minnesota power
AN ALLETE COMPANY

PACKET OVERVIEW

Thank you for your interest in the Duluth Loop Reliability Project.

It is important to understand the project and be informed of what's happening in your community. Now is the time to provide your feedback to Minnesota Power. This project will **enhance reliability** by building an additional transmission source to communities in and around Duluth and along the North Shore.

Public engagement remains a top priority for our project team as we navigate and aim to prevent the spread of COVID-19. We appreciate you reviewing this packet of information to learn more about this project. Our team will continue to communicate additional engagement opportunities, pending the status of COVID-19.

PACKET MATERIALS

Your packet of information includes the following materials:

- Project Overview Handout
- Virtual Open House Materials
- Study Corridors Map
- Comment Form and Survey
- Prepaid Return Envelope

Please read the materials, provide your comments on the map and submit responses to the survey questions to share your valuable input with us.

You can:

- **Mail** the comment form, survey and map back to our team using the prepaid return envelope
- **Scan and email** it to connect@duluthloop.com

CONNECT WITH THE PROJECT TEAM

duluthloop.com connect@duluthloop.com (218) 755-5512

minnesota power
AN ALLETE COMPANY

Duluth Loop
RELIABILITY PROJECT

December 2020

Our Commitment to Reliable Energy

Under our EnergyForward strategy, we are committed to delivering reliable, affordable and cleaner energy to our customers. We have made significant changes to our generation mix, including the retirement of several small coal units, and now half of the energy we deliver comes from renewable sources. In order to maintain a continuous supply of safe and reliable electricity, we are investing in our transmission infrastructure to enhance the stability of our electric system in the communities we serve.

Project Overview

This project will **enhance reliability** by building an additional transmission source to communities in and around Duluth and along the North Shore.

The Duluth Loop Reliability Project includes three components:

- construction of a new 115 kilovolt (kV) transmission line between the Ridgeview and Hilltop substations,
- construction of approximately one-mile extension of an existing 230kV transmission line, connecting to the Arrowhead Substation,
- and upgrades to the Ridgeview, Hilltop, and Arrowhead substations.

Schedule

2021
Routing, public engagement, and permitting

2022
Permitting and environmental surveys

2023-2025
Engineering, environmental and land surveys, real estate, and construction

2025
Complete

Benefits

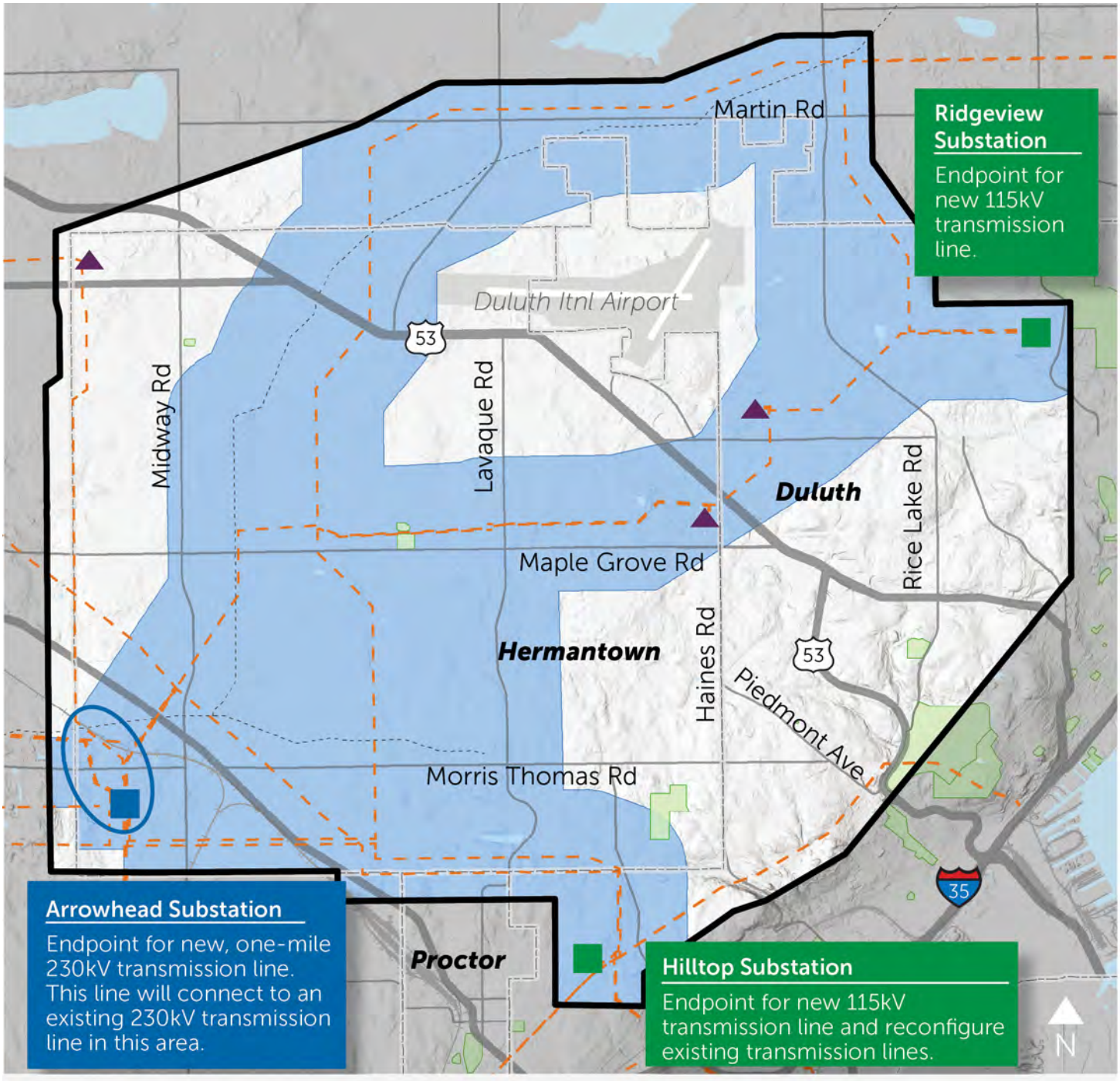
ENHANCE ENERGY RELIABILITY
for communities in Duluth and the North Shore by adding transmission in the area.

REPLACE GRID STRENGTH AND STABILITY
that was once provided by local coal-fired generation.

duluthloop.com connect@duluthloop.com (218) 755-5512

Study Area & Study Corridors

Minnesota Power developed the Study Area and Study Corridors to meet the needs of the Project. The Study Area was delineated to include the project endpoints (project substations) and routing opportunity features found between the endpoints, such as existing transmission lines and other linear infrastructure. These existing features have been highlighted as Study Corridors. In March 2021, Route Alternatives will be developed within this Study Area and along the Study Corridors.



Duluth Loop
RELIABILITY PROJECT

Online Meeting

Engagement Opportunities

Virtual Community Meeting

Thursday, January 28 at 12:00pm or 7:00pm

- Watch the project team give a brief presentation followed by a Q&A session
- Full details at duluthloop.com.
- Register at duluthloop.com.

Live Chats

Project team staff will be available for live 1:1 chats in the Virtual Open House during the following times:

- Tuesday, January 26th from 12:00pm – 1:00pm
- Wednesday, January 27th from 4:30pm – 6:00pm
- Friday, January 29th from 7:30am – 9:00am

Information Packets

Call 218-755-5512 or email connect@duluthloop.com to request mailed project information packet. Packets can also be found at duluthloop.com.

Schedule a Call

Discuss the project and your interests with the project team. To schedule call 218-755-5512 or email connect@duluthloop.com.

To prevent the further spread of COVID-19, Minnesota Power has indefinitely postponed all public meetings and in-person events. Public engagement remains a top priority for our project team and we appreciate you joining us online to learn more about this project.

minnesota power
AN ALLETE COMPANY

Duluth Loop Reliability Project

Our Commitment to Reliable Energy

Minnesota Power has made significant changes to our generation mix including the retirement of several small coal units. In order to maintain a continuous supply of safe and reliable electricity, we are investing in transmission infrastructure to enhance the stability of our electric system in our communities.

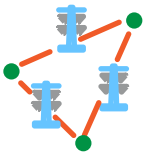
What happens when we reduce coal generation?

When we retire coal plants we must do more than just replace the energy they once generated. We must also find ways to replace the reliability and strength they provided to the grid.

How do we maintain reliability?

When large generators – like coal plants – retire, we must find ways to make sure the grid remains stable by:

- Adding other generation sources in the appropriate locations
- Adding more transmission lines to create redundancy



What do we mean by redundancy?

Additional transmission lines allow for the desired amount of energy to move between regions and ensure that energy needs are met for all hours of the year. They will also mitigate some of the negative impacts that large facility retirements have on system stability and reliability.

Why the Duluth Loop Reliability Project?

As Minnesota Power and its customers continue transitioning from coal-fired generators to lower-carbon sources of energy, transmission projects like the Duluth Loop Reliability Project are needed to ensure continuous safe and reliable operations of the transmission system in the midst of this energy transition.

minnesota power
AN ALLETE COMPANY

Duluth Loop Reliability Project

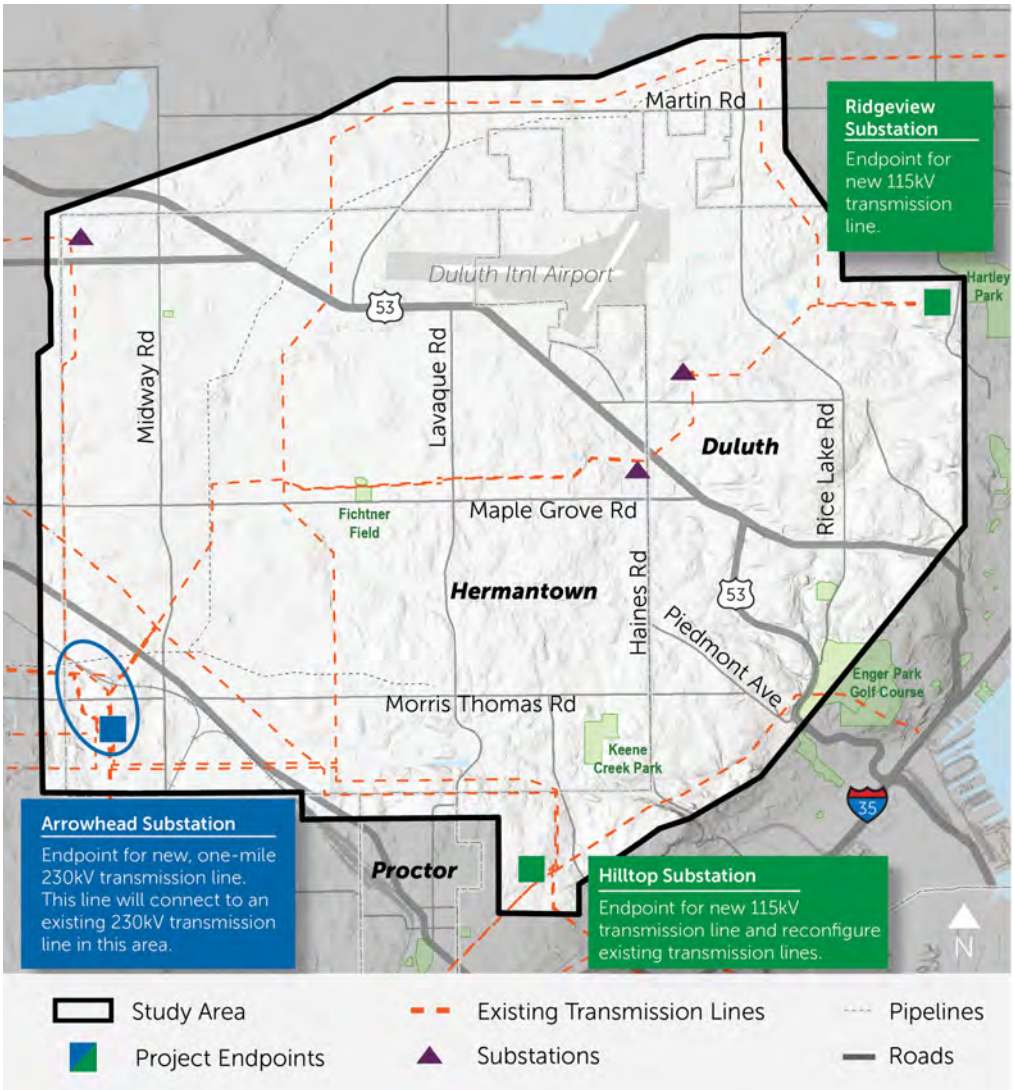
Project Overview

This project will **enhance reliability** by building an additional transmission source to communities in and around Duluth and along the North Shore.

Project Components

- Construction of a **new 115 kilovolt (kV) transmission line** between the Ridgeview and Hilltop substations
- Construction of approximately **one-mile extension of an existing 230kV transmission line**, connecting to the Arrowhead Substation
- Upgrades to the Ridgeview, Hilltop, and Arrowhead substations

Note: The Hilltop and Ridgeview substations will likely be expanded by this project. The exact size and area are not known at this time.



minnesota power
AN ALLETE COMPANY

Duluth Loop Reliability Project

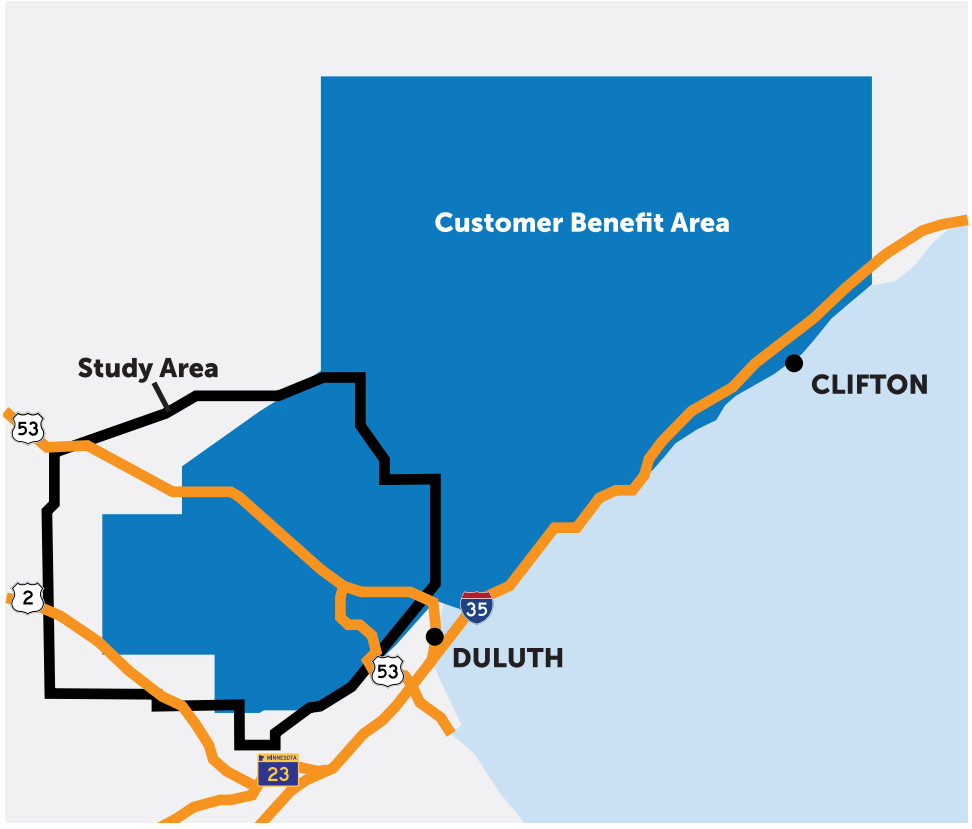
Local and Regional Benefits

The Duluth Loop Reliability Project is about more than just providing power. This project will:

ENHANCE ENERGY RELIABILITY
for communities in Duluth and the North Shore by adding transmission in the area

REPLACE GRID STRENGTH AND STABILITY
that was once provided by local coal-fired generation

Our grid is interconnected and additional areas will benefit due to a strong, reliable grid. Minnesota Power customers throughout the blue shaded area will directly benefit from the Duluth Loop Reliability project.



minnesota power
AN ALLETE COMPANY

Duluth Loop Reliability Project

Project Timeline

The planning, development and construction schedule is subject to change based on weather, the availability of equipment and materials, the impact of COVID-19 and other potentially unforeseen events.

2021

Routing, public engagement, and permitting

2022

Permitting and environmental surveys

2023-2025

Engineering, environmental & land surveys, real estate, construction

2025

Complete

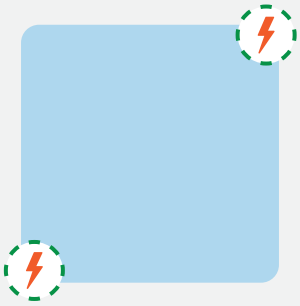
minnesota power
AN ALLETE COMPANY

Duluth Loop Reliability Project

Routing Process

Define Study Area

1

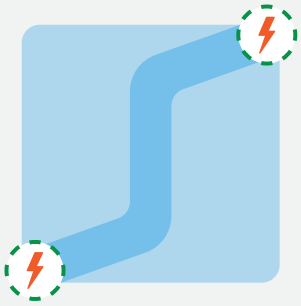


November - December 2020

- Development of Routing Criteria and identification of Project parameters
- Identification of Study Area
- Review of publicly available information
- Initial meetings with key stakeholders and local leaders

Define Study Corridors

2

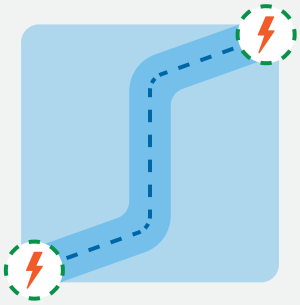


January – February 2021

- Evaluation of Stakeholder input
- Development of Study Corridors
- **We are here!** Phase 1 Public Engagement – present Study Corridors

Define Route Options

3

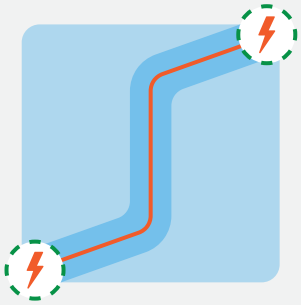


March – April 2021

- Evaluate input received from public engagement
- Development of Route Options
- Phase 2 Public Engagement – present preliminary Route Options

Identify Preferred Route

4



April - June 2021

- Evaluate input received from public engagement
- Select a Preferred Route

minnesota power
AN ALLETE COMPANY

Duluth Loop Reliability Project

Routing Considerations

Our goal is to take advantage of Opportunities while understanding and minimizing impacts to Sensitivities and addressing Constructability concerns. We use these three categories to develop a Preferred Route.

Opportunities

- Existing transmission lines
- Roadways/trails
- Railroads
- Public Land Survey System (e.g. section lines, half-section lines, etc.)
- Property lines (legal divisions of land)
- Natural division lines (e.g. field boundaries)
- Pipelines

Sensitivities

- Federal/State/County resources
- Non-governmental Organizations (NGOs) lands
- Airports
- Special status species/habitat
- Cultural resources
- Special jurisdictions
- Visual resources
- Public infrastructure
- Land uses
- Natural resources
- Parks/recreation areas & trails
- Community centers
- Assisted living/nursing homes
- Greenfields (new corridors in undeveloped areas)

Constructability

- Endpoint locations
- Line length
- Cost
- Terrain/soil conditions
- Roadway access to route/construction areas
- Specialty structures
- Angle structures
- Foundation size/type
- Inductive current/interference
- Reliability
- Tree trimming/vegetation management

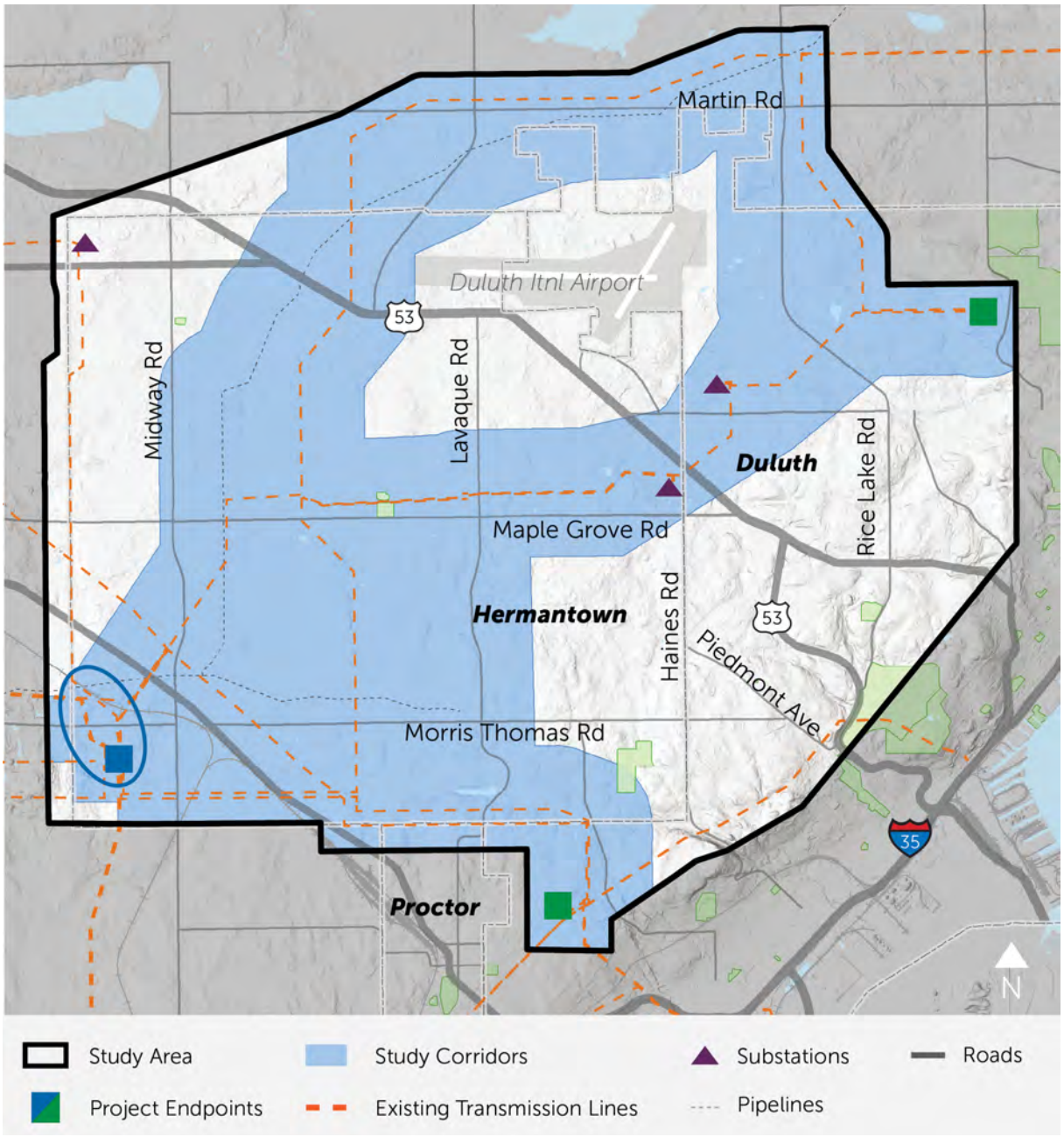
Take our Survey!

What Sensitivities are most important to you?

SCAN ME with your smartphone!

Study Corridors

Minnesota Power developed the Study Area and Study Corridors to meet the needs of the Project. The Study Area was delineated to include the project endpoints (project substations) and routing opportunity features found between the endpoints, such as existing transmission lines and other linear infrastructure. These existing features have been highlighted as Study Corridors. In March 2021, Route Options will be developed within this Study Area and along the Study Corridors.



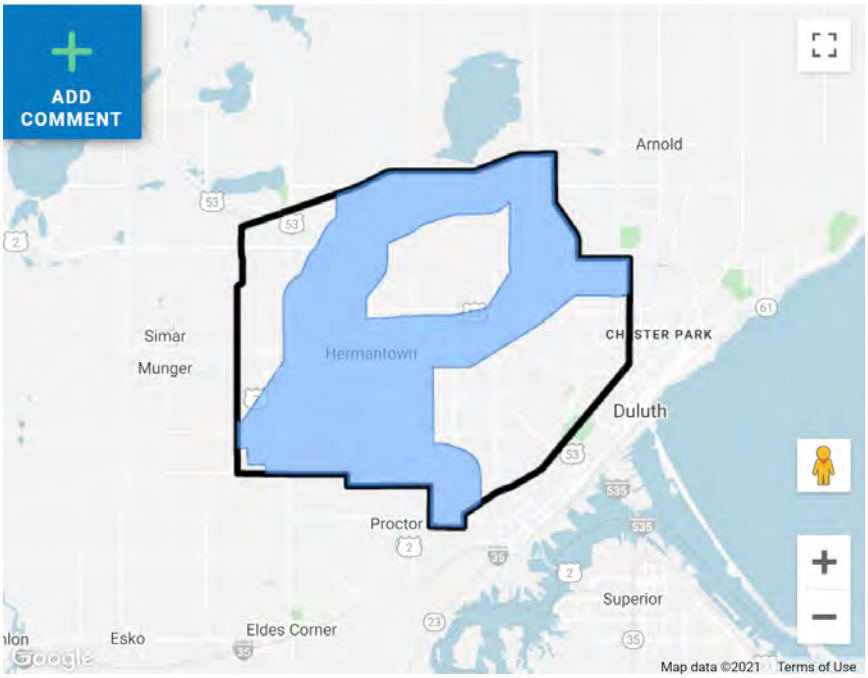
minnesota power
AN ALLETE COMPANY

Duluth Loop Reliability Project

Input Opportunity!

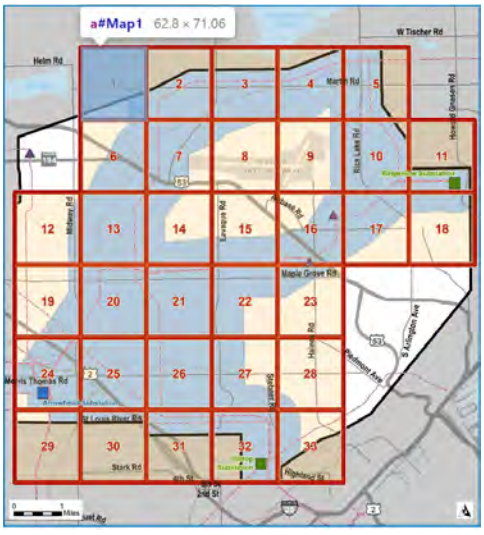
Now that you've learned about the project, routing criteria and how the Study Corridors were identified, we'd like your input to help our project team identify additional opportunities and sensitivities within the Study Corridors.

Leave a Comment on our Interactive Comment Map



SCAN ME
with your smartphone!

Download a Detailed Map of your Area



SCAN ME
with your smartphone!

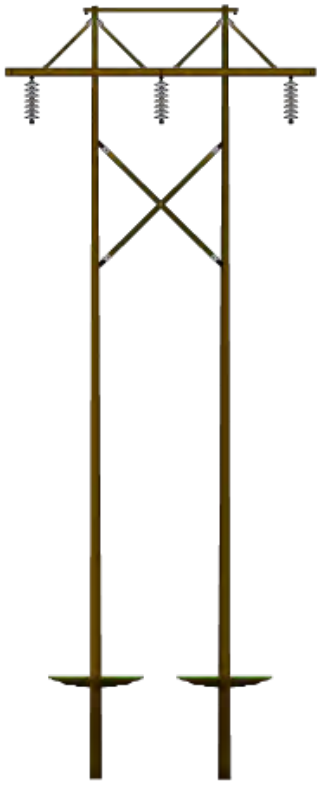
minnesota power
AN ALLETE COMPANY

Duluth Loop Reliability Project

Structure Design

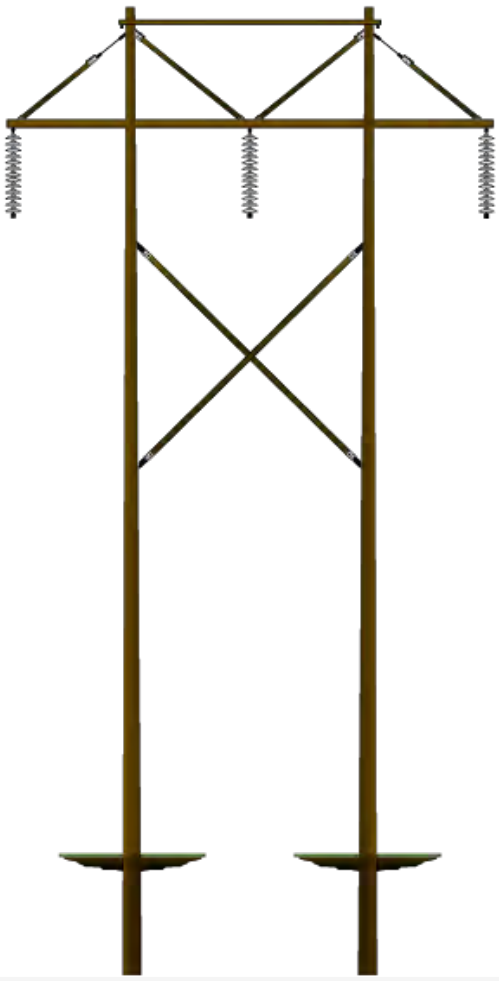
The structure types and specifications shown below are preliminary and subject to change. Other structure types may be used depending on final route location.

Typical 115kV Structures



TYPICAL HEIGHT: 50-80 feet
TYPICAL SPAN: 500-1,000 feet
FOUNDATION: direct embed
TYPICAL ROW: 100 feet

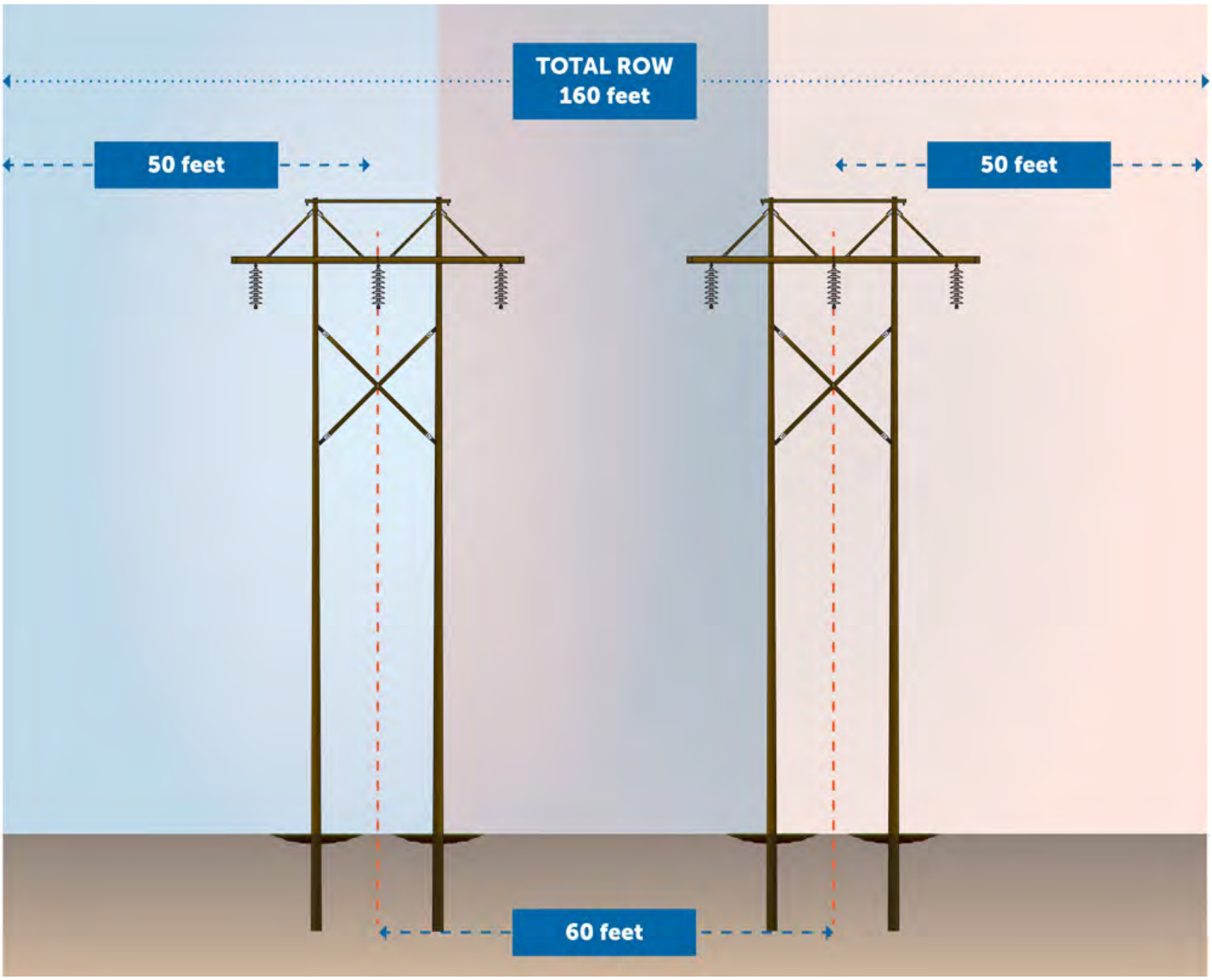
Typical 230kV Structures



TYPICAL HEIGHT: 60-100 feet
TYPICAL SPAN: 500-1,000 feet
FOUNDATION: direct embed
TYPICAL ROW: 130 feet

Paralleling Structures

In the event that the new 115kV transmission line parallels an existing 115kV transmission line, the alignment of typical right-of-ways may look similar to what's shown in the diagram below. Different dimensions would apply for a 115kV line paralleling a 230kV line.



(Not to scale)

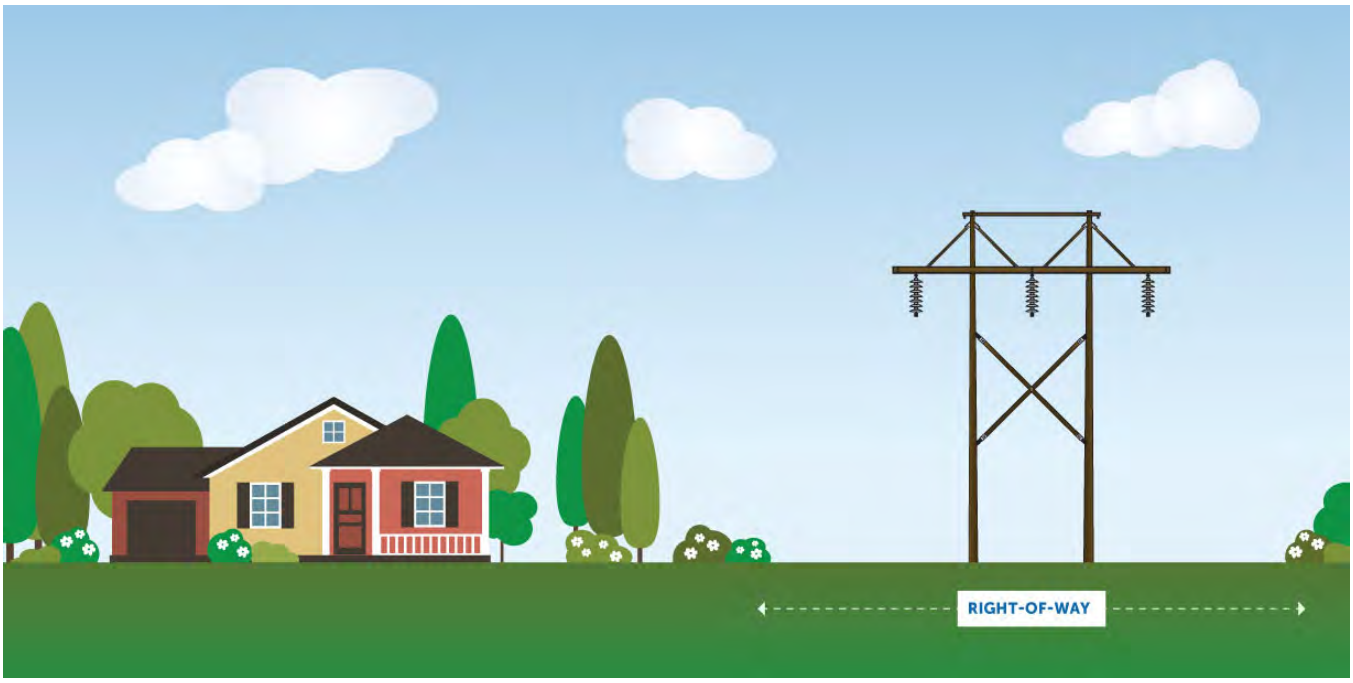
Real Estate

Following the Public Utilities Commission's approval of the final route (anticipated November 2022), notification letters will be mailed to all landowners along the final route.

Landowner Conversations

Project representatives will hold individual meetings with affected landowners to discuss the project and right-of-way needs. Discussion topics during these meetings include:

- Land surveys and studies
- Proposed easement
- Right-of-way clearing
- Type(s) and number of structures
- Compensation
- Property restoration
- Damage settlements



What is a right-of-way?

The term right-of-way is typically a strip of land used for a specific purpose such as the construction, operation, and maintenance of a transmission line.

What is an easement?

A legal agreement allowing Minnesota Power the right to construct, operate and maintain a transmission line on your property.

minnesota power
AN ALLETE COMPANY

Duluth Loop Reliability Project

Preconstruction & Construction

Once a final route has been approved and easements have been agreed upon, preconstruction and construction activities will begin.

Preconstruction Activities

Prior to construction, a number of activities must occur including:

- Field Surveys
- Wildlife Surveys
- Archaeological Surveys
- Wetland and Stream Surveys
- Soil Surveys

Construction Activities

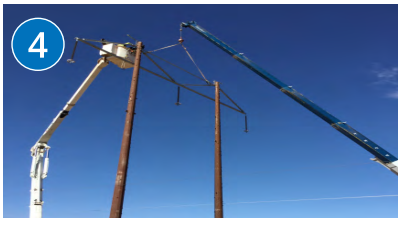
After permitting, right-of-way acquisition, and final design, the new transmission lines will be constructed by qualified contractors. Here are the typical components of construction anticipated for the Duluth Loop Reliability Project.

Initial surveying, right-of-way clearing, and access development

Structure staking, surveying, and soils investigations as needed

Foundation installation

Foundation type may vary depending on structure.



Assemble and set structures

Wire installation

Clean up and restoration

Stay Updated & Contact Us

Thank you for your interest in the Duluth Loop Reliability Project! It is important to understand the project and be informed of what's happening in your community. Now is the right time to provide your feedback to Minnesota Power. All input will be reviewed and considered by the project team while developing the Route Options.

Stay in touch

- Visit duluthloop.com to join our project mailing list. Be sure to sign up for updates to be informed of scheduled engagement opportunities. Email subscribers will be the first to know about events and other ways to be involved in the project.
- Call our Hotline at 218-755-5512
- Email us: connect@duluthloop.com

Share your thoughts

Visit duluthloop.com to submit a general comment.

minnesota power

AN ALLETE COMPANY

DULUTH LOOP RELIABILITY PROJECT

I am interested in the Duluth Loop Reliability Project because: (Check all that apply)

- ☐ I live in the area
- ☐ I own or manage a nearby business
- ☐ I work at a local business
- ☐ I own property in the area
- ☐ I work for an agency
- ☐ Other:

In general, how do you prefer to hear about project information?

- ☐ Direct mail
- ☐ Email
- ☐ Social media
- ☐ Radio
- ☐ Newspaper
- ☐ Packet pickups

What information did you find most helpful from your packet of materials?

Is there any additional information we need to cover in our materials?

THANK YOU FOR PROVIDING FEEDBACK ON THE DULUTH LOOP RELIABILITY PROJECT.

Please fill out the information below if you would like someone from our project team to contact you or if you would like to join the mailing list.

Name: _____

Organization: _____

Mailing Address: _____

City _____ State _____ Zip _____

Phone: _____

Email: _____

☐ Contact Me ☐ Join the Mailing List

Additional Comments:

Please send this comment form back to the project team using the prepaid return envelope that was include in this information packet. Drop it off or scan it and email it to us at **connect@duluthloop.com.**

CONNECT WITH THE PROJECT TEAM

duluthloop.com @ connect@duluthloop.com (218) 755-5512