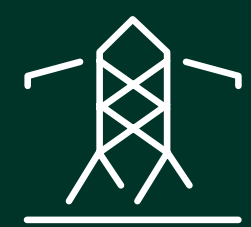


Regulatory process

PowerOn Midwest must undergo a comprehensive state regulatory review by the Minnesota Public Utilities Commission (MPUC). This includes two key approvals:

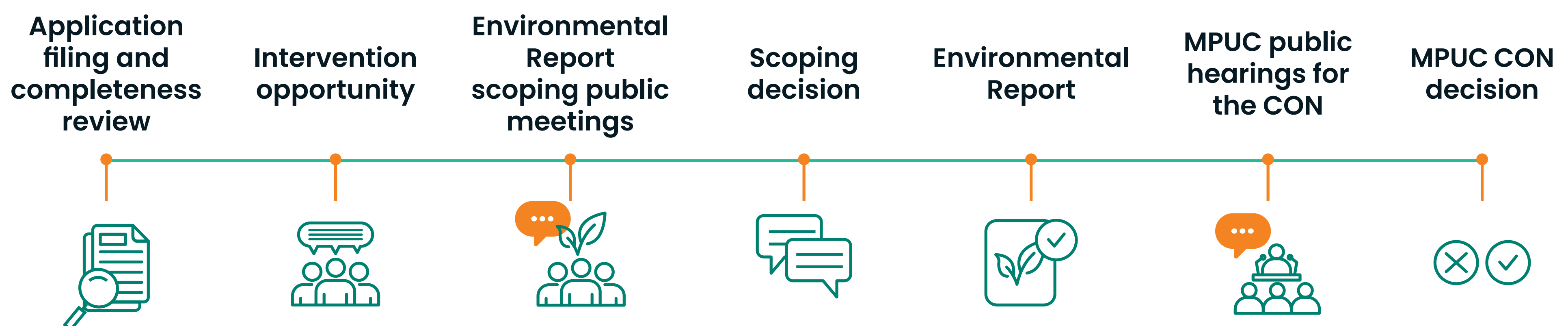
- A **Certificate of Need (CON)** to determine whether the project is necessary and appropriately sized.
- **Route Permit** to identify where the lines should be located and how they should be designed.



Certificate of Need

Typically a 12 to 15-month process

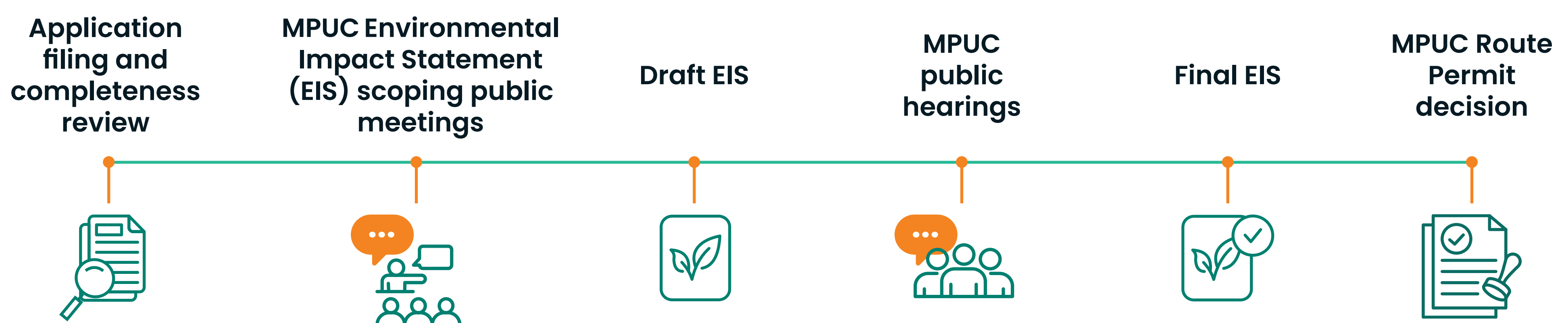
 PUBLIC PARTICIPATION OPPORTUNITY



Route Permit

Typically a 12 to 15-month process per application

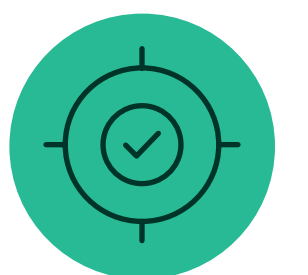
 PUBLIC PARTICIPATION OPPORTUNITY



Routing considerations

Utilities are required to consider various routing criteria per Minnesota Statutes chapter 216i and Minnesota Rule 7850.4100. Those criteria and industry best practices include:

Opportunities



Linear features that are oriented in the direction of the project:

- Field lines
- Section lines
- Utility corridors
- Property lines
- Roads

Sensitivities

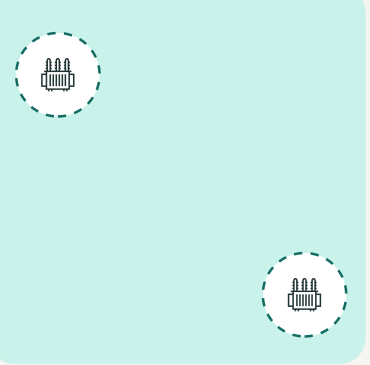


Area resources or conditions that may require additional review and consideration:

- Agricultural conflicts
- Airports (public)
- Cemeteries
- Communication towers
- Conservation areas/nature preserves
- Contaminated areas
- Cultural/historic resources
- Forests
- Hospitals
- Levees/dams
- Mines/quarries
- Pipelines*
- Planned development
- Protected federal lands
- Protected state lands
- Railroads*
- Recreation
- Religious facilities
- Residences
- Scenic byways
- Schools/daycares
- Sensitive species
- Streams/wetlands

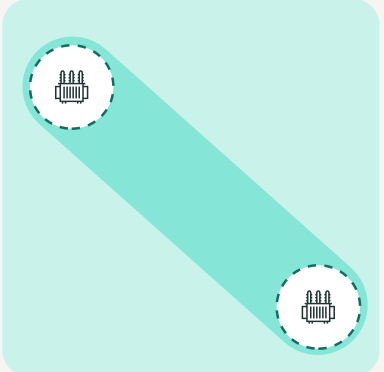
**Linear features with additional study needed*

Route development process



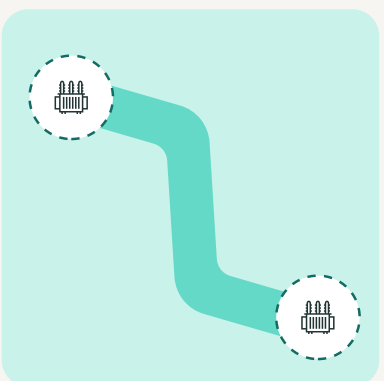
Define study area

Study area includes the project endpoints (substations).



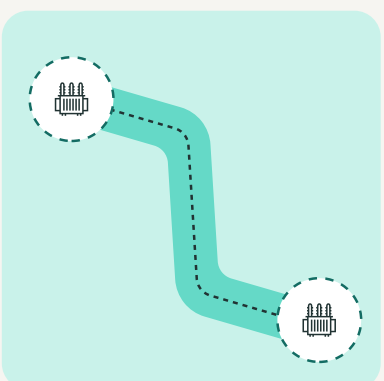
Identify route corridors

Using routing considerations and stakeholder input, we'll identify potential corridors for a transmission line.



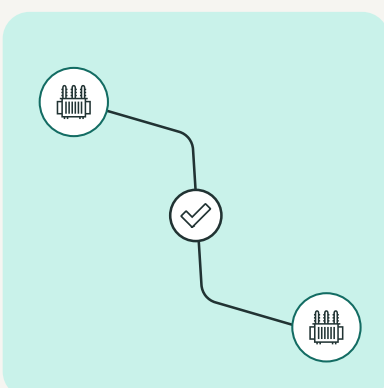
Refine to preliminary routes

With additional stakeholder input, we'll refine route corridors into narrowed preliminary routes.



Identify proposed route

We'll submit a proposed route in the Route Permit applications to the Minnesota Public Utilities Commission (MPUC).



MPUC determines final route

The MPUC will review the Route Permit applications and determine the final route.

To develop a proposed route, we'll consider:

- Opportunities
- Sensitivities
- Public input
- Project endpoints
- Engineering and construction considerations



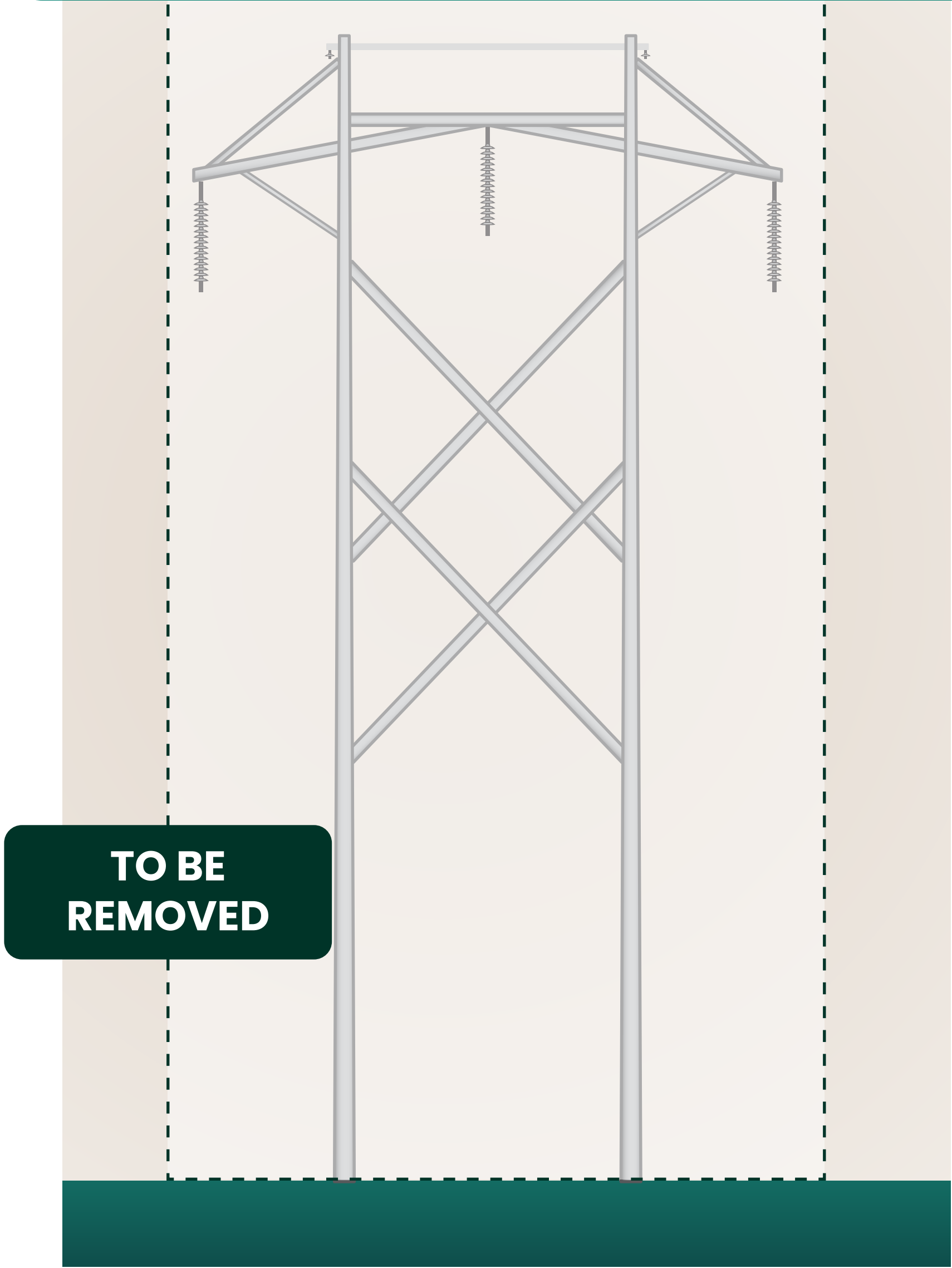
Engagement opportunity

We're early in the development process. Please share information to help our teams identify opportunities and sensitivities.

345 kV structures

Pleasant Valley to North Rochester segment only

Existing typical wood and steel H-frame structure (single circuit)



HEIGHT
70–110 ft

WIDTH
54 ft

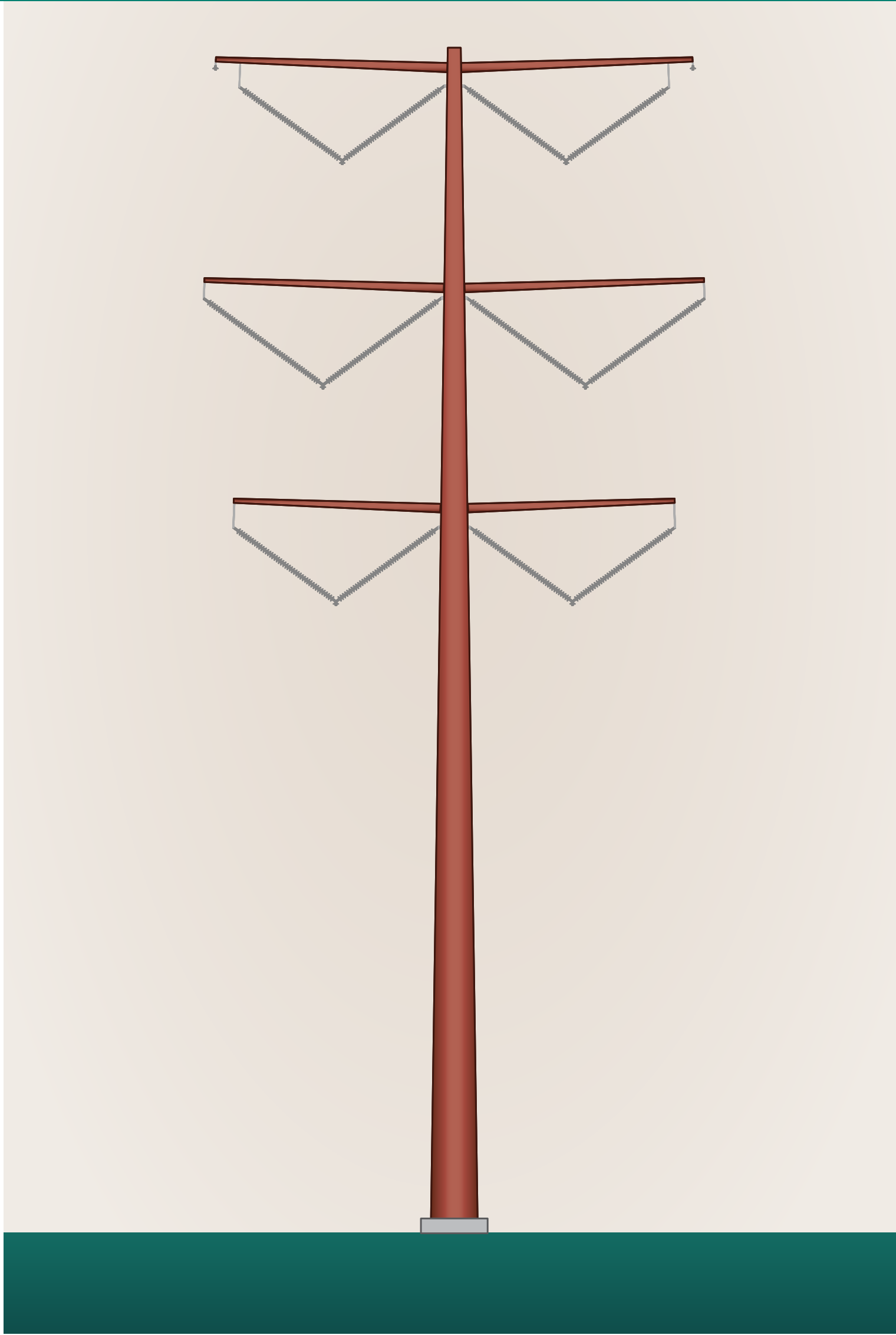
SPAN
400–1,000 ft

MINIMUM GROUND CLEARANCE
26–38 ft

FOUNDATION DEPTH
Varies

RIGHT-OF-WAY WIDTH
150 ft

Preliminary typical structure (double circuit)



HEIGHT
90–160 ft

WIDTH
14–50 ft

SPAN
800–1,200 ft

MINIMUM GROUND CLEARANCE
26–38 ft

FOUNDATION DEPTH
30–40 ft

RIGHT-OF-WAY WIDTH
150 ft

Land rights

Land rights acquisition

What are land rights?

Land rights is the name used for the property rights acquired by the utility used for the construction, operation, and maintenance of a transmission line. Most often, the land rights acquired are easements.

What is an easement?

An easement allows the utilities the right to construct, operate, and maintain a transmission line and other associated infrastructure on a landowner's property.

Our land rights acquisition process

Project representatives will hold individual meetings with affected landowners to discuss land rights.



Utilities contact landowners to begin the easement discussion.



Easement process is discussed with landowners. An offer is based on current market values (similar properties) and other property specifics.



The utilities work closely with the landowner to resolve concerns and reach agreement. If unable to agree, state law provides for an eminent domain process.



The utilities construct, operate, and maintain the transmission line within the easement.

Buy the Farm

Minnesota's 'Buy the Farm' law (Minn. Stat. § 216I.21, subd. 4) applies to the project and it allows a landowner, in certain circumstances, to elect for the utility to buy their entire property (or some portion of it) rather than an easement. Minnesota law also provides certain landowners who make Buy the Farm elections with relocation assistance, which can help ease the burden of moving from a home, farm, or business.

Why didn't the I-90 route between Lakefield Junction and Pleasant Valley advance?

1

Development along I-90 made following the highway more impactful and/or impractical in many areas

- The cities, airports, and highway interchanges along I-90 often required lengthy deviations from the I-90 corridor. In addition, following the I-90 corridor would cross businesses, public facilities, homes and farms, or require deviations from the I-90 corridor.

2

Environmental and natural resource constraints

- Following the I-90 corridor would result in impacts to wildlife management areas, conservation lands, lakes, and wetlands or require lengthy deviations to avoid impacts. Crossing these features would result in unique environmental impacts and permitting and engineering challenges.

3

The route could only follow I-90 approximately 38% of the time

- Because of the numerous constraints, the route could only follow I-90 for approximately 38% of its length, failing to achieve the primary objective of using the interstate corridor.

4

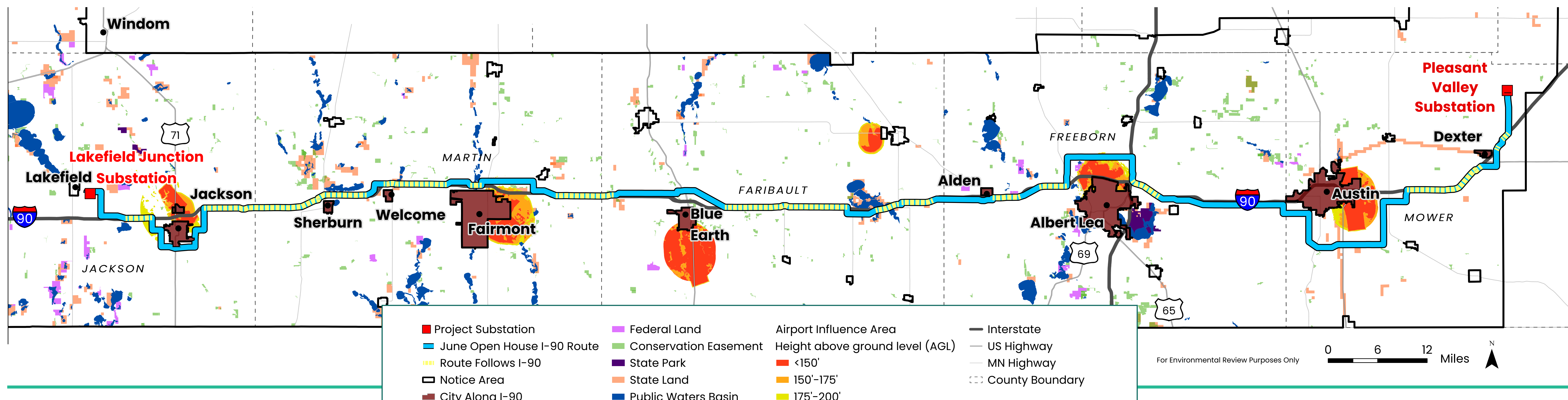
Longer route length increased cost and land impacts

- The I-90 route was 11–22 miles longer than the southern and northern routes, resulting in more impacts to landowners and property, as well as higher costs and greater construction and operational impacts.

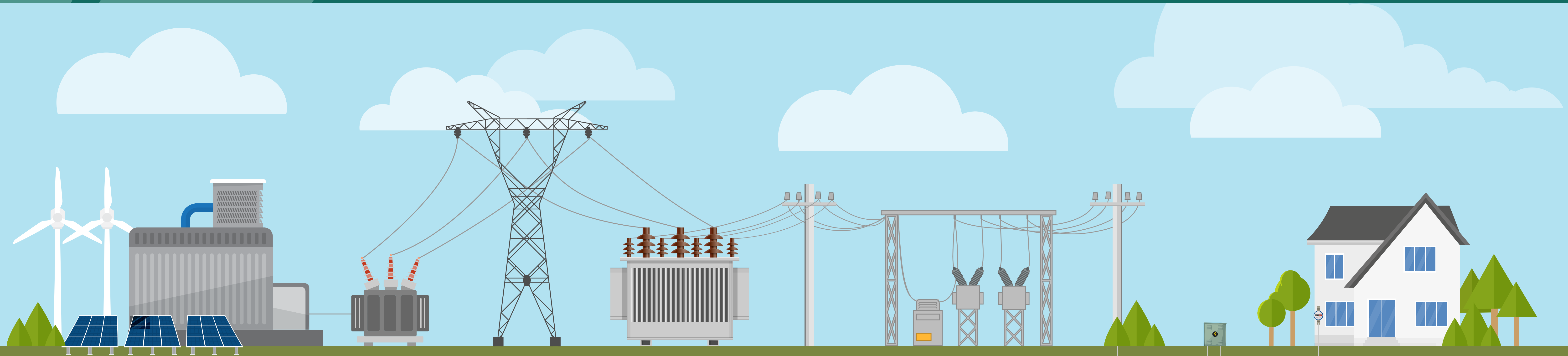
5

More engineering complexity and specialty structures

- The I-90 route had substantially more sharp turns than the northern and southern routes, requiring additional specialty structures and increasing construction complexity and cost, as well as structure footprints at heavy angle locations.



How electricity gets to you



1

Generation

Electricity is generated from fossil fuel-fired (e.g., coal, natural gas, oil), nuclear, wind, solar, hydro and storage generators

2

Step-up transformer

Voltage is increased to push the power over long distances

3

Transmission line

High voltage electricity is moved over long distances through transmission lines

4

Transmission substations

High voltage electricity is lowered for use on the local distribution system

5

Distribution substation

Substations lower the voltage further for local use

6

Distribution lines

Low voltage electricity is carried to homes and businesses

7

Pad-mounted transformer

Voltage is reduced to the level that people use in their homes for electronics, appliances and lighting

8

Home, farm & business

Electricity flows to a meter, to a service panel, and then to an outlet inside your home, farm or business

Electromagnetic Fields (EMF)

The basics.

EMF is commonly used as an abbreviation for three technically different but related terms: electric fields from the use of electricity, magnetic fields from the use of electricity, or electromagnetic fields from devices that use radio frequency.

For alternating-current transmission lines, both electric fields and magnetic fields occur at extremely low frequency.

EMF at home, school, and work.

EMF are all around us – from natural sources and human made sources. The widespread use of electricity means we are exposed to EMF in our everyday environment at work, school and home.

MAGNETIC-FIELD LEVELS (in milligauss) MEASURED NEAR HOUSEHOLD APPLIANCES



Hair dryer

6 in. away	12 in. away
300 mG	1 mG



Vacuum cleaner

6 in. away	12 in. away
300 mG	60 mG



Coffee makers

6 in. away	12 in. away
200 mG	40 mG



Electric shaver

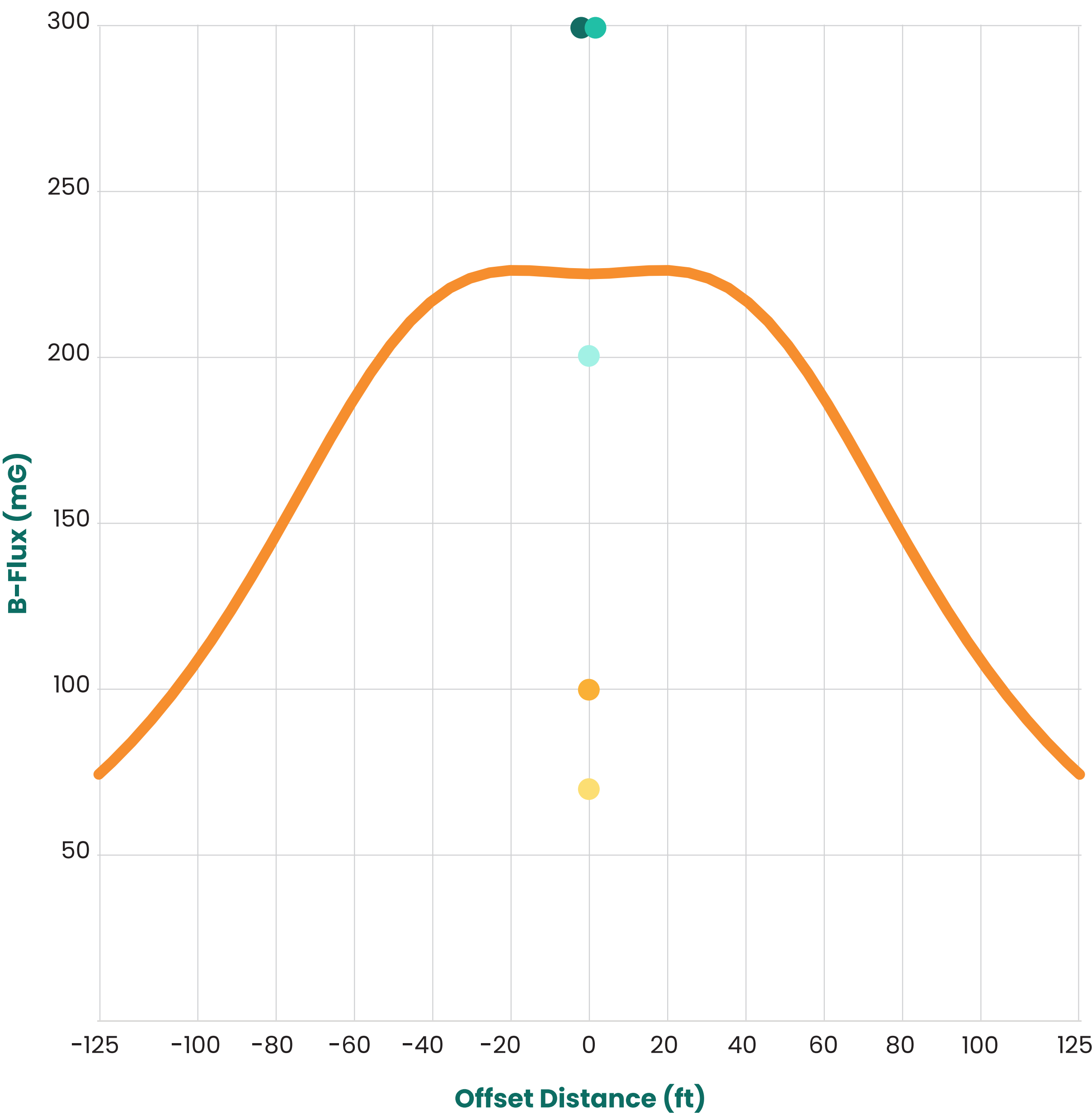
6 in. away	12 in. away
100 mG	20 mG



Blender

6 in. away	12 in. away
70 mG	10 mG

ANTICIPATED MAGNETIC FIELD LEVELS FOR POWERON MIDWEST 765 KV TRANSMISSION LINE



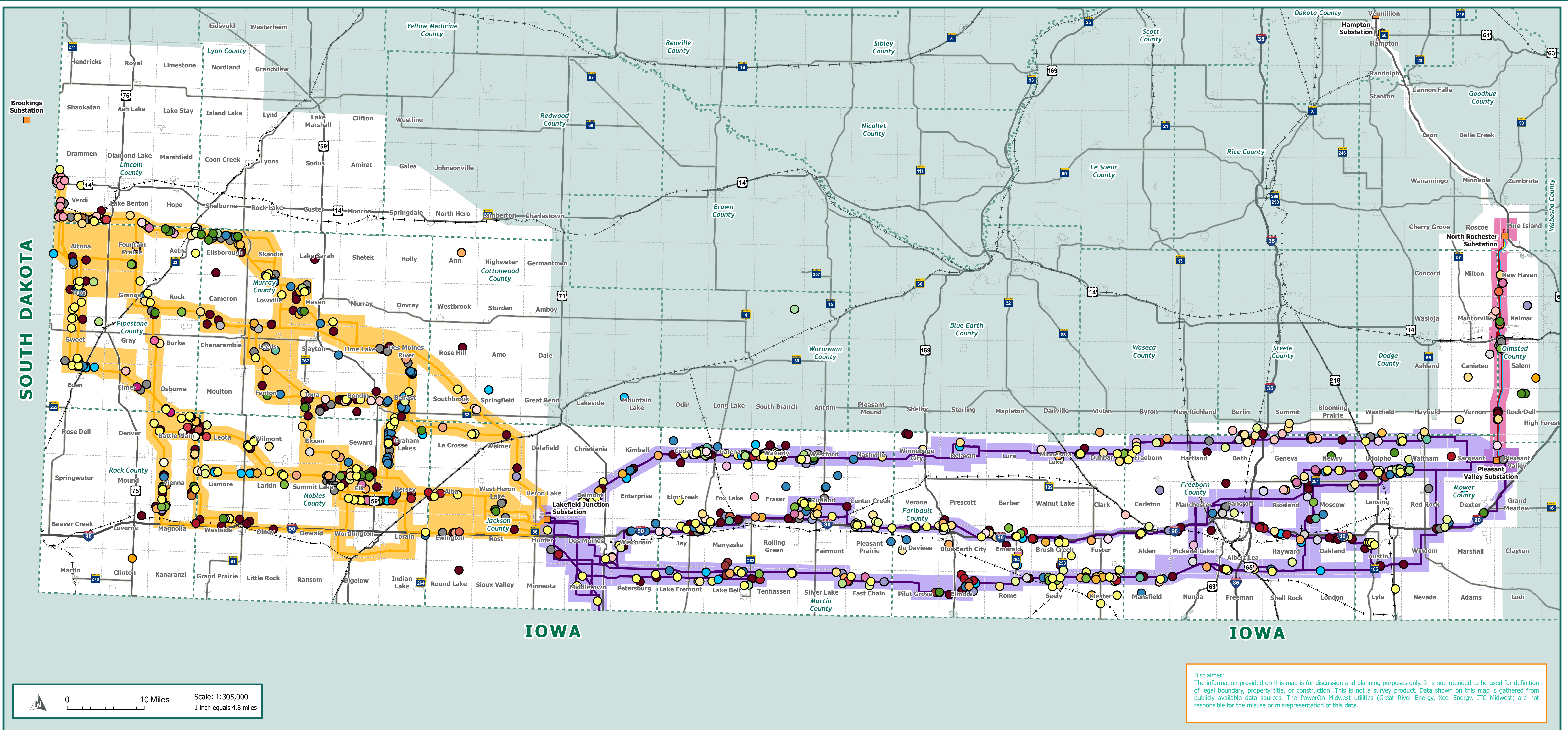
Graphic provides magnetic field levels of common household appliances and anticipated magnetic field under the proposed 765 kV line. **A few hundred feet from the proposed transmission lines, electric and magnetic fields are usually indistinguishable from everyday background levels.**

EXPERT SOURCES:





WHAT WE HEARD MAP



Public comments are considered as part of the route selection process, along with other routing criteria.