are the Built and Engineering Perspectives. Route A and C have the highest Simple Average because they have the highest score in the all the perspectives.

Route A is removed from further consideration because there are 45 residences within 300’ of the centerline and 84 parcels crossed. Therefore, Route A was eliminated from further consideration. Routes B and C were selected as the finalists to proceed to the route selection phase utilizing the Expert Judgment Model.

Eastern Preferred Route Selection

The Expert Judgment Model is used by the transmission line experts on the project team to select the preferred route. The team determined the high-level siting criteria and assigned weights to represent the relative importance. Community Issues was weighed the most at 30% followed by Construction/Maintenance Accessibility and Cost at 25%, Natural Environment Considerations at 10%, and Schedule Delay Risk and Reliability at 5%.

Next the experts ranked each route for each of the criteria. Finally, the weights are applied, and the preferred route has the lowest total score.

For the Community criteria, Route B was given the best score since Route C parallels the interstate and would be more visible. Route C also has double the tree clearing than Route B and this is less preferred.

When considering Schedule Delay Risk, the team scored both the routes the same.

Since Route C has traverses more forested area when compared to Route B, Route C scored worse in the Reliability category.

As for Natural Environment Considerations, Route B scores the best since it has least amount of tree clearing.

Route C would require more matting, so Route B has the best score from a Construction/Maintenance Accessibility criterion.

Route B scores the best in the cost category compared to Route C and the other scores were based on the relative cost compared to the lowest cost route.

When all factors were considered in the Expert Judgement Model, Route B was selected as the preferred route with the lowest score of 1.00 compared to Route C with a score of 1.73.

Criteria	Weight	Route B	Route C
Community Issues	30%	1.0	2.0
Weighted			
Schedule Delay Risk	5%	1.0	1.0
Weighted			
Reliability	5%	1.0	2.0
Weighted			
Natural Environment Considerations	10%	1.0	2.0
Weighted			
Construction/Maintenance Accessibility	25%	1.0	2.0
Weighted			
Cost	25%	1.0	1.1
Weighted			
TOTAL	**100%**	**1.00**	**1.73**

Figure 66 Eastern Expert Judgement Model

TEAM SPATIAL

Eastern Preferred Route Description

Eastern Alternate Route B taps into the Brown North – Hardin County 345 kV transmission line just west of Interstate 65 to go southwest through forested land and turns to parallel the Planned EKPC 69 kV transmission line to the west. The route finishes at the proposed substation.

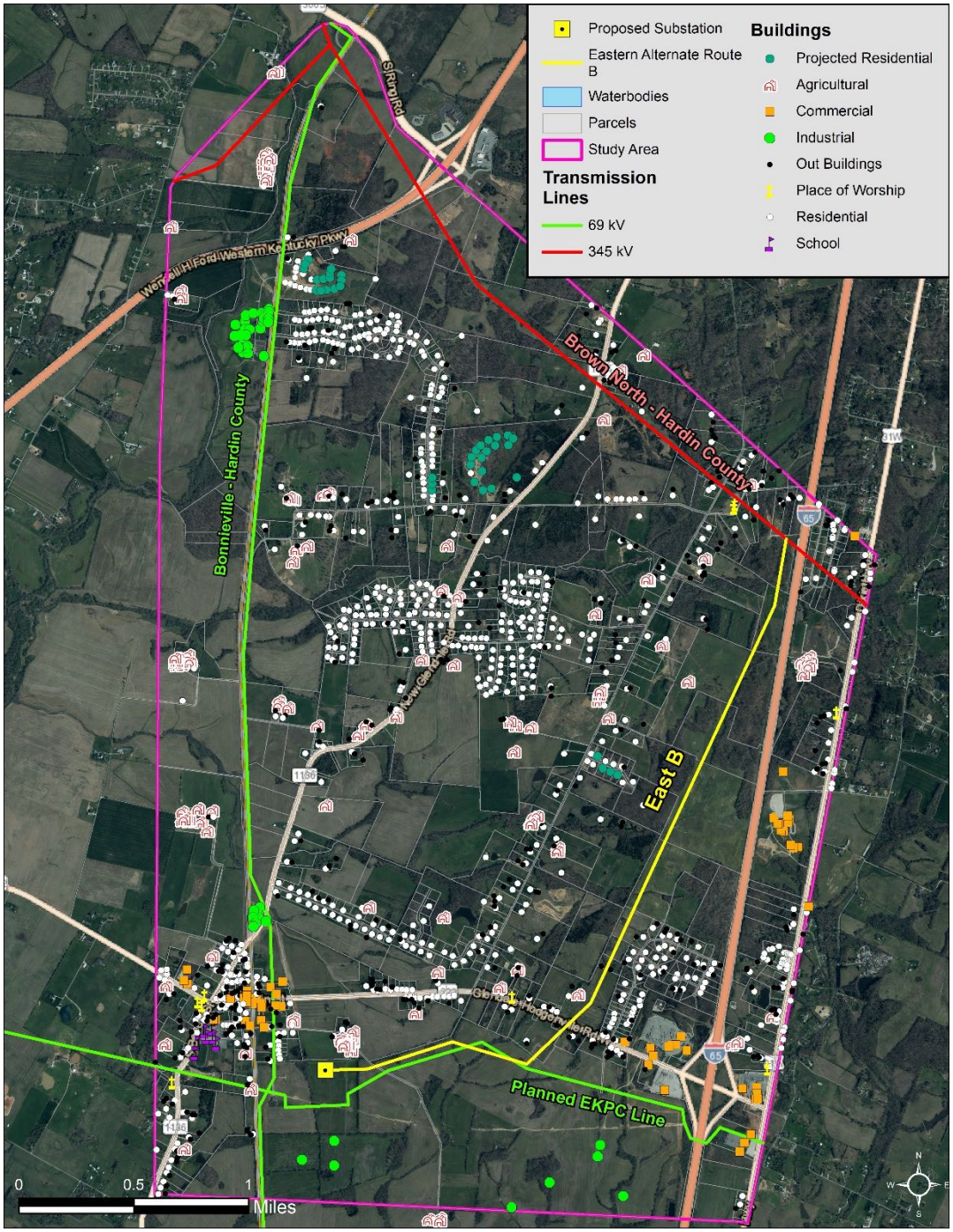


Figure 67 Eastern Preferred Route

Figure 68 Existing 345 kV Brown North to Hardin County Transmission Line off W Rhudes Creek Road

Figure 69 Existing 69kV Bonnieville-Hardin County Transmission Line north from Shipp Lane

Figure 70 Existing 69 Bonnieville-Hardin County Transmission Line off Rebecca Ann Court

TEAM SPATIAL

Source Data Appendix A

Perspective / Layer	Source	
Engineering Environment	**Source**	**Source Notes**
Linear Infrastructure		
Parallel Existing Transmission Lines	LG&E/KU Provided	
Rebuild Existing Transmission Lines (good)	LG&E/KU Provided	None present in Study Area
Background		
Parallel Interstates ROW	Kentucky Transportation Cabinet	
Parallel Roads ROW	Kentucky Transportation Cabinet	
Parallel Pipelines	National Pipeline Mapping System (USDT) and US EIA	
Future DOT Plans	Kentucky Transportation Cabinet	
Parallel Railway ROW	Kentucky Transportation Cabinet	
Road ROW	Kentucky Transportation Cabinet	
Rebuild Existing Transmission Lines (bad)	LG&E/KU Provided	None present in Study Area
Scenic Highways ROW	Kentucky Transportation Cabinet	None present in Study Area
Slope		
Slope 0-15%	DEM from KyFromAbove Initiative from the Commonwealth Office of Technology	
Slope 15-30%	DEM from KyFromAbove Initiative from the Commonwealth Office of Technology	
Slope 30-40%	DEM from KyFromAbove Initiative from the Commonwealth Office of Technology	
Slope >40%	DEM from KyFromAbove Initiative from the	

	Commonwealth Office of Technology	
Sinkholes		
Modeled Sinkholes	LiDAR from KyFromAbove Initiative from the Commonwealth Office of Technology	Created using LiDAR data via a methodology created by the University of Tennessee's Geography Department
State-Identified Sinkholes	Kentucky Geological Survey	
Areas of Least Preference		
Non-Spannable Waterbodies	USGS NHD Hydrography Dataset	None present in Study Area
Mines and Quarries (Active)	Kentucky Mine Mapping Information System	None present in Study Area
Buildings	Digitized based on Aerial Photography	
Airports	Kentucky Transportation Cabinet	None present in Study Area
Military Facilities	Kentucky Department of Military Affairs	None present in Study Area
Center Pivot Irrigation	Checked by Aerial Photography	
Natural Environment	**Source**	**Source Notes**
Floodplain		
100 Year Floodplain	FEMA National Flood Zone Layer	
Streams/Wetlands		
Streams < 5cfs+Regulatory Buffer	Arcadis	Utilized USGS Streamstats to determine the size of the streams to use for this classification
Streams > 5cfs+Regulatory Buffer	Arcadis	Utilized USGS Streamstats to determine the size of the streams to use for this classification
Wetlands + 30'Buffer	Arcadis	
Outstanding State Resource Waters	Kentucky Waterways Alliance	None present in Study Area
Public Lands		
WMA + Not State Owned	USFWS	None present in Study Area
USFS (proclamation area)	USDA Forest Service	None present in Study Area

Other Conservation Land	Kentucky Department of Fish and Wildlife Resources, USPS, USFS, Nature Conservancy, US Army Corp of Engineers, among other datasets	None present in Study Area
USFS (owned)	USDA Forest Service	None present in Study Area
State Owned Conservation Land	Kentucky Department of Fish and Wildlife Resources	None present in Study Area
Land Cover		
Developed Land	Digitized based on aerial photography	
Agriculture	Digitized based on aerial photography	
Forests	Digitized based on aerial photography	
Wildlife Habitat		
Species of Concern Habitat	USFWS Threatened, endangered and at-risk species	Data was generated based off of the wildlife habitats described by the USFWS and feedback from Arcadis. The Wildlife Habitat data is modeled based on Appendix J of the Kentucky Transmission Line Siting Methodology Report
Areas of Least Preference		
EPA Superfund Sites	EPA	None present in Study Area
State and National Parks	NPS	None present in Study Area
USFS Wilderness Area	USDA Forest Service	None present in Study Area
Wild/Scenic Rivers	USDA Forest Service	None present in Study Area
Wildlife Refuge	USFWS	None present in Study Area
State Nature Preserves	Kentucky Energy and Environment Cabinet - Kentucky Nature Preserves Commission	None present in Study Area
Designated Critical Habitat	USFWS	None present in Study Area
Built Environment	**Source**	**Source Notes**
Proximity to Buildings		
Background	Digitized based on aerial photography	
900-1200	Digitized based on aerial photography	

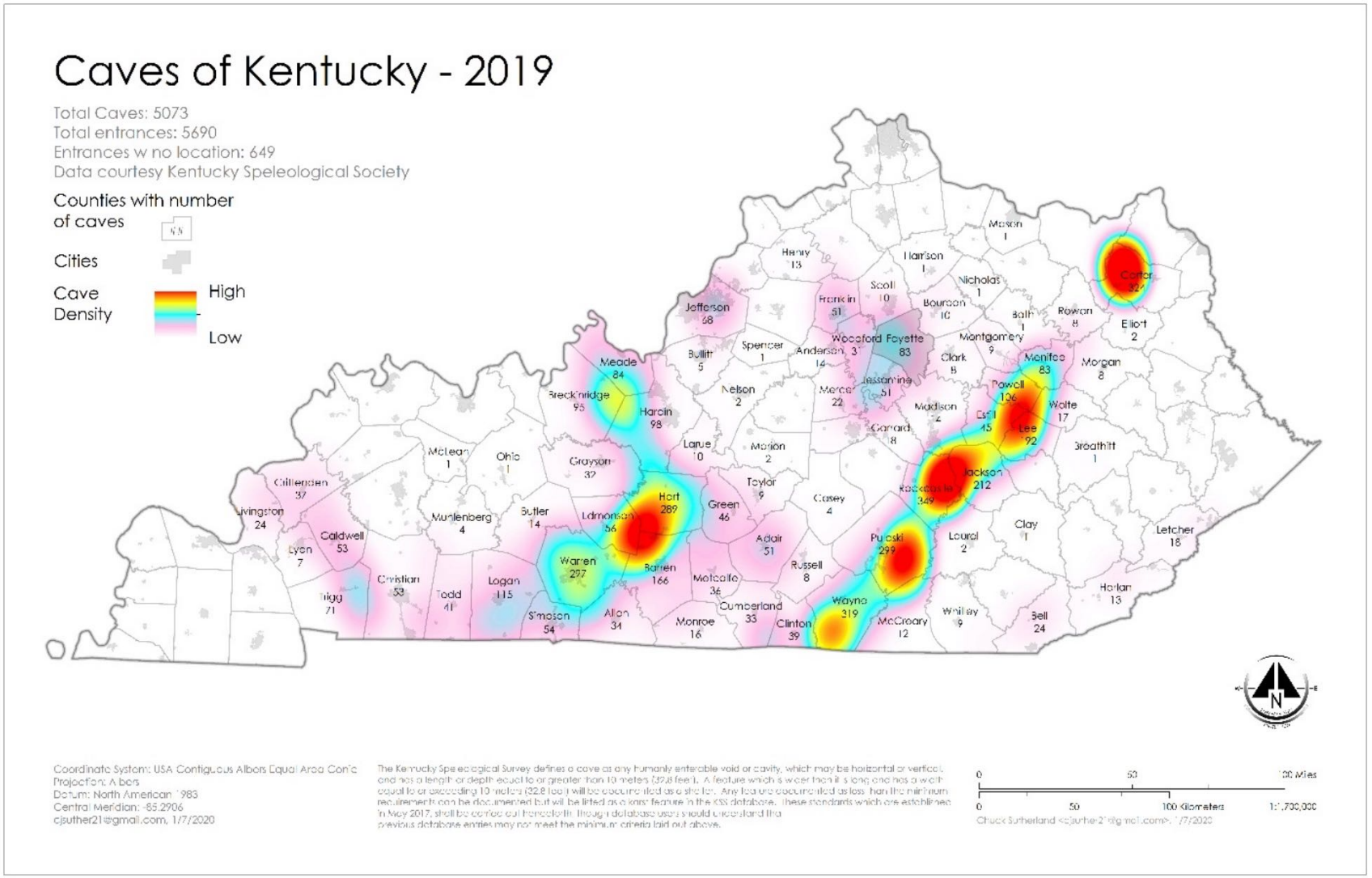
TEAM SPATIAL

600-900	Digitized based on aerial photography	
300-600	Digitized based on aerial photography	
0-300	Digitized based on aerial photography	
Building Density		
0 - 0.05 Buildings/Acre	Digitized based on aerial photography	
0.05 - 0.2 Buildings/Acre	Digitized based on aerial photography	
0.2 - 1 Buildings/Acre	Digitized based on aerial photography	
1 - 4 Buildings/Acre	Digitized based on aerial photography	
>4 Buildings/Acre	Digitized based on aerial photography	
Proposed Development		
Proposed Development	Based on field observations	
Spannable Lakes and Ponds		
Spannable Lakes and Ponds	NHD Hydrography Dataset	
Land Use		
Commercial/Industrial	Digitized based on aerial photography	
Agriculture (crops)	Digitized based on aerial photography	
Agriculture (other livestock)	Digitized based on aerial photography	
Silviculture	Digitized based on aerial photography	None present in Study Area
Other (forest)	Digitized based on aerial photography	
Equine Agri-Tourism	Kentucky Thoroughbred Farm Managers' Club	None present in Study Area
Residential	Digitized based on aerial photography	
Proximity to Eligible Historic and Archeological Sites		
900-1200	Provided by Kentucky Office of Archaeology and Kentucky Heritage Council via Arcadis	

600-900	Provided by Kentucky Office of Archaeology and Kentucky Heritage Council via Arcadis	
0-300	Provided by Kentucky Office of Archaeology and Kentucky Heritage Council via Arcadis	
300-600	Provided by Kentucky Office of Archaeology and Kentucky Heritage Council via Arcadis	
Areas of Least Preference		
Listed Archaeology Sites and Districts	Provided by Kentucky Office of Archaeology and Kentucky Heritage Council via Arcadis	
Listed NRHP Districts and Buildings	Provided by Kentucky Office of Archaeology and Kentucky Heritage Council via Arcadis	
Day Care Parcels	Internet research \ Hardin County PVA data	Confirmed based on aerial photography inspection
City and County Park Parcels	Internet research \ Hardin County PVA data	Confirmed based on aerial photography inspection
Cemetery Parcels	Internet research \ Hardin County PVA data	Confirmed based on aerial photography inspection
School Parcels (K-12)	Internet research \ Hardin County PVA data	Confirmed based on aerial photography inspection
Church Parcels	Internet research \ Hardin County PVA data	Confirmed based on aerial photography inspection

TEAM SPATIAL

Cave Map Appendix B



PPL companies

Glendale
138 kV Transmission Lines
Characteristics

Prepared by: Jesse Glasgow and Nicholas Arjona, Team Spatial

Date: February 8, 2022

TEAM SPATIAL

TEAM SPATIAL

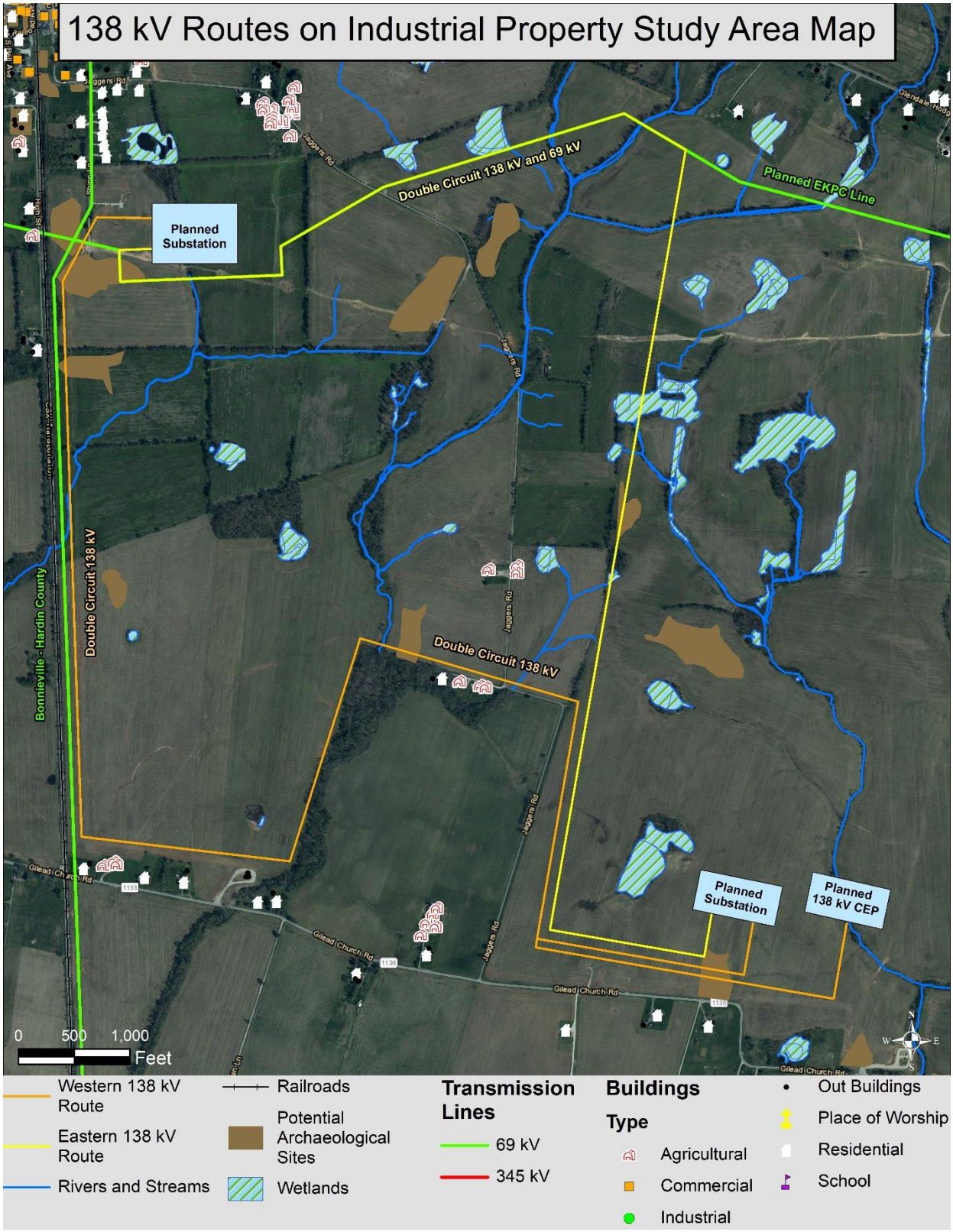


Figure 1 138 kV Routes on Industrial Property Study Area Map

TEAM SPATIAL

	Western 138 kV Route	Eastern 138 kV Route
Built		
Residences Within the ROW	0	0
Out Buildings Within the ROW	0	0
Residences Within 300' of the Centerline	5	0
Projected Residences Within 300' of the Centerline	0	0
Commercial and Government Buildings within 300' of the Centerline	0	0
Industrial Buildings within 300' of the Centerline	0	0
Agricultural Buildings within 300' of the Centerline	6	0
School, Daycare, Church, Cemetery, & Park within 100' of the Centerline	0	0
Eligible or Listed Historic structures within 600' of the Centerline	0	0
Potential Archaeology Sites Within the ROW	4	3
Natural		
Tree Clearing (Acres)	1.6	2.5
Stream / River Crossings	4	7
ROW within Stream/River Buffer (AC within 15' of stream)	0.6	1.1
Wetlands (Acres)	0.0	0.3
Engineering		
Sinkholes within the ROW (AC)	0.0	0.0
% Double Circuit Transmission Lines	71%	39%
% Parallel Railroads	30%	0%
% Parallel Transmission Lines	30%	0%
% Parallel Roads	0%	0%
Total Project Costs	$7,976,800	$5,959,823
Construction Cost ($1.5M/mile)	$5,745,000	$4,309,623
Land Acquisition Cost	$0	$0
Angles	$1,800,000	$1,600,000
0-3° Angle ($60K)	$0	$0
3-26° Angle ($150K)	$0	$0
26-80° Angle ($200K)	$1,800,000	$1,600,000
Clearing Cost ($20K/Acre)	$31,800	$50,200
Transmission Line Crossing ($400k/crossing)	$ 400,000	$ -
Length (Miles)	3.8	2.9
Number of Parcels Crossed	1	1

Figure 2 Ford Property 138 kV Routes Data

TEAM SPATIAL

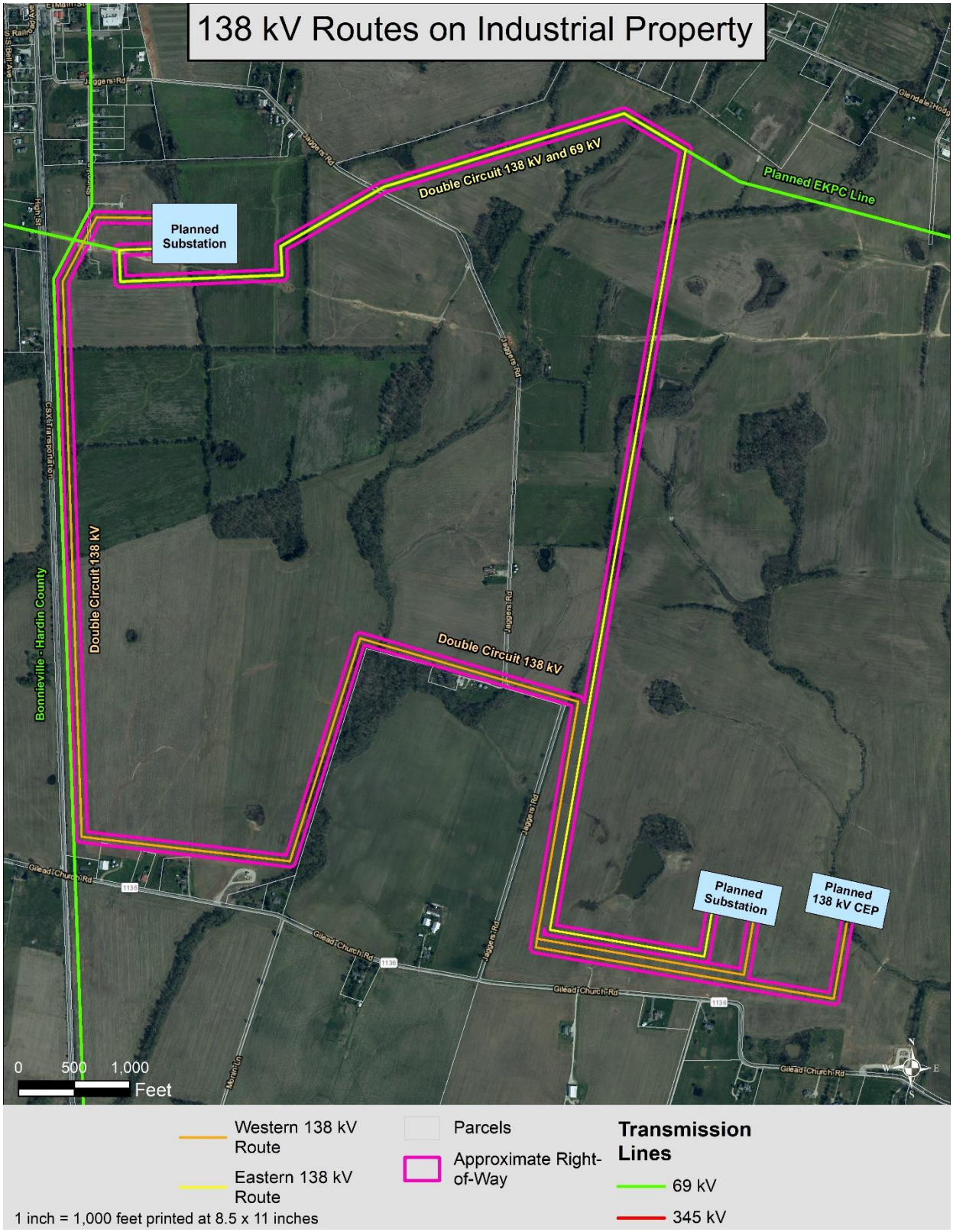
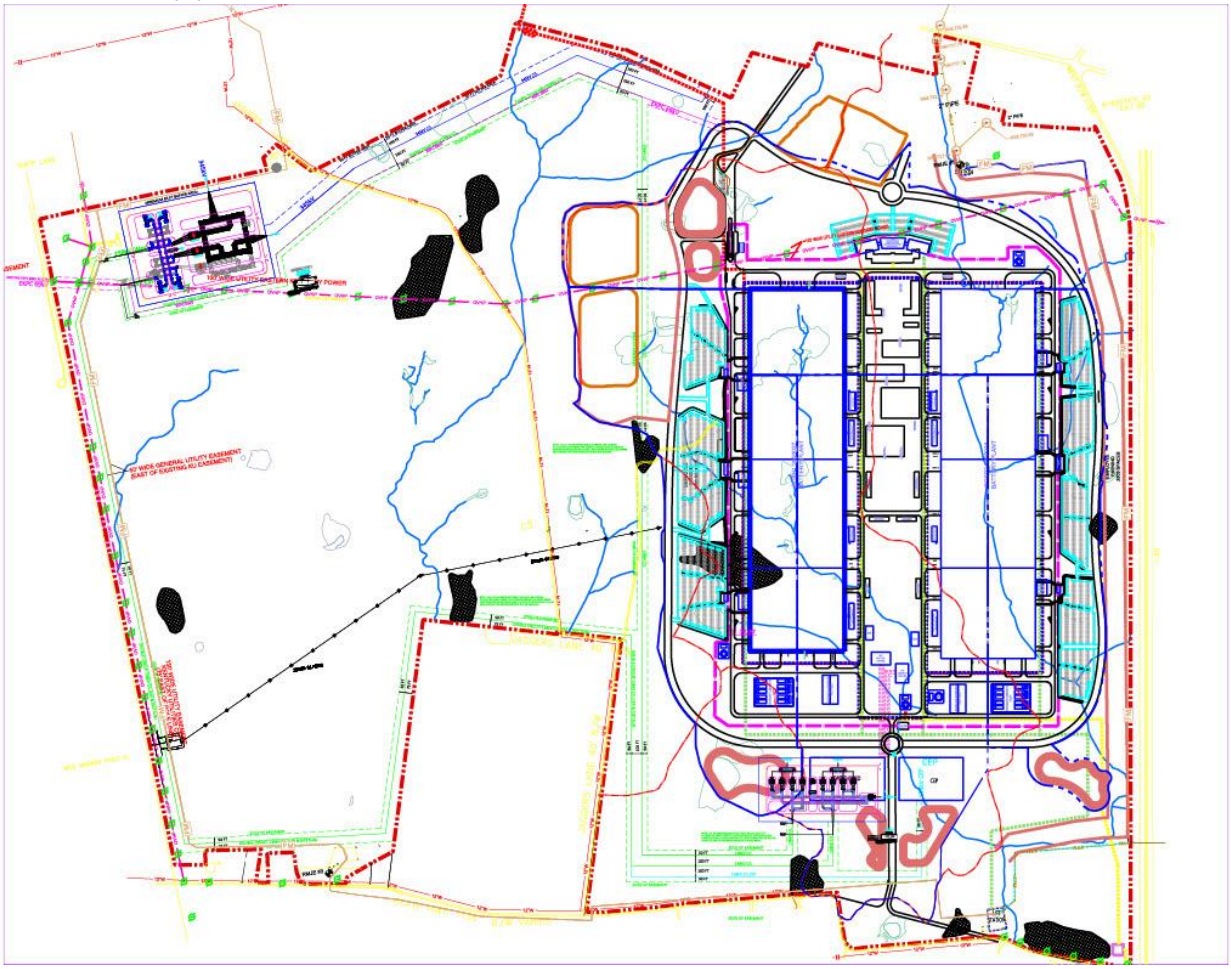


Figure 3 138 kV Routes on Industrial Property

TEAM SPATIAL

Site Plan Appendix A



Activity ID	Activity Name
Permitting	
Environmental Permit - NWP #57	
LI5500	Prepare Environmental Permit(s) Request - NWP #57
LI5510	Acquire Environmental Permit(s) - NWP #57
LI5520	Environmental Permit(s) Complete - NWP #57
Environmental Permit - KYDOW #404	
LI5470	Prepare Environmental Permit(s) Request - KYDOW #404
LI5480	Acquire Environmental Permit(s) - KYDOW #404
LI5490	Environmental Permit(s) Complete - KYDOW #404
Environmental Permit - KYDOW Notice of Intent	
LI5530	Prepare Environmental Permit(s) Request - KYDOW Notice of Intent
LI5540	Acquire Environmental Permit(s) - KYDOW Notice of Intent
LI5550	Environmental Permit(s) Complete - KYDOW Notice of Intent
Environmental Permit - Local Storm Water Permit	
LI5440	Prepare Environmental Permit(s) Request - Local Storm Water Permit
LI5450	Acquire Environmental Permit(s) - Local Storm Water Permit
LI5460	Environmental Permit(s) Complete - Local Storm Water Permit
FAA Permitting	
LI5310	Prepare FAA Permit(Notification) Request
LI5320	Acquire FAA Permit(Notification)
LI5330	FAA Permit(Notification) Complete
Highway Permitting	
Highway Permit - Interstate	
LI5240	Prepare Highway Permit Request - Interstate
LI5070	Acquire Highway Permit - Interstate
LI5080	Highway Permit Complete - Interstate
Highway Permit - KYTC	
LI5400	Prepare Highway Permit(s) Request - KYTC
LI5410	Acquire Highway Permit(s) - KYTC
LI5420	Highway Permit(s) Complete - KYTC
Railroad Permitting	
LI5250	Prepare Railroad Permit Request - Crossing Permit & Induction Study
LI5090	Acquire Railroad Permit
LI5100	Railroad Permit Complete
Right-of-Way (ROW)	
Easement Evaluations	
LI5740	Conduct Property Title Research
LI5750	Conduct Property Appraisals
LI5730	Send Out 10 Day Notice of Entry Letter
LI5110	Conduct Field Survey and Plat Drawings
LI5130	Easement Documentation Preparation/Legal Review
LI5120	Easement Evaluations Complete
Easement Acquisition	
LI5340	Negotiate & Secure Easements
LI5840	Review Easement Acquistion Progress / Discuss Condemnation

Kentucky Transportation Cabinet
Department of Highways
Division of Maintenance
Permits Branch

ENCROACHMENT PERMIT

KYTC KEPT #: 04-2022-00059

Permittee: Kentucky Utilities

Permit Type / Subtype: Utilities / Electric

Work Completion Date: 8/28/2023

INDEMNITIES		
Type	**Amount Required**	**Tracking Number**
Performance Bond	$0.00	
Cash / Check	$0.00	
Self-Insured	$0.00	
Payment Bond	$0.00	
Liability Insurance	$0.00	

This permit has been: **APPROVED** [X] **DENIED** [ ]

Jacob Riggs	D4 Permits - Supervisor	2/28/2022
SIGNATURE	**TITLE**	**DATE**

The TC 99-1(B), including the application TC-99 1(A) and all related and accompanying documents and drawings make up the permit. It is not a permit unless both the TC 99-1(A) and TC 99-1(B) are both present.

LOCATION(S)			
Description	**County - Route**	**Latitude**	**Longitude**
	Hardin - WK 9001	37.647991	-85.909687
	Hardin - KY 1136	37.607721	-85.903754
	Hardin - KY 222	37.599950	-85.879895
	Hardin - KY 222	37.601593	-85.900439

500 Water Street, J180
Jacksonville, FL 32202
904-359-3145
DEANNA_PAXON@CSX.COM

Deanna Paxon
Real Estate Specialist

March 29, 2022

Agreement No.: SBD009287
Site Location No.: SBD009287141

KENTUCKY UTILITIES / LOUISVILLE GAS & ELECTRIC COMPANY
ONE QUALITY STREET
LEXINGTON, KY 40507

Dear Sir or Madam

You are now ready to begin the installation/work phase of the utility application process. KENTUCKY UTILITIES / LOUISVILLE GAS & ELECTRIC COMPANY or its Contractor must complete and submit the Outside Party Request Form available on the CSX Property Portal, accessed by typing propertyportal.csx.com in a web browser. Prior to any work, construction submittal requirements as noted on Exhibit A attached hereto must be submitted to and approved by CSXT or its representative. No work on, over, or adjacent to CSXT property can take place without all necessary approvals, including, but not limited to, written confirmation from CSXT's Flagging Coordinator.

Agreement Date:	March 11, 2022	**Location:**	, HARDIN County, KY
		Milepost:	000 48.2
		Division:	LOUISVILLE
		Subdivision:	MAIN LINE
		Latitude:	N373724
		Longitude:	W855421
Application Date:	March 04, 2022	**Facility:**	Aerial - place on poles Located off railroad R/W 354kV conductor and 1 x OPGW at minimum sag height above rail 27ft

Subject to the above referenced company scheduling the work as hereafter references, this letter will serve as formal authority to make the installation at the location shown on the attached approved print, in accordance with specifications outlined in your application, also attached hereto, and subject to the terms of said Agreements. This letter shall constitute a Supplement to said Agreement; please retain it in your file(s) pertaining to the same. To schedule the work, please visit the CSX Property Portal to complete the Outside Party Number Request Form. Pursuant to terms of the Agreement, the protection services fees will be invoiced upon completion of installation of the facilities.

Should there be any questions, please feel free to give us a call at the above referenced number.

Sincerely,
Deanna Paxon

CSXT Transportation (CSXT) General Notes (Aerial):

1) CSXT owns its right-of-way for the primary purpose of operating a railroad, and shall maintain unrestricted use of its property for current and future operations.

2) Agency or its contractor shall arrange and conduct its work so that there will be no interference with CSXT operations, including train, signal, telephone and telegraphic services, or damages to CSXT's property, or to poles, wires, and other facilities of tenants of CSXT's property or right-of-way.

3) Refer to the CSXT's "Design & Construction Standard Specifications Wireline Occupancies" revised December 16, 2016 and "Design & Construction Standard Specifications Pipeline Occupancies" revised June 5, 2018 (4.1.2).

4) Work schedule is subject to the approval of all required construction submittals by the CSXT Construction Representative, verification that proposed work will not conflict with any CSXT U.G. Facilities, and the availability of CSXT Flagging and Protection Services. Construction submittals will be based upon the proposed scope of work and may include, but are not limited to; proposed work plan, project schedule, means and methods, site access, dewatering, temporary excavation/shoring, soil disposition/management, track monitoring, concrete placement work, structural lifting/rigging plans for hoisting operations, substructure construction plans, steel erection plans, roadwork plans, etc. No work may begin on, over, or adjacent to CSXT property, or that could potentially impact CSXT property, operations or safety without the prior completion and approval of the required aforementioned information and approvals.

5) Prior to construction, all signal facilities and/or warning devices at proposed facility crossing, i.e. cantilevers, flashers, and gates must be located and marked/flagged by CSXT. The traditional "One Call" utility locate services are not responsible for locating any CSX under-grade utilities or facilities Contractor shall be held liable for any damages to CSXT communication & signal facilities.

6) The use of construction safety fencing is required when a CSXT Flagman is not present. Distance of fencing from nearest rail to be determined by the CSXT Track Supervisor and shall be removed upon completion of the project.

7) Contractor access will be limited to the immediate project area only. The CSXT property outside the project area may not be used for contractor access to the project site and no temporary at-grade crossings will be allowed.

8) All material and equipment will be staged to not block any CSXT access or maintenance roads. No hoisting or auxiliary equipment necessary for the procedure shall be placed on CSXT track structure and / or ballast section. Clear working locations for equipment used will be laid out and approved by CSXT's representative prior to equipment set-up. Agency and contractor shall not store their materials or equipment on CSXT's property or where they may potentially interfere with CSXT's operations.

9) Where anchor guys are required, guy wires and anchors shall be placed in a location that does not interfere with drainage and ditches. Guys shall be placed in such a manner as to keep the pole from leaning/falling in the direction of the tracks.

10) CSXT does not grant or convey an easement for this installation.

11) CSXT requires contractors, subcontractors, and vendors to participate in job safety briefings daily and as necessary with the CSXT flagger. The scope of work may require that various protection against train movements be discussed, understood, and utilized. Work shall only be undertaken with the presence and permission of the CSXT flagger. If at any time the CSXT flagger perceives that the hoisting procedure is causing or has the potential to cause a hazard or delay to CSXT operations through the project site, work will cease until such time as satisfactory modifications have been reviewed and approved.

12) The right of way shall be restored to a condition equal to or better than the condition prior to beginning the project before final acceptance will be provided. Punch lists shall be responded to prior to issuance of an acceptance memorandum signed by the CSXT Representative.

ENGINEERING SERVICES, INC.
P.O. BOX 204
165 FOSTER LANE
STANFORD, KY 40484
PHONE (606) 365-8362
FAX (606) 365-1097

PLAN VIEW

KENTUCKY UTILITIES COMPANY
HARDIN CO TO GLENDALE
GLENDALE, HARDIN COUNTY, KENTUCKY

DATE: 03/04/2022
SCALE: 1" = 100'
DRAWN BY: HSM
APPROVED BY: HSM
FILENAME: 21568RR

3/11/2022

PLAN VIEW

Scale: 1" = 100'

0 25 50 100 200

N

MP: 49
CROSSING LOCATION
4196.3'
1083.7'
CSX CL
MP: 48

ALL DISTANCES SHOWN ARE MEASURED PERPENDICULAR TO OR ALONG THE CSX RAILROAD CENTERLINE EXCEPT THE SPAN LENGTH AND THE TOTAL LENGTH OF WIRE ON CSX R/W, WHICH ARE MEASURED ALONG THE CENTERLINE OF THE PROPOSED TRANSMISSION LINE.

CSX PROPERTY R/W LINES SHOWN WERE DRAWN USING CSX VAL MAP V11604 DATED 06/30/1917.

PROPOSED KU STRUCTURE #26
171.5' OFF CSX R/W

(1) PROPOSED 0kV AFL DNO-1168 OPGW WIRE
(1) PROPOSED 0kV 7#8 ALWD SHIELD WIRE
(6) PROPOSED 345kV 954 ACSR 45/7 CONDUCROR WIRES

EXISTING 69 kV TRANSMISSION LINE

387.5' SPAN LENGTH

204.5' HORIZONTAL CLEARANCE

204.6' APPROXIMATE HORIZONTAL CLEARANCE

33.0' CSX CL TO CSX R/W

EXISTING 69 kV TRANSMISSION LINE

175.0' CSX CL TO CSX R/W

CSX R/W

GAITHER STATION ROAD

CSX R/W

CSX CL

CSX R/W

112.2' HORIZONTAL CLEARANCE

CSX CROSSING (SEE TABLE-A)

83.0' TOTAL CSX R/W

50.0' CSX CL TO CSX R/W

PROPOSED KU STRUCTURE #25
62.2' OFF CSX R/W

TABLE-A	
LATITUDE:	37.623597°
LONGITUDE:	-85.905976°
ANGLE OF CROSSING:	54.8°
TOTAL LENGTH OF WIRE ON CSX R/W	101.6'
LINE VOLTAGE:	345 kV
MINIMUM VERTICAL CLEARANCE:	64.8'
VERTICAL CLEARANCE TO CONDUCTOR:	64.8'
STRUCTURE 25 HEIGHT:	115.0'
STRUCTURE 25 BURY DEPTH:	N/A
STRUCTURE 26 HEIGHT:	105.0'
STRUCTURE 26 BURY DEPTH:	N/A

CSX PROPERTY SERVICES REVIEW
[X] No Exceptions [ ] Exceptions Noted
This review is for the general conformance with CSX utility design specifications only. Sole responsibility for all aspects of the overall design shall remain with the facility owner. This review does not constitute approval to proceed without meeting all of CSX's safety and contractual requirements.
By:

SBD009287141

PROFILE VIEW

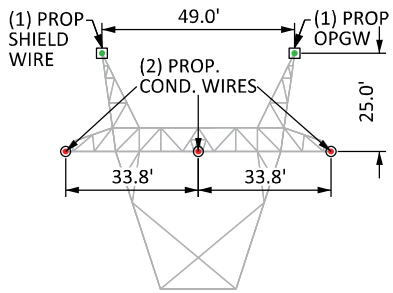
SBD09287141

THE DISTANCES FROM CSX CL TO XXX POLES ARE MEASURED AT A RIGHT ANGLE TO THE TRACK AND ARE DENOTED BY A *; ALL OTHER HORIZONTAL DISTANCES ARE MEASURED ALONG THE CENTERLINE OF THE PROPOSED TRANSMISSION LINE.

SCALE:
HORIZONTAL: 1" = 100'
VERTICAL: 1" = 50'

CSX PROPERTY SERVICES REVIEW
☒ No Exceptions ☐ Exceptions Noted
This review is for general conformance with CSX utility design specifications only. Sole responsibility for all aspects of the overall design shall remain with the facility owner. This review does not constitute approval to proceed with any meeting all of CSX's safety and contractual requirements.
By:

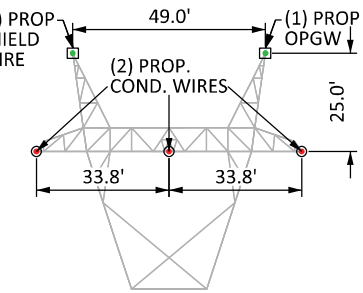
POLE TOP CONFIGURATION
KU STRUCTURE 25



NOT TO SCALE

Exhibit A

POLE TOP CONFIGURATION
KU STRUCTURE 26



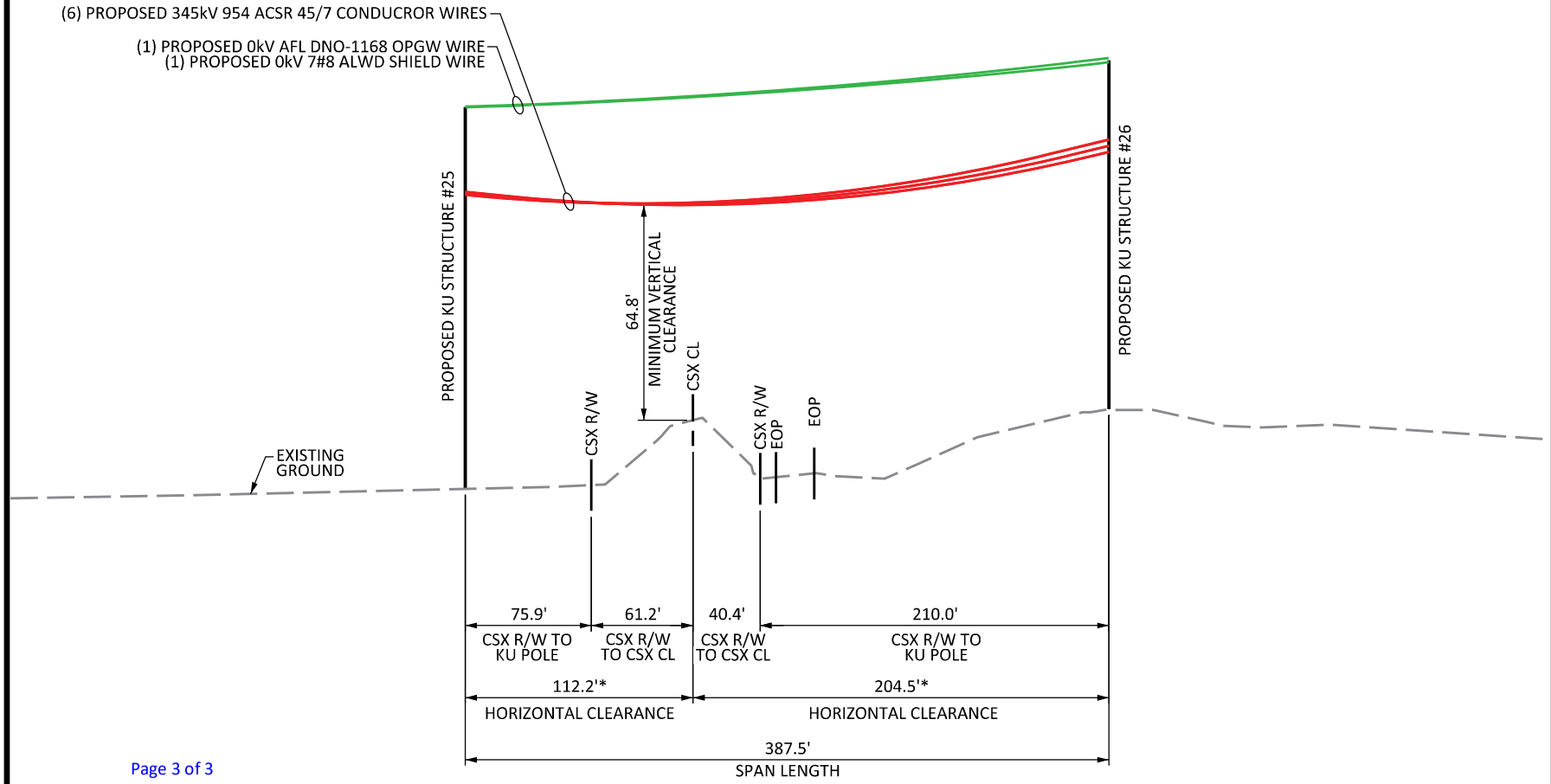
NOT TO SCALE

TABLE-A	
LATITUDE:	37.623597°
LONGITUDE:	-85.905976°
ANGLE OF CROSSING:	54.8°
TOTAL LENGTH OF WIRE ON CSX R/W	101.6'
LINE VOLTAGE:	345 kV
MINIMUM VERTICAL CLEARANCE:	64.8'
VERTICAL CLEARANCE TO CONDUCTOR:	64.8'
STRUCTURE 25 HEIGHT:	115.0'
STRUCTURE 25 BURY DEPTH:	N/A
STRUCTURE 26 HEIGHT:	105.0'
STRUCTURE 26 BURY DEPTH:	N/A

3/11/2022

DATE: 03/04/2022
SCALE: 1" = AS SHOWN
DRAWN BY: HSM
APPROVED BY: HSM
FILENAME: 21568RR

PROFILE VIEW
KENTUCKY UTILITIES COMPANY
HARDIN CO TO GLENDALE
GLENDALE, HARDIN COUNTY, KENTUCKY



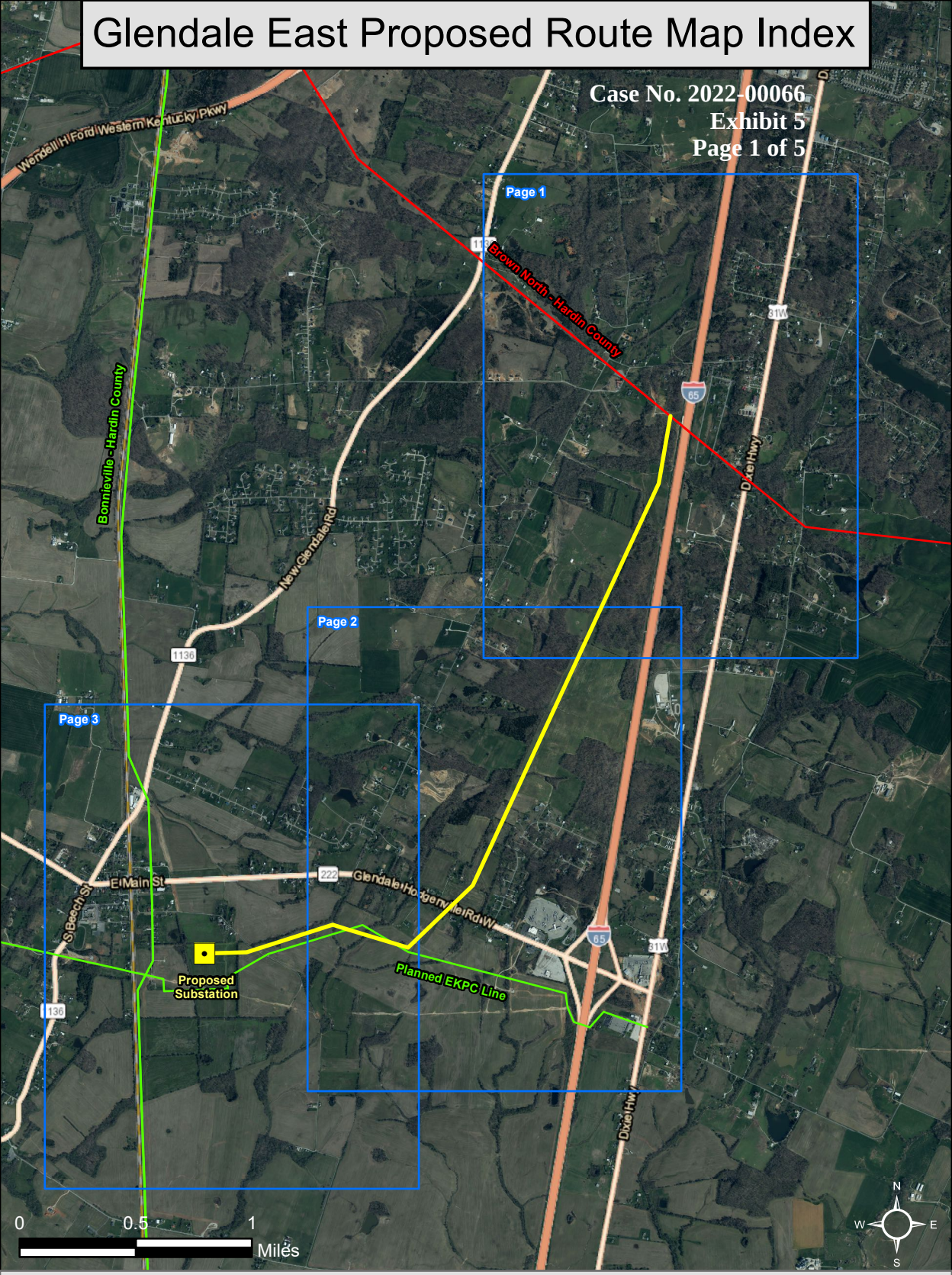
P.O. BOX 204
165 FOSTER LANE
STANFORD, KY 40484
PHONE (606) 365-8362
FAX (606) 365-1097

ENGINEERING SERVICES, INC.

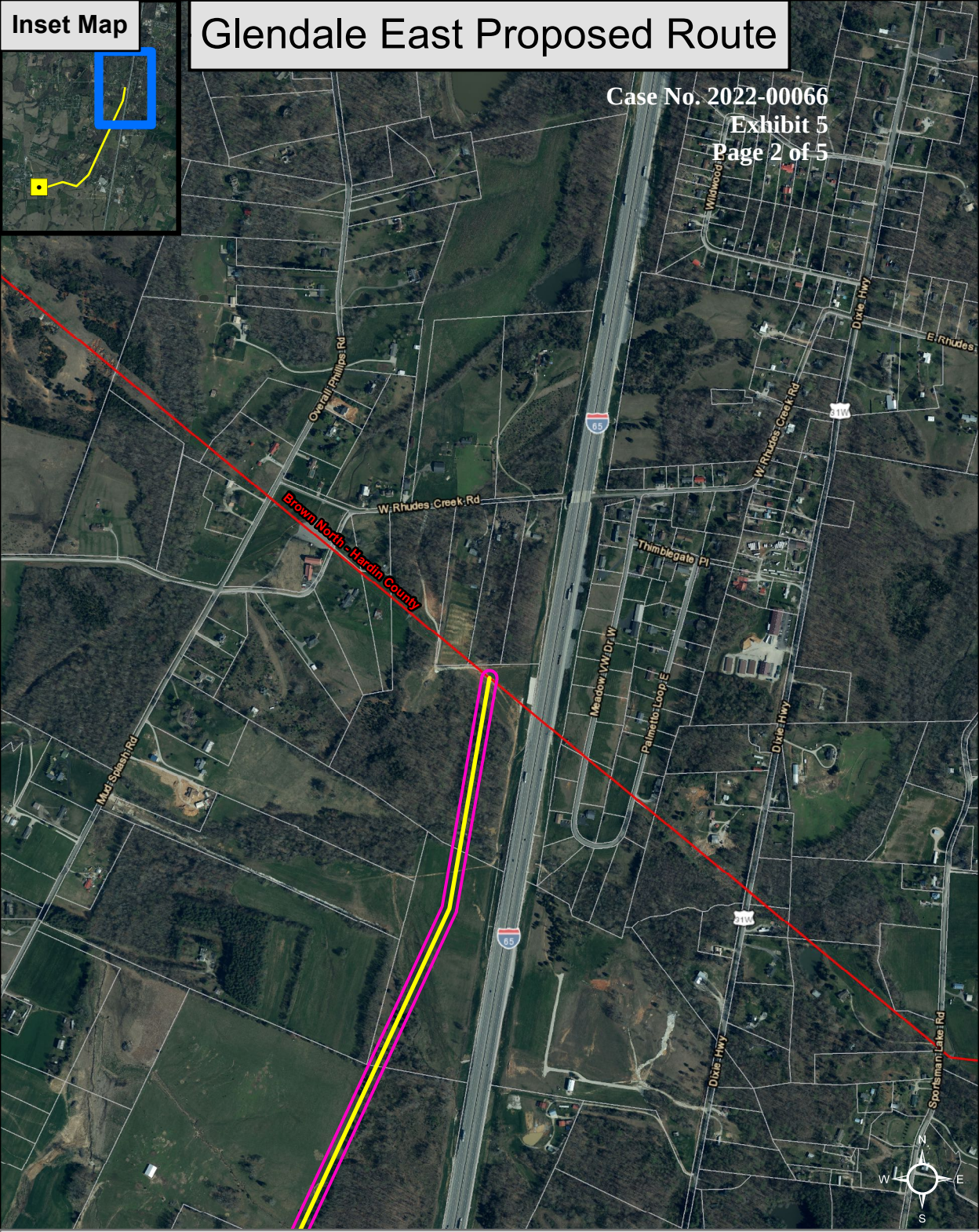
Case No. 2022-00066

Glendale East Proposed Route Map Index

Case No. 2022-00066
Exhibit 5
Page 1 of 5



Proposed 345 kV Route
69 kV Transmission Lines
345 kV Transmission Lines

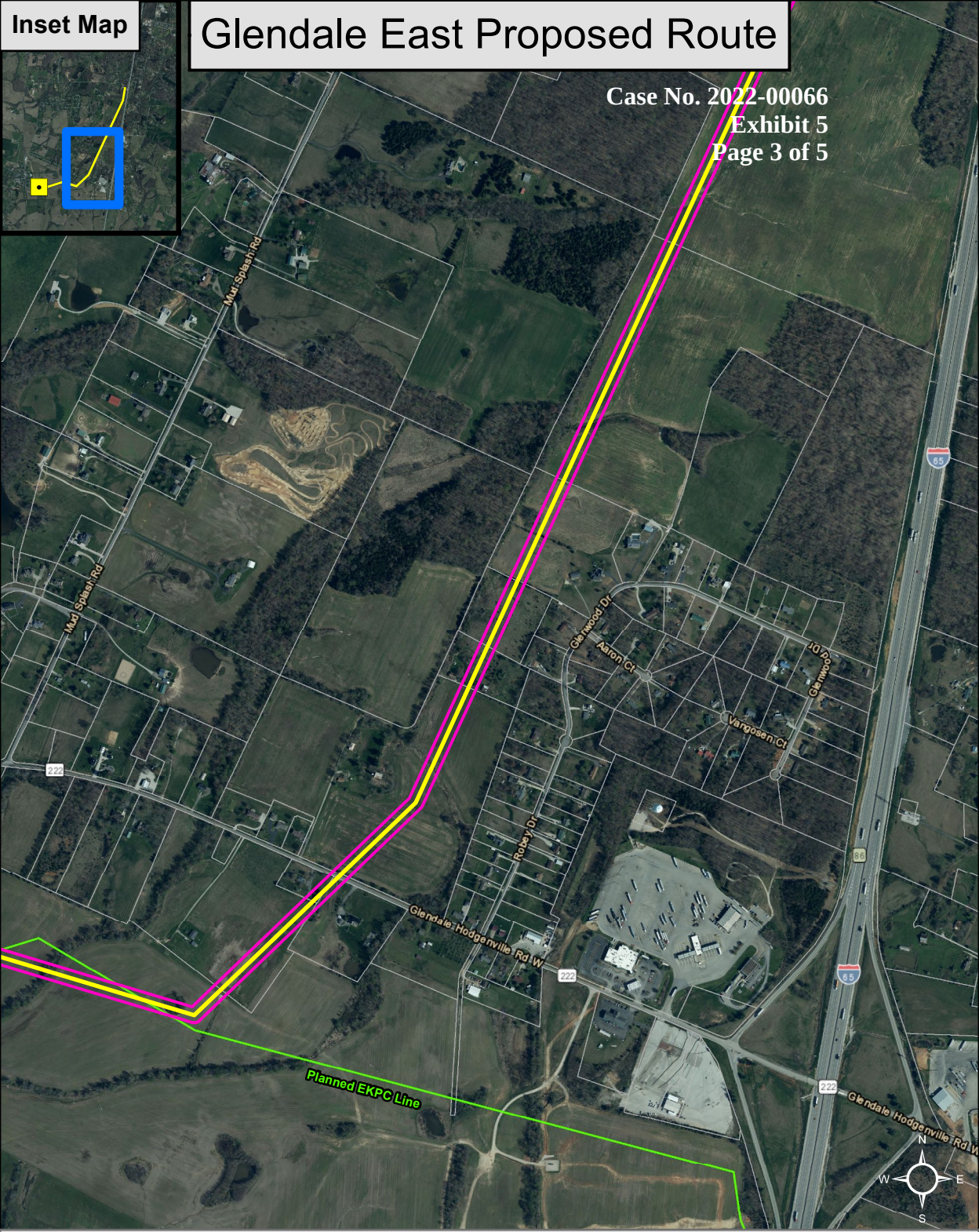


Proposed 345 kV Route
Approximate Right-of-Way
Parcels
Railroad
69 kV Transmission Lines
345 kV Transmission Lines

1 inch = 1,000 feet printed at 8.5 x 11 inches

Page: 1

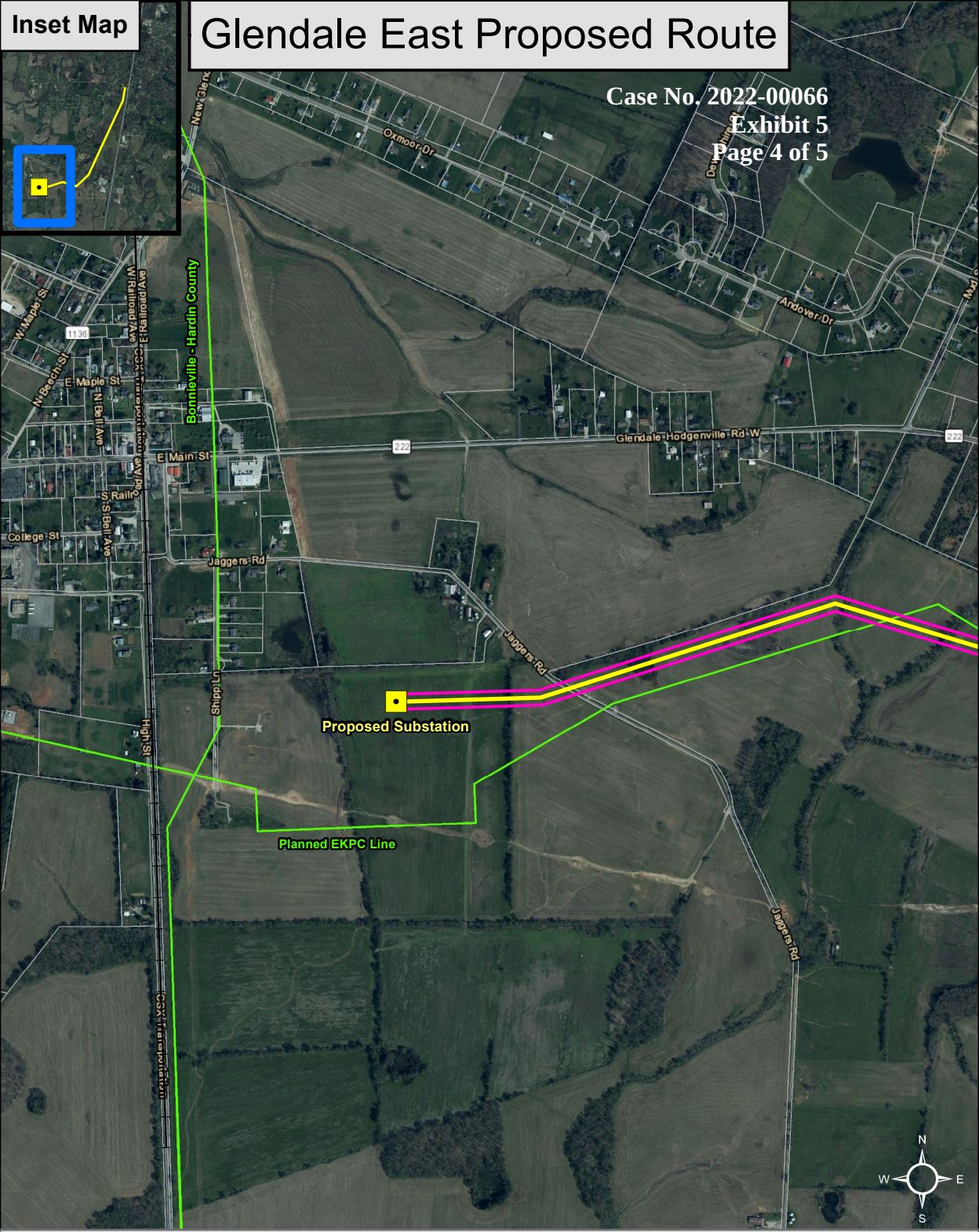
0 500 1,000 Feet



Proposed 345 kV Route
Approximate Right-of-Way
Parcels
Railroad
69 kV Transmission Lines
345 kV Transmission Lines

1 inch = 1,000 feet printed at 8.5 x 11 inches

0 500 1,000 Feet

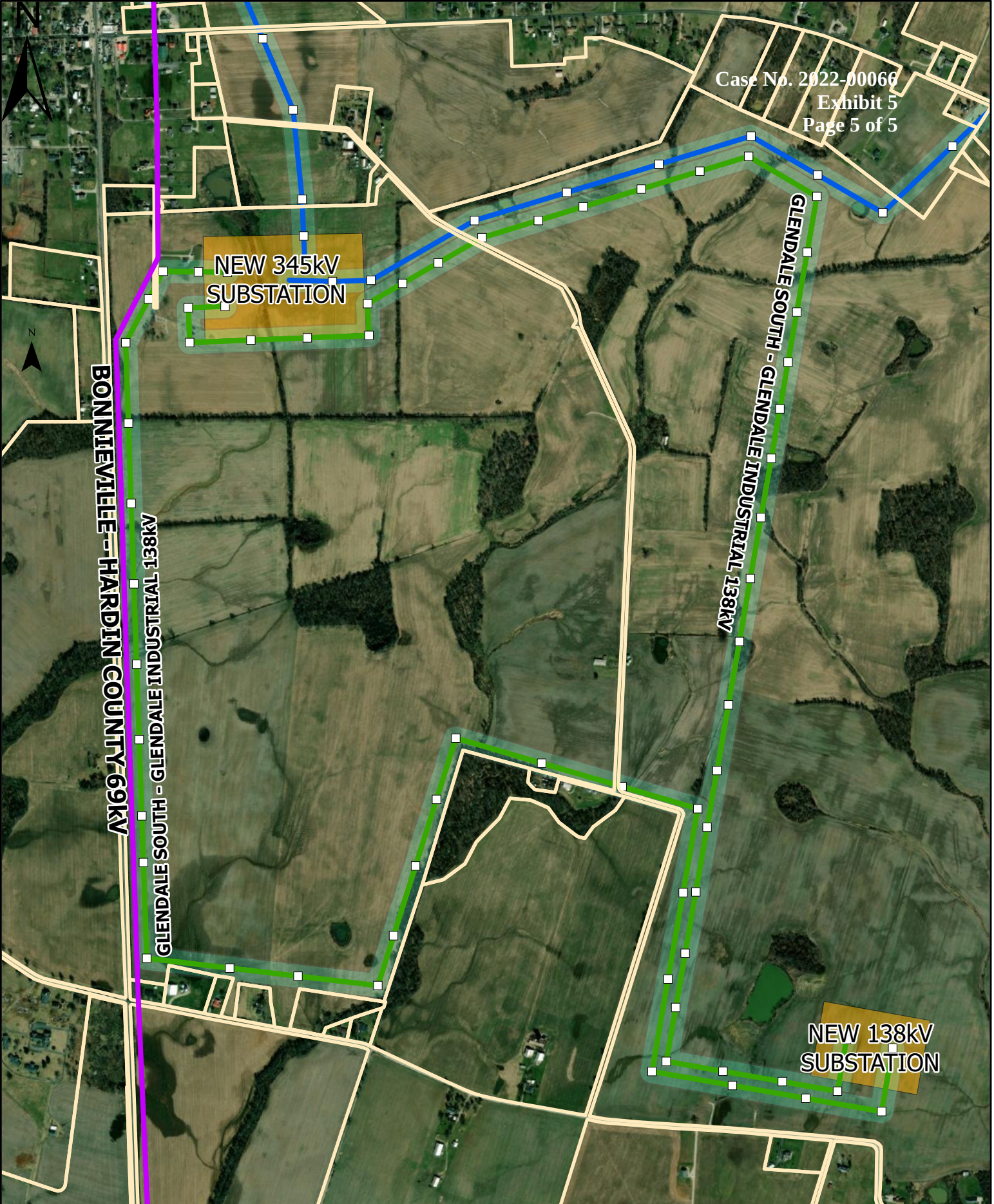


Proposed 345 kV Route
Approximate Right-of-Way
Parcels
Railroad
69 kV Transmission Lines
345 kV Transmission Lines

1 inch = 1,000 feet printed at 8.5 x 11 inches

Page: 3

0 500 1,000 Feet



GLENDALE ROUTING MAP

138 kV Circuits

0 500 1,000 Feet

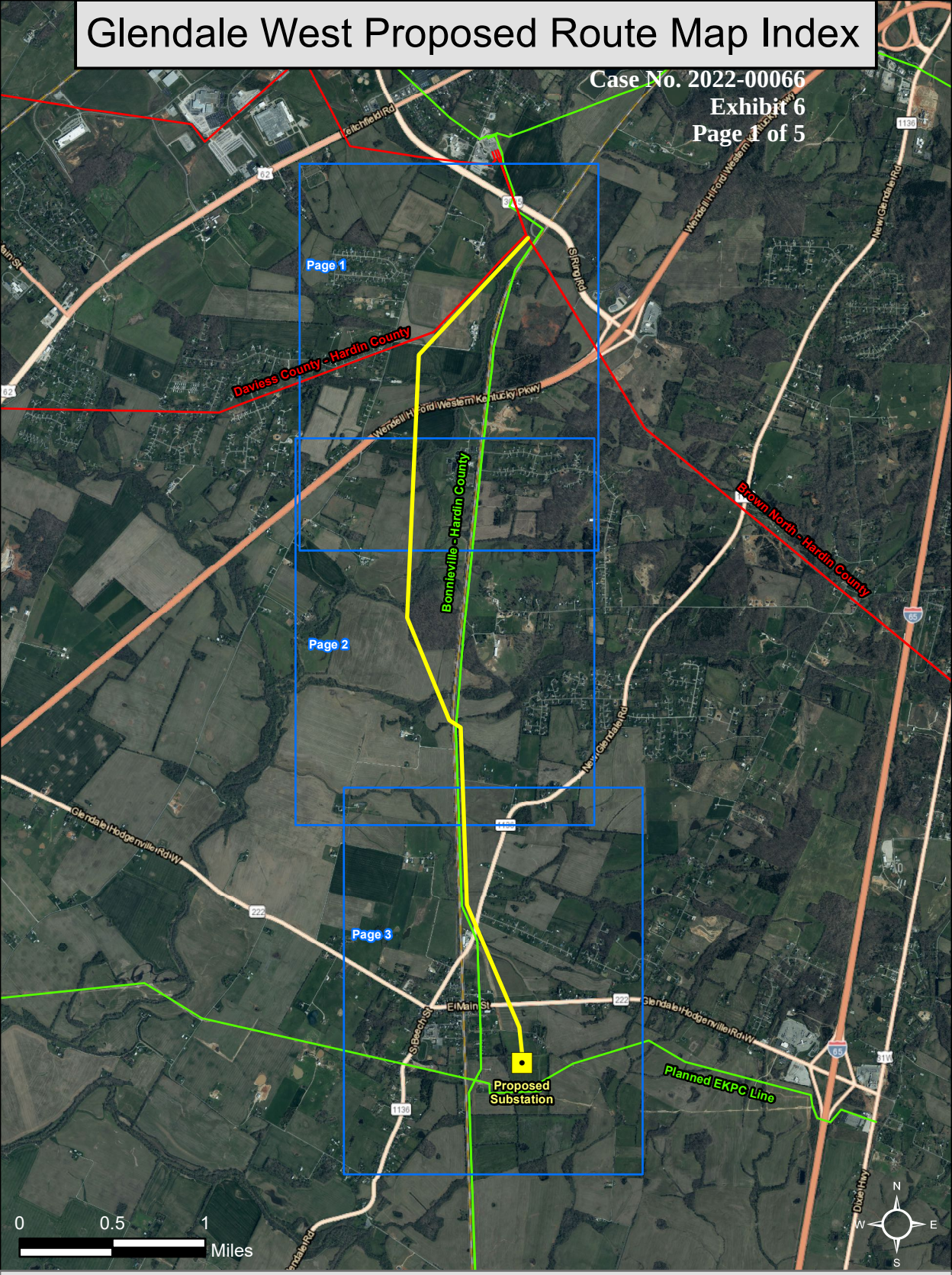
KU Transmission Circuit Routing

- 138 kV
- 345 kV
- Proposed Structure Locations
- Parcels
- Edge of ROW
- Electric Substation Boundary

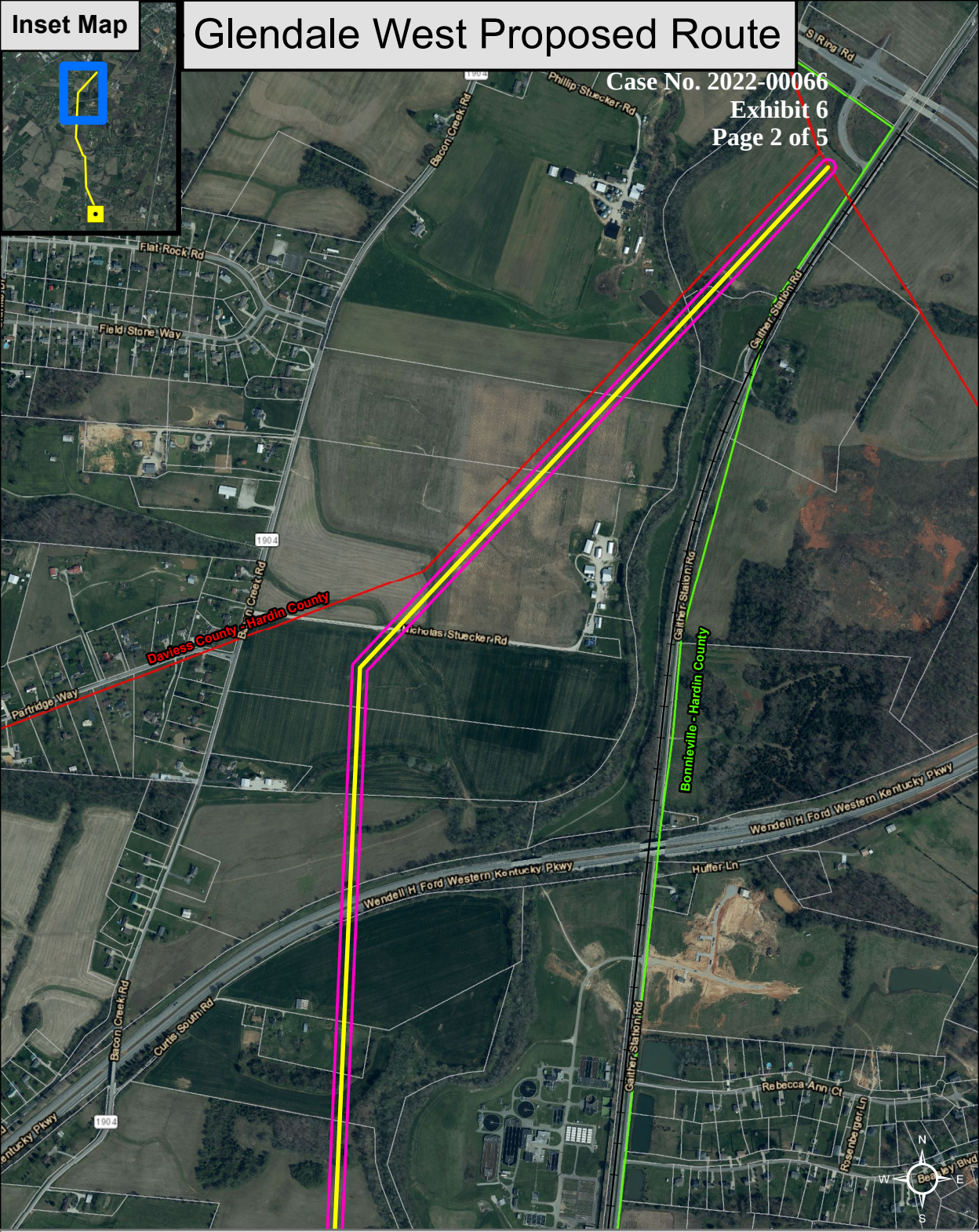
LG&E KU
PPL companies

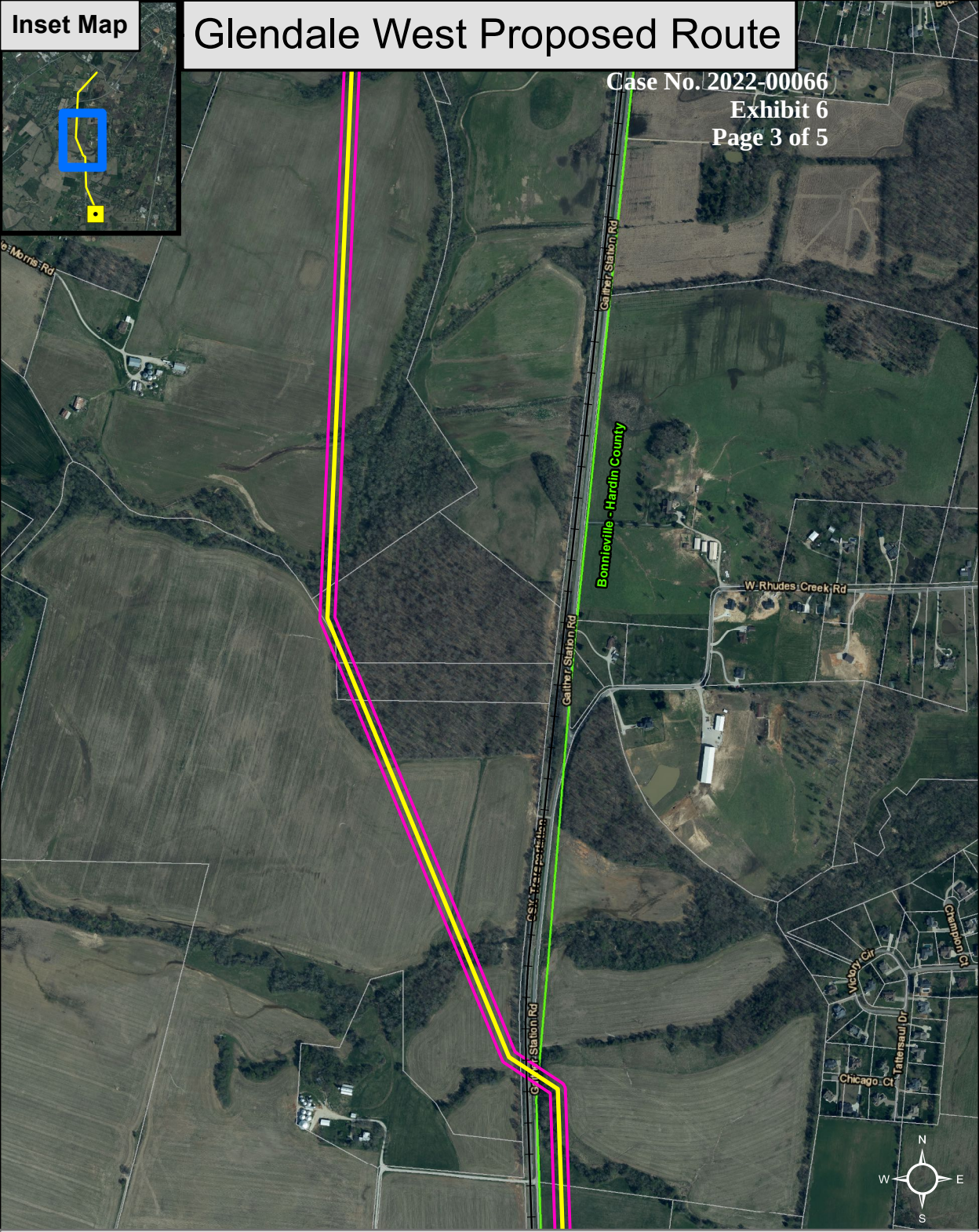
Glendale West Proposed Route Map Index

Case No. 2022-00066
Exhibit 6
Page 1 of 5

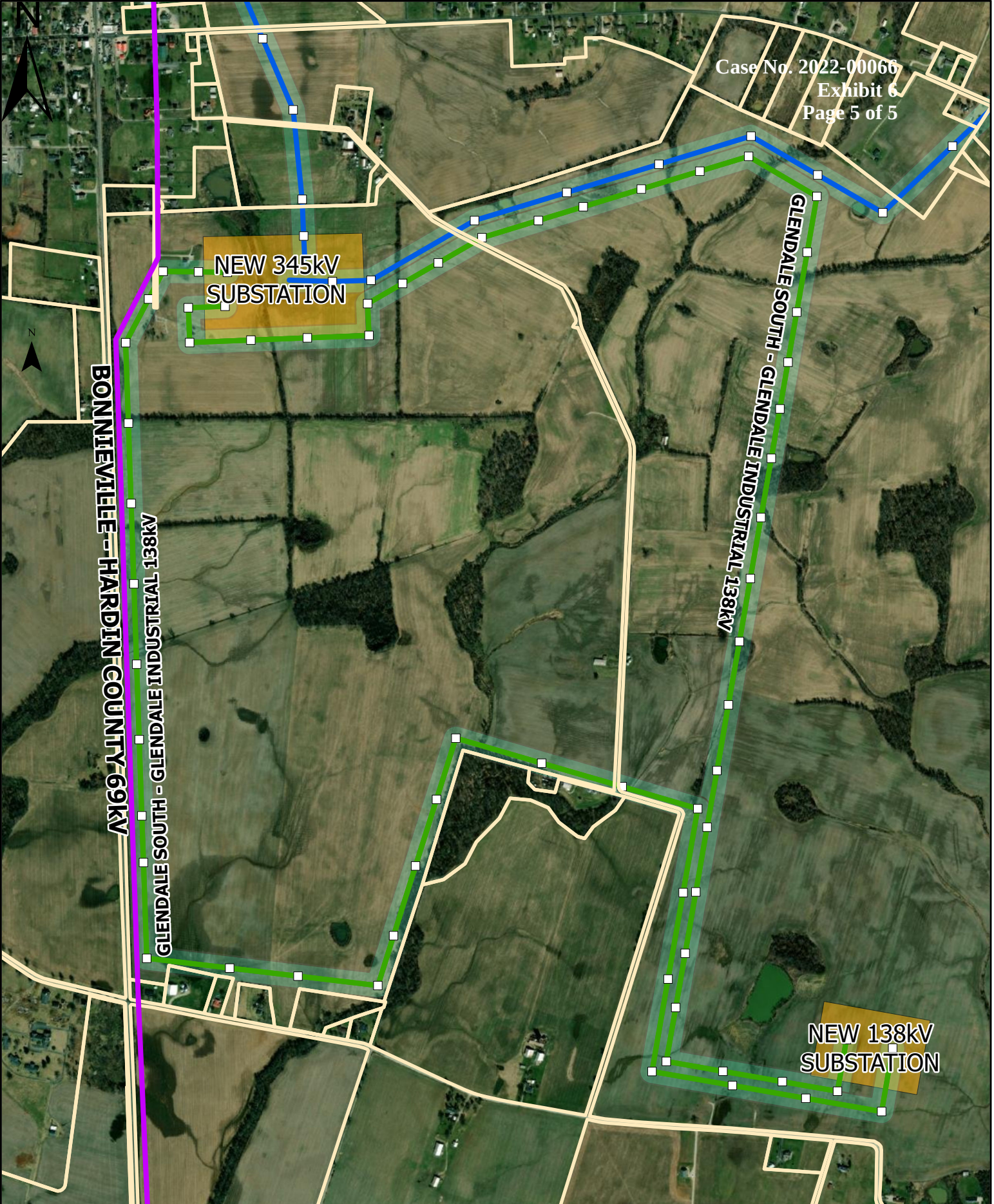


Proposed 345 kV Route — 69 kV Transmission Lines — 345 kV Transmission Lines


Inset Map
Glendale West Proposed Route
Case No. 2022-00066
Exhibit 6
Page 2 of 5
Phillip Stuecker Rd
Bacon Creek Rd
Flat Rock Rd
Field Stone Way
Gaither Station Rd
Daviess County - Hardin County
Nicholas Stuecker Rd
Partridge Way
Bonnieville - Hardin County
Wendell H Ford Western Kentucky Pkwy
Huffer Ln
Curtis South Rd
Rebecca Ann Ct
Rosenberger Ln
1904
N
W
E
S
Proposed 345 kV Route
Approximate Right-of-Way
Parcels
Railroad
69 kV Transmission Lines
345 kV Transmission Lines
1 inch = 1,000 feet printed at 8.5 x 11 inches
Page: 1
0
500
1,000
Feet


Inset Map
Glendale West Proposed Route
Case No. 2022-00066
Exhibit 6
Page 3 of 5
Gaither Station Rd
Bonnieville - Hardin County
W Rhudes Creek Rd
CSX Transportation
Victory Cir
Champion Ct
Tattersall Dr
Chicago Ct
N
W
E
S
Proposed 345 kV Route
Approximate Right-of-Way
Parcels
Railroad
69 kV Transmission Lines
345 kV Transmission Lines
1 inch = 1,000 feet printed at 8.5 x 11 inches
Page: 2
0
500
1,000
Feet


Inset Map
Glendale West Proposed Route
Case No. 2022-00066
Exhibit 6
Page 4 of 5
Bonnieville - Hardin County
Proposed Substation
Glendale Rd
Oxmoor Dr
Dewrashire Ct
Crain Ln
W Maple St
E Maple St
N Beech St
E Railroad Ave
W Railroad Ave
N Bell Ave
E Main St
Glendale-Hodgenville Rd-W
S Railroad Ave
S Bell Ave
S Beech St
College St
Jaggers Rd
Shipp Ln
High St
1136
222
N
W
E
S
Proposed 345 kV Route
Approximate Right-of-Way
Parcels
Railroad
69 kV Transmission Lines
345 kV Transmission Lines
1 inch = 1,000 feet printed at 8.5 x 11 inches
Page: 3
0
500
1,000
Feet



GLENDALE ROUTING MAP

138 kV Circuits

0 500 1,000 Feet

KU Transmission Circuit Routing

- 138 kV
- 345 kV
- Proposed Structure Locations
- Parcels
- Edge of ROW
- Electric Substation Boundary

LG&E KU
PPL companies