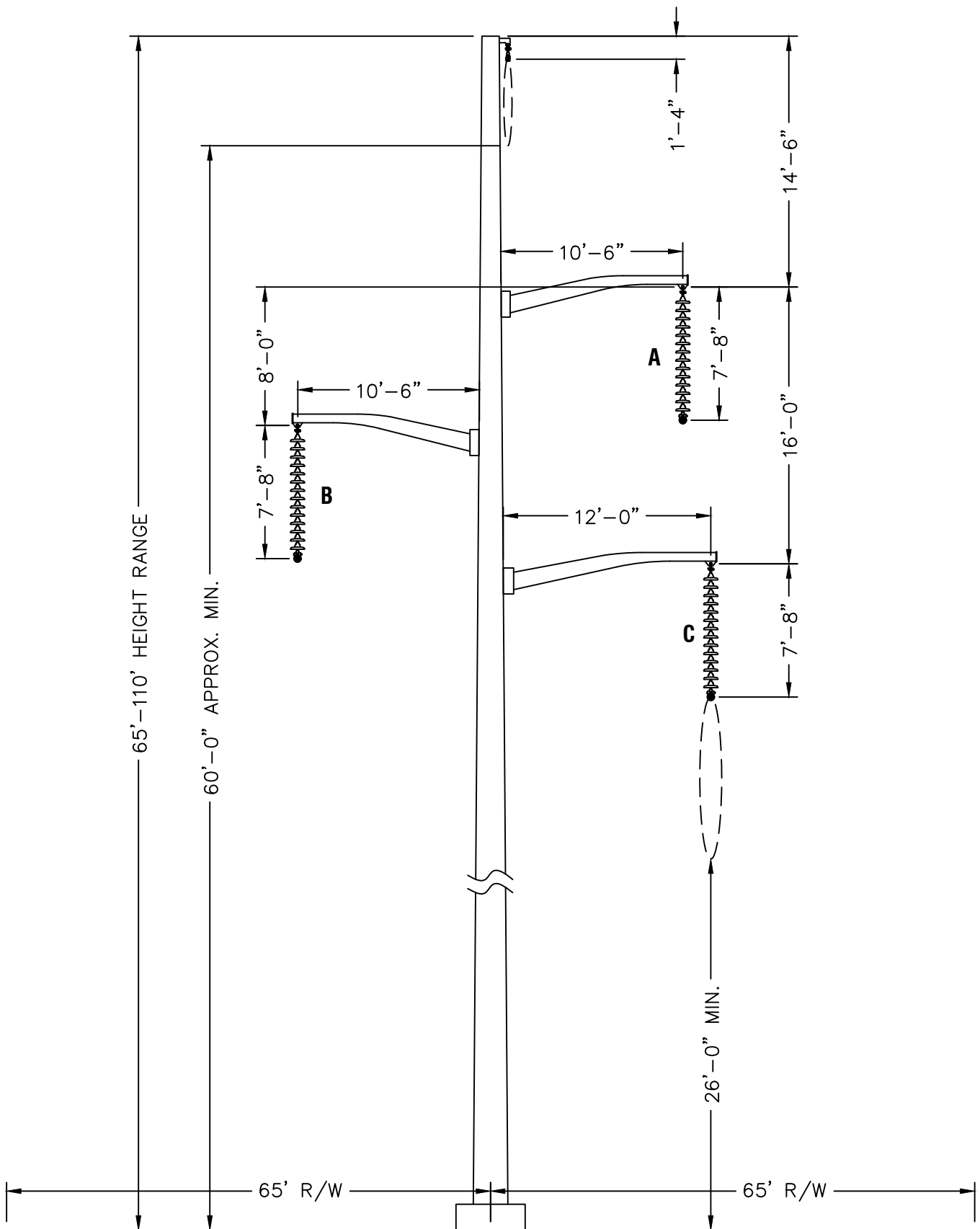


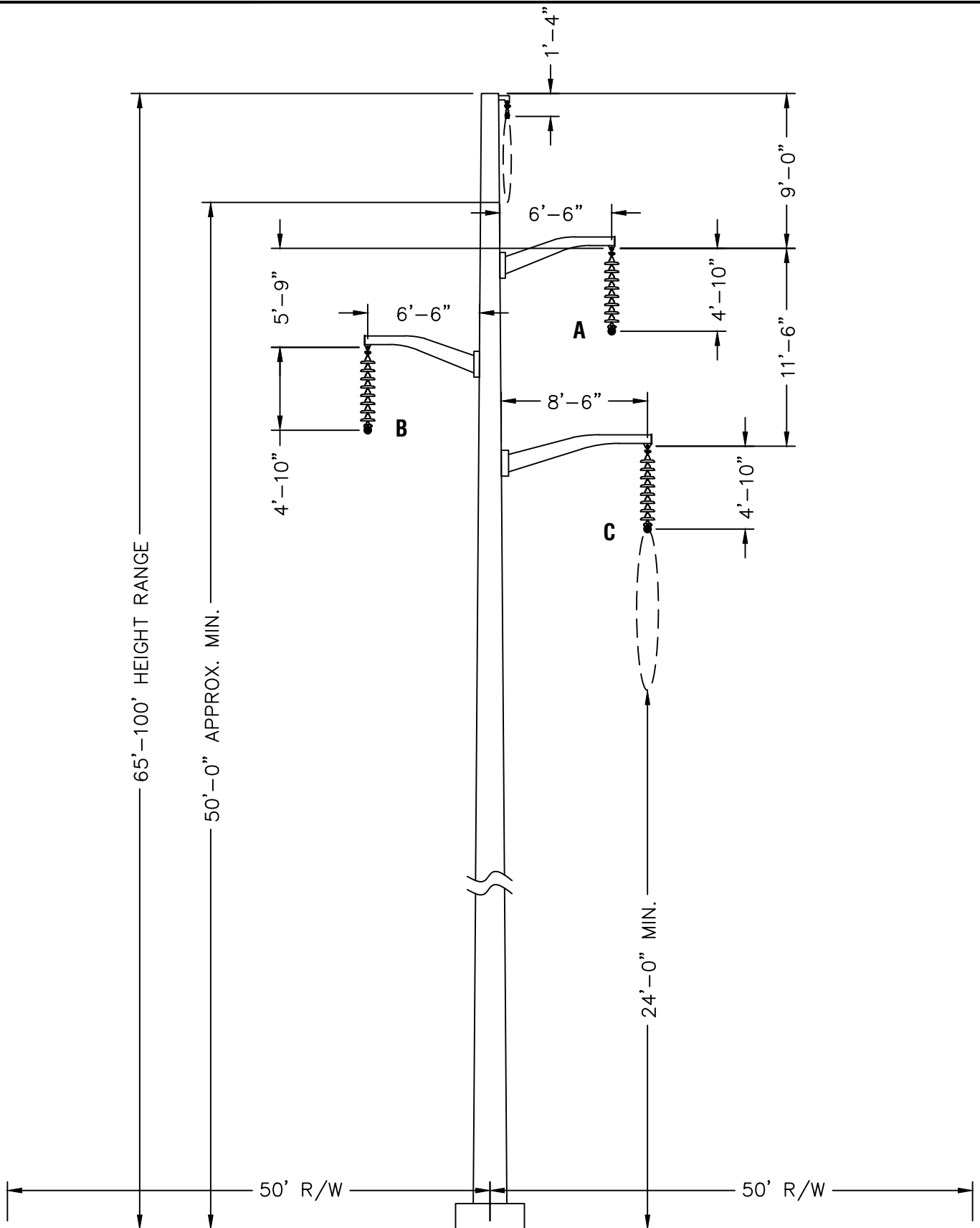
APPENDIX K
TECHNICAL DRAWINGS OF PROPOSED STRUCTURES



TYPICAL STRUCTURE NOTES:

1. DRAWINGS ARE CONCEPTUAL AND NOT TO SCALE.
2. GROUND CLEARANCE DIMENSIONS TO CONDUCTORS REPRESENT TYPICAL VALUES FOR NEW DESIGN TARGETS FOR COMMON GROUND CLEARANCE. DESIGN CLEARANCE VALUES WILL VARY FOR SPECIFIC LAND USES AND FEATURES. ACTUAL CLEARANCE VALUES WILL VARY.
3. TYPICAL VERTICAL DIMENSIONS FROM STRUCTURE TOP TO CONDUCTOR AND OVERHEAD GROUND WIRE POSITIONS INDICATED SHOULD BE CONSIDERED NOMINAL, BUT COULD VARY SEVERAL INCHES BASED ON SPECIFIC WIRES AND HARDWARE USED AND AS NECESSARY FOR STRUCTURE SPECIFIC FRAMING.
4. TYPICAL HEIGHT RANGES INDICATE THE AVERAGE EXPECTED HEIGHT OF THE MAJORITY OF STRUCTURES BASED ON SIMILAR FACILITIES. ACTUAL STRUCTURE HEIGHT IS A FUNCTION OF SPAN PROPERTIES AND TOPOGRAPHY AND MAY VARY OUTSIDE TYPICAL VALUES AS NECESSARY.
5. TYPICAL STRUCTURES PROVIDED ARE TANGENT TYPE STRUCTURES WHICH ARE ANTICIPATED TO BE THE MOST COMMON ON A GIVEN LINE. LESS COMMON STRUCTURE CONFIGURATIONS FOR DEADENDS, ANGLES, CROSSINGS, AND TRANSPOSITIONS WILL ALSO BE NECESSARY.

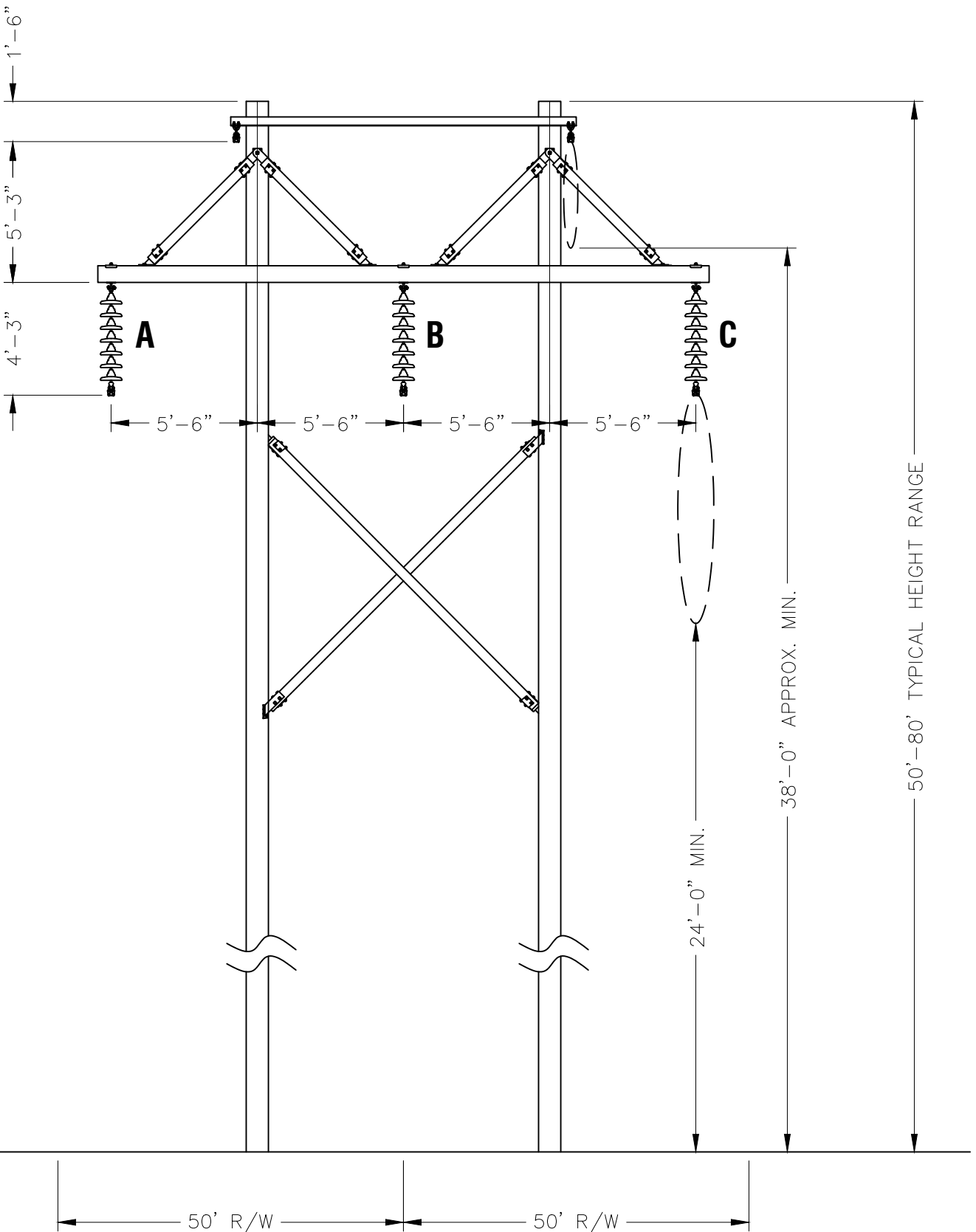
TYPICAL 230kV SINGLE POLE



TYPICAL STRUCTURE NOTES:

1. DRAWINGS ARE CONCEPTUAL AND NOT TO SCALE.
2. GROUND CLEARANCE DIMENSIONS TO CONDUCTORS REPRESENT TYPICAL VALUES FOR NEW DESIGN TARGETS FOR COMMON GROUND CLEARANCE. DESIGN CLEARANCE VALUES WILL VARY FOR SPECIFIC LAND USES AND FEATURES. ACTUAL CLEARANCE VALUES WILL VARY.
3. TYPICAL VERTICAL DIMENSIONS FROM STRUCTURE TOP TO CONDUCTOR AND OVERHEAD GROUND WIRE POSITIONS INDICATED SHOULD BE CONSIDERED NOMINAL, BUT COULD VARY SEVERAL INCHES BASED ON SPECIFIC WIRES AND HARDWARE USED AND AS NECESSARY FOR STRUCTURE SPECIFIC FRAMING.
4. TYPICAL HEIGHT RANGES INDICATE THE AVERAGE EXPECTED HEIGHT OF THE MAJORITY OF STRUCTURES BASED ON SIMILAR FACILITIES. ACTUAL STRUCTURE HEIGHT IS A FUNCTION OF SPAN PROPERTIES AND TOPOGRAPHY AND MAY VARY OUTSIDE TYPICAL VALUES AS NECESSARY.
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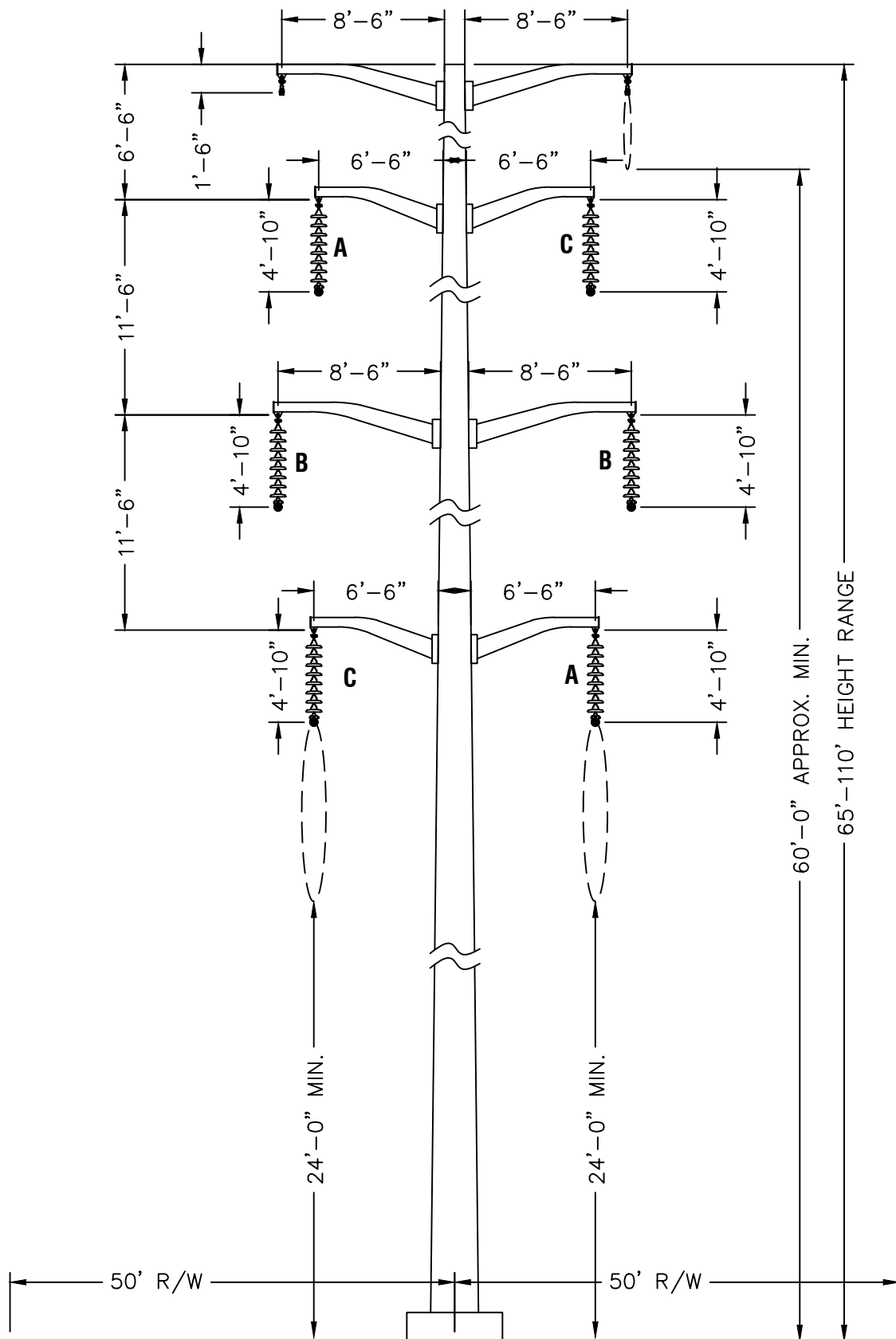
TYPICAL 115kV SINGLE POLE



TYPICAL STRUCTURE NOTES:

1. DRAWINGS ARE CONCEPTUAL AND NOT TO SCALE.
2. GROUND CLEARANCE DIMENSIONS TO CONDUCTORS REPRESENT TYPICAL VALUES FOR NEW DESIGN TARGETS FOR COMMON GROUND CLEARANCE. DESIGN CLEARANCE VALUES WILL VARY FOR SPECIFIC LAND USES AND FEATURES. ACTUAL CLEARANCE VALUES WILL VARY.
3. TYPICAL VERTICAL DIMENSIONS FROM STRUCTURE TOP TO CONDUCTOR AND OVERHEAD GROUND WIRE POSITIONS INDICATED SHOULD BE CONSIDERED NOMINAL, BUT COULD VARY SEVERAL INCHES BASED ON SPECIFIC WIRES AND HARDWARE USED AND AS NECESSARY FOR STRUCTURE SPECIFIC FRAMING.
4. TYPICAL HEIGHT RANGES INDICATE THE AVERAGE EXPECTED HEIGHT OF THE MAJORITY OF STRUCTURES BASED ON SIMILAR FACILITIES. ACTUAL STRUCTURE HEIGHT IS A FUNCTION OF SPAN PROPERTIES AND TOPOGRAPHY AND MAY VARY OUTSIDE TYPICAL VALUES AS NECESSARY.
5. TYPICAL STRUCTURES PROVIDED ARE TANGENT TYPE STRUCTURES WHICH ARE ANTICIPATED TO BE THE MOST COMMON ON A GIVEN LINE. LESS COMMON STRUCTURE CONFIGURATIONS FOR DEADENDS, ANGLES, CROSSINGS, AND TRANSPOSITIONS WILL ALSO BE NECESSARY.

TYPICAL 115kV H-FRAME



TYPICAL STRUCTURE NOTES:

1. DRAWINGS ARE CONCEPTUAL AND NOT TO SCALE.
2. GROUND CLEARANCE DIMENSIONS TO CONDUCTORS REPRESENT TYPICAL VALUES FOR NEW DESIGN TARGETS FOR COMMON GROUND CLEARANCE. DESIGN CLEARANCE VALUES WILL VARY FOR SPECIFIC LAND USES AND FEATURES. ACTUAL CLEARANCE VALUES WILL VARY.
3. TYPICAL VERTICAL DIMENSIONS FROM STRUCTURE TOP TO CONDUCTOR AND OVERHEAD GROUND WIRE POSITIONS INDICATED SHOULD BE CONSIDERED NOMINAL, BUT COULD VARY SEVERAL INCHES BASED ON SPECIFIC WIRES AND HARDWARE USED AND AS NECESSARY FOR STRUCTURE SPECIFIC FRAMING.
4. TYPICAL HEIGHT RANGES INDICATE THE AVERAGE EXPECTED HEIGHT OF THE MAJORITY OF STRUCTURES BASED ON SIMILAR FACILITIES. ACTUAL STRUCTURE HEIGHT IS A FUNCTION OF SPAN PROPERTIES AND TOPOGRAPHY AND MAY VARY OUTSIDE TYPICAL VALUES AS NECESSARY.
5. TYPICAL STRUCTURES PROVIDED ARE TANGENT TYPE STRUCTURES WHICH ARE ANTICIPATED TO BE THE MOST COMMON ON A GIVEN LINE. LESS COMMON STRUCTURE CONFIGURATIONS FOR DEADENDS, ANGLES, CROSSINGS, AND TRANSPOSITIONS WILL ALSO BE NECESSARY.

TYPICAL 115/115kV SINGLE POLE DOUBLE CIRCUIT

APPENDIX L
ENVIRONMENTAL IMPACT TABLES

Impact Table for Proposed Route

Environmental Features	230 kV Route				115kV Route				Ridgeview Substation		Hilltop Substation	
	Proposed Route	Approximate New Impact Area ¹	Temporary Direct Impacts ²	Permanent Direct Impacts ³	Proposed Route	Approximate New Impact Area ¹	Temporary Direct Impacts ²	Permanent Direct Impacts ³	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
General												
Length (miles)	0.7	-	-	-	13.9	-	-	-	-	-	-	-
Area (acres)	99.2	10.8	-	-	1546.0	78.8	-	-	-	3.6	0.17	0.06
Corridor Sharing												
Double-circuit Existing Transmission Line (miles)	-	-	-	-	2.6	-	-	-	-	-	-	-
Paralleling Existing Transmission Line (miles)	0.6	-	-	-	9.6	-	-	-	-	-	-	-
Roads and Railroads (miles)	-	-	-	-	-	-	-	-	-	-	-	-
Property and Field Lines (miles)	-	-	-	-	-	-	-	-	-	-	-	-
No Linear Feature Sharing (miles)	0.1	-	-	-	1.7	-	-	-	-	-	-	-
Total Linear Feature Sharing (miles)	0.6	-	-	-	12.2	-	-	-	-	-	-	-
Total Linear Feature Sharing (percent)	85.0	-	-	-	88.0	-	-	-	-	-	-	-
Proximity to Residences												
Number of Residences within Project ROW	-	-	-	-	-	1.0	-	-	-	-	-	-
Number of Residences 0 to 75 feet from Project ROW	-	-	-	-	-	11.0	-	-	-	-	-	-
Number of Residences 76 to 150 feet from Project ROW	-	-	-	-	-	18.0	-	-	-	-	-	-
Number of Residences 151 to 300 feet from Project ROW	-	1.0	-	-	-	23.0	-	-	-	-	-	-
Number of Residences 301 to 500 feet from Project ROW	-	2.0	-	-	-	55.0	-	-	-	-	-	-
Total Number of Residences within 500 feet of Project ROW	-	3.0	-	-	-	108.0	-	-	-	-	-	-

Environmental Features	230 kV Route				115kV Route				Ridgeview Substation		Hilltop Substation	
	Proposed Route	Approximate New Impact Area ¹	Temporary Direct Impacts ²	Permanent Direct Impacts ³	Proposed Route	Approximate New Impact Area ¹	Temporary Direct Impacts ²	Permanent Direct Impacts ³	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
Proximity to Businesses												
Number of Businesses within Project ROW	-	-	-	-	-	5.0	-	-	-	-	-	-
Number of Businesses 0 to 75 feet from Project ROW	-	-	-	-	-	4.0	-	-	-	-	-	-
Number of Businesses 76 to 150 feet from Project ROW	-	-	-	-	-	3.0	-	-	-	-	-	-
Number of Businesses 151 to 300 feet from Project ROW	-	-	-	-	-	15.0	-	-	-	-	-	-
Number of Businesses 301 to 500 feet from Project ROW	-	-	-	-	-	10.0	-	-	-	-	-	-
Total Number of Businesses within 500 feet of Project ROW	-	-	-	-	-	37.0	-	-	-	-	-	-
Proximity to Other Structures												
Number of Other Structures within Project ROW	-	-	-	-	-	3.0	-	-	-	-	-	-
Number of Other Structures 0 to 75 feet from Project ROW	-	1.0	-	-	-	2.0	-	-	-	-	-	-
Number of Other Structures 76 to 150 feet from Project ROW	-	-	-	-	-	8.0	-	-	-	-	-	-
Number of Other Structures 151 to 300 feet from Project ROW	-	4.0	-	-	-	28.0	-	-	-	-	-	-
Number of Other Structures 301 to 500 feet from Project ROW	-	3.0	-	-	-	56.0	-	-	-	-	-	-
Total Number of Other Structures within 500 feet of Project ROW	-	8.0	-	-	-	97.0	-	-	-	-	-	-
Critical Habitat												
Canada Lynx	-	-	-	-	322.7	19.4	31.7	0.1	-	3.6	-	-
FEMA Floodways												
100-year (acres)	-	-	-	-	292.4	6.3	15.9	<0.1	-	-	-	-
500-year (acres)	-	-	-	-	0.3	-	-	-	-	-	-	-
Water												
Number of Impaired Streams Crossed	-	-	-	-	2.0	1.0	-	-	-	-	-	-
Number of New PWI Streams Crossed	-	-	-	-	12.0	5.0	-	-	-	-	-	-
Number of New Designated Trout Streams Crossed	-	-	-	-	12.0	5.0	-	-	-	-	-	-
Number of PWI Basins Crossed	-	-	-	-	1.0	-	-	-	-	-	-	-

Environmental Features	230 kV Route				115kV Route				Ridgeview Substation		Hilltop Substation	
	Proposed Route	Approximate New Impact Area ¹	Temporary Direct Impacts ²	Permanent Direct Impacts ³	Proposed Route	Approximate New Impact Area ¹	Temporary Direct Impacts ²	Permanent Direct Impacts ³	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
Land Cover												
Cultivated Crops (acres)	-	-	-	-	0.2	-	-	-	-	-	-	-
Deciduous Forest (acres)	44.2	6.6	7.3	2.9	655.2	46.5	74.9	23.0	-	2.3	<0.1	-
Developed, High Intensity (acres)	7.7	-	-	-	23.6	<0.1	1.7	<0.1	-	-	-	-
Developed, Low Intensity (acres)	1.6	-	-	-	34.7	1.9	4.1	<0.1	-	0.1	-	-
Developed, Medium Intensity (acres)	8.8	-	0.1	-	37.9	1.3	3.9	<0.1	-	-	-	-
Developed, Open Space (acres)	1.4	0.2	0.2	-	71.4	2.5	6.8	<0.1	-	<0.1	-	-
Emergent Herbaceous Wetlands (acres)	4.5	1.3	0.9	<0.1	30.5	1.2	2.4	<0.1	-	-	-	-
Evergreen Forest (acres)	-	-	-	-	0.8	-	-	-	-	-	-	-
Hay/Pasture (acres)	1.5	-	-	-	28.4	0.2	0.7	<0.1	-	-	<0.1	-
Herbaceous (acres)	3.5	0.1	0.1	-	9.4	0.5	0.4	<0.1	-	-	0.1	<0.1
Mixed Forest (acres)	6.4	0.6	1.4	0.2	48.6	4.0	5.0	1.8	-	0.4	-	-
Open Water (acres)	-	-	-	-	0.3	-	-	-	-	-	-	-
Shrub/Scrub (acres)	6.4	0.1	0.3	-	15.7	0.3	1.3	<0.1	-	0.8	-	-
Woody Wetlands (acres)	13.1	1.8	1.5	1.0	589.2	20.3	38.4	9.9	-	-	-	-
Wetlands												
Freshwater Emergent Wetland (acres)	1.7	-	-	-	101.7	2.1	14.51	1,528 sq ft	-	0.47	-	0.03
Freshwater Forested Wetland (acres)	-	-	-	-	79.5	1.8	3.29	331 sq ft fill / 7.60 ac Conversion ⁴	-	-	-	-
Freshwater Forested/Emergent Wetland (acres)	-	-	-	-	12.4	-	0.33	-	-	-	-	-
Freshwater Forested/Shrub Wetland (acres)	-	-	-	-	34.8	-	2.14	-	-	-	-	-
Freshwater Pond (acres)	0.1	-	-	-	2.3	0.1	0.12	-	-	-	-	-
Freshwater Shrub Wetland (acres)	-	-	-	-	129.4	4.2	4.98	379 sq ft	-	-	-	-
Freshwater Shrub/Emergent Wetland (acres)	0.2	-	-	-	29.3	1.2	1.19	135 sq ft	-	-	-	-
Riverine (acres)	-	-	-	-	1.6	0.03	0.07	-	-	-	-	-

Environmental Features	230 kV Route				115kV Route				Ridgeview Substation		Hilltop Substation	
	Proposed Route	Approximate New Impact Area ¹	Temporary Direct Impacts ²	Permanent Direct Impacts ³	Proposed Route	Approximate New Impact Area ¹	Temporary Direct Impacts ²	Permanent Direct Impacts ³	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
Soils												
Hermantown-Ahmeek (s3676) (acres)	44.4	7.8	8.4	<0.1	120.7	-	3.6	-	-	-	-	-
Hermantown-Finland (s3672) (acres)	-	-	-	-	1,425.5	78.9	135.9	0.5	-	3.6	0.2	<0.1
Dusler-Duluth (s3676) (acres)	54.8	2.9	3.5	<0.1	-	-	-	-	-	-	-	-
Farmland of Statewide Importance (acres)	60.3	8.0	9.8	<0.1	576.5	34.3	48.9	0.2	-	3.3	-	-
Not Prime Farmland (acres)	38.8	2.8	4.2	<0.1	969.7	44.6	88.6	0.3	-	0.3	0.2	<0.1
Cultural Resources												
Number of Previously Recorded Archaeological Sites	-	-	-	-	-	-	-	-	-	-	-	-
Number of Previously Recorded Archaeological Sites within 1 mile of Proposed Route	-	-	-	-	6	-	-	-	-	-	-	-
Number of Historic Cemeteries	-	-	-	-	2	2	-	-	-	-	-	-
Number of Historic Cemeteries within 1 mile of Proposed Route	-	-	-	-	1	-	-	-	-	-	-	-
Number of Ethnographic Study Place Names	-	-	-	-	-	-	-	-	-	-	-	-
Number of Ethnographic Study Place Names within 1 Mile of Proposed Route	-	-	-	-	1	-	-	-	-	-	-	-
Number of Fond du Lac THPO-Identified Resources	-	-	-	-	1	-	-	-	-	-	-	-
Number of Fond du Lac THPO-Identified Resources within 1 mile of Proposed Route	-	-	-	-	2	-	-	-	-	-	-	-
Number of Historic Architectural Resources	-	-	-	-	1	-	-	-	-	-	-	-
Number of Historic Architectural Resources within 1 mile of Proposed Route	-	-	-	-	70	-	-	-	-	-	-	-
Trails												
Number of City of Duluth Trails	-	-	-	-	5	1	-	-	-	-	-	-
Number of Existing/Future Hermantown Trails	-	-	-	-	5	1	-	-	-	-	-	-
Number of Snowmobile Trails	-	-	-	-	2	1	-	-	-	-	-	-
NHIS												
Number of T&E Species Within 1 mile of Route ⁵	-	-	-	-	2	-	-	-	-	-	-	-

1 - Proximity to residences, business, and other structures uses an approximate Project right-of-way location. Project ROW is an approximate existing and proposed ROW. Final ROW will be determined in final design.
2 - Temporary impacts include access routes (30-foot-wide travel path along the proposed centerline of the project), structure work areas (100 foot by 100 foot per structure), and wire stringing areas (approximately 0.66 acres per location).
3 - Permanent impacts are structure placement includes both H-Frame structure placement (56.5 sq feet per structure) and Monopole Structure Placement (78.5 sq ft per structure)
4 - Permanent conversion impacts assumes that all forested, forested/emergent, and forested/shrub wetlands would be cleared and converted to either emergent or shrub wetlands within the within the existing and new right-of-way.
5 - DNR NHIS Data shows two records, however conversation with the DNR states that the Blandings turtle may occur within the proposed Project and that record is not recorded here since this is based from GIS data.

Description of the calculation assumptions for the Duluth Loop Route Permit Application

The Project has not yet started final design or engineering. Therefore, detailed design data is not available. As with all projects at this stage of development, it is necessary to employ appropriate assumptions as a basis for estimating impacts.

The assumptions described below were used for the impact analysis in Chapter 7. These assumptions are based on the information available at the time of analysis and the best professional judgment of engineering and environmental professionals developing the Proposed Project. In general, the Applicant has adopted conservative assumptions that are designed to err on the side of overestimating the magnitude of environmental effects.

No temporary right-of-way impacts are associated with the relocation, rebuild, removal, and double-circuiting of existing transmission lines within existing Minnesota Power right-of-way and are not included in the impact discussions because any impact will occur on previously disturbed Minnesota Power right-of-way or Minnesota Power-owned property and within an area of the same land use.

Temporary impacts are associated with the new structure work areas, access path, and pull and tension sites. Structures are permanent impacts within the rebuild segments.

The construction of relocated, rebuilt, and double-circuited existing transmission line facilities would result in no change from existing conditions. The removal segments would revegetate naturally with no continued maintenance activities.

Impact assumptions are as follows:

- The Study Area, for the existing conditions discussion, is the route width areas
- The average spans for monopole and H-frame structures are 300 feet and 600 feet, respectively.
- Structure type assumptions:
 - From the Ridgeview Substation to a point east of Sundby Road (a point east of Miller Trunk Highway), H-frame structures will be used for the new line and rebuild
 - From a point east of Sundby Road (crossing Miller Trunk Highway) to the Minnesota Power property north of the Hermantown City Hall, monopole structures will be used for the new line and rebuild
 - From the Minnesota Power property north of the Hermantown City Hall to the intersection of the existing 57 and 71 Lines, H-frame structures will be used for the new line and rebuild with the exception of a few spans on monopole structures as necessary through a known constrained area at the Hermantown Cemetery near Morris Thomas Road
 - For the double-circuit segment from the intersection of the existing 57 and 71 Lines to the Hilltop Substation, monopole structures will be used
 - The new 230 kV line extension and the 230 kV rebuild segment near Wild Rose Trail Subdivision will use monopole structures
- ROW impacts were calculated for an anticipated centerline, which generally was assumed to be in the center of the Route or adjacent to existing infrastructure located within the Route. The anticipated centerline was developed using digital GIS data. The actual centerline will be

identified during final design and may be moved based on design requirements or to avoid or minimize affecting resources within or near the ROW.

- Total project ROW acres were calculated based on the below ROW widths multiplied by the length of the segment. ROW width assumptions:
 - The new 115kV single-circuit and 115kV double-circuit ROWs will be 100-foot-wide centered on the proposed alignment (50 ft on each side)
 - The new parallel 115kV lines ROW will be 160-foot-wide centered on the mid-point between the existing and new transmission lines – 60 feet of separation between the two lines and 50 ft on the centerline to the outside edge of the ROW. There may be areas where a narrower ROW is required due to specific local characteristics.
 - The new single-circuit 230kV ROW will be 130-foot-wide
 - New corridors with 230kV line parallel to other transmission lines will be a total of 215-foot-wide when collocated 115kV and 230kV lines and a total of 230-foot-wide when collocated 230kV lines. The total 215-foot-wide right-of-way is calculated with 65 feet (ROW edge to 230 kV) + 100 feet (offset 230kV to adjacent 115kV or 230kV centerline) + 50 feet (ROW edge to 115 kV). The total 230-foot-wide right-of-way is calculated with 65 feet (ROW edge to 230 kV) + 100 feet (offset 230kV to adjacent 230kV centerline) + 65 feet (ROW edge to 230 kV).
 - The new distribution line 60 feet offset from transmission centerline.
- Construction or laydown yards were not included in the calculation assumption. Therefore, no new temporary or permanent impact. Ideally, yards may be located in a previously disturbed area(s) within the project area or on Minnesota Power property to the extent practical.
- No new permanent access roads are being proposed at this time. Construction access will use existing roads, driveways, and a temporary travel path along the ROW to the extent practical (no permanent impacts)
- No temporary and permanent impacts for replacement of existing structures. No impact calculations for replacement of existing structures
- Removal of existing structures are not counted as a temporary and permanent impacts
- New line temporary impacts were calculated by summing the temporary construction impacts from the new right-of-way (structures, temporary travel path), wire stringing areas outside of the new and existing right-of-way, and the new structures within the rebuild segments
- New line permanent impacts were determined by summing impacts from transmission structures, Ridgeview Substation, Hilltop Substation, and the new structures within the rebuild segments
- Temporary impacts will include:
 - 100 foot x 100 foot work area for each monopole and H-frame structure along new 115 kV and 230 kV lines
 - 100 foot x 100 foot work area every 0.5 mile or 2 additional structures per mile for the rebuilt or realigned transmissions lines where H-frame structures remain as the primary structure type in that segment. Within the rebuilt or realigned transmission line segments where the primary structure type will change from H-Frame to monopole, there will be a 100 foot x 100 foot work area every 300 feet for the new monopole locations.
 - One 30-foot-wide temporary travel path is proposed to follow the proposed centerline within the ROW for the length of the proposed new transmission line. It is assumed that there will be no grading or filling for permanent access; the Project may have a '2-track'

access path running the length of the transmission line. No permanent bridges are proposed.

- Wire stringing areas are located at approximately each point-of-inflection along the proposed route
- Permanent impacts will include:
 - For the Ridgeview Substation, 3.6 acres will be permanently impacted. There will be no temporary disturbance by construction outside of permanent footprint.
 - For the Hilltop Substation, 0.06 acres will be permanently impacted and 0.17 acres will be temporarily impacted by construction outside of permanent footprint.
 - No planned expansions at the Swan Lake Road, Haines Road, and Arrowhead substations, thus no permanent impacts
 - A 5-foot radius for each monopole structure (approximately 78.5 square feet per structure) representing the actual structure foundation
 - A 3-foot radius for each pole of the H-frame structure (in total approximately 56.5 square feet per structure (28.3 square feet per pole)) representing the actual structure imbedded in the ground
 - Permanent clearing of the entire anticipated new line ROW is assumed including clearing of forested vegetation

The final ROW for the Project will be developed during final design, which will be completed for the route selected through the permitting process.

Description of the impact assumptions by route segment

Below are assumptions for how impacts will be assessed by route segment. Calculations to quantify temporary and permanent impacts will be done for the proposed new line. Changes (rebuild and removal areas) will be described in the Route Permit Application, only specific temporary and permanent impacts will be quantified for additional structures every 0.5 mile where H-frames remain as the structure type in that segment, where as a structure type change from H-Frame to monopole will be quantified for the new monopole locations.

- Pull-tension sites extend from the edge of the ROW at points-of-inflection
 - Temporary impacts from clearing and soil compaction and disturbance
- Ridgeview Substation to the existing 56/19 Lines split – The new 115 kV line would be placed between the existing 56 and 19 Lines within Minnesota Power’s existing ROW and disturbed land.
 - No temporary impact from clearing, soil compaction and disturbance of the existing ROW between the existing 56 and 19 Lines. Assume no additional permanent impacts from the ROW since the existing ROW was previously cleared during construction of the existing 56 and 19 Lines.
 - Temporary and permanent impacts to vegetation, soil, and wetlands from the new structures (H-Frame) from the new 115 kV line within new Minnesota Power ROW
 - Temporary and permanent impacts to vegetation, soil, and wetlands from the rebuilt 19 Line will have new H-Frame structures every 0.5 mile or 2 additional structures per mile

- Existing 56/19 Lines split to Swan Lake Road Substation –New right-of-way needed southeast of the existing 19 Line
 - No temporary impact from clearing, soil compaction and disturbance of the existing 19 Line ROW
 - Temporary and permanent impacts to vegetation, soil, and wetlands from the rebuilt 19 Line will have new H-Frame structures every 0.5 mile or 2 additional structures per mile
 - Permanent impacts to vegetation, soil, and wetlands from new H-Frame structures from the new 115 kV line within a new about 60-foot-wide right-of-way
 - Temporary impact to vegetation from clearing, soil compaction, and wetland from a new about 60-foot-wide right-of-way for the new 115 kV line
- Swan Lake Road Substation to Haines Road Substation - New right-of-way needed southeast of the existing 52 Line. Distribution line on the eastside of the existing 52 Line (Swan Lake Road Substation to Arrowhead Road) is moved further east to accommodate the new 115 kV line. The new distribution line would be about 50 feet offset from the new 115 kV transmission centerline.
 - No temporary impact to vegetation and soil from clearing, soil compaction, and disturbance of the existing 52 Line ROW
 - Temporary and permanent impacts to vegetation, soil, and wetlands from the rebuilt 52 Line from Swan Lake Road Substation to a point east of Sundby Road will have new H-Frame structures every 0.5 mile or 2 additional structures per mile
 - Temporary and permanent impacts to vegetation, soil, and wetlands from the rebuilt 52 Line from a point east of Sundby Road to the Haines Road Substation will replace the H-Frame structures with monopole structures that will be about 300 feet apart
 - Permanent impacts to vegetation, soil, and wetlands from new H-Frame structures from the new 115 kV line within a new about 60-foot-wide right-of-way
 - Temporary impact to vegetation from clearing, soil compaction, wetlands, and disturbance from a new about 60-foot-wide right-of-way for the new 115 kV line
 - Permanent impacts to vegetation, soil, and wetlands from new distribution line structures (single pole embedded)
 - Temporary impact to vegetation from clearing, soil compaction, and disturbance from a new about 35-foot-wide added right-of-way for the distribution line
- Haines Road Substation to the existing 57 Line – Reroute along Market Street to move the new and existing 115 kV transmission lines from the buildings to increase safety would require new right-of-way. New 115 kV Line will use the existing 58-D alignment and would not result in new added permanent impacts.
 - Temporary and permanent impacts to vegetation, soil, and wetlands from the rebuilt existing 58 Line and the new 115 kV line (on the existing 58-D Line) from the Haines Road Substation to Minnesota Power’s property north of the Hermantown City Hall will replace the H-Frame structures with monopole structures that are 300 ft apart
 - Temporary and permanent impacts to vegetation, soil, and wetlands from the rebuilt existing 58 Line and the new 115 kV line (on existing 58-D Line) from Minnesota Power’s property north of the Hermantown City Hall to junction of the existing 58 and 57 Lines will have new H-Frame structures every 0.5 mile or 2 additional structures per mile

- Temporary and permanent impacts to vegetation, soil, and wetlands from clearing, soil compaction, and disturbance from the new right-of-way along Market Street for the rebuilt 58 Line and new 115 kV line (on existing 58-D Line)
- No temporary and permanent impacts are anticipated to vegetation from clearing, soil compaction, and disturbance from the rebuild of existing 58 Line to new 58 Line for about 1,000 feet east-west at western end of the section within existing Minnesota Power ROW
- No temporary and permanent impacts are anticipated to vegetation from clearing, soil compaction, and disturbance from the rebuild of the existing 57 Line to new 58 Line for about 600 feet north-south at western end of the section within existing Minnesota Power ROW
- No temporary and permanent impacts are anticipated to vegetation from clearing, soil compaction, and disturbance from 0.3 mile of existing 58 Line removed at western end of the section within existing Minnesota Power ROW
- No temporary and permanent impacts are anticipated from the underground fiber optic segment within existing 58 Line ROW
- Existing 57 Line south to the Midway River – New about 160-foot-wide right-of-way needed for about 1.5 miles to avoid Midway River, removal of 1.8 miles of the existing 57 Line
 - Permanent impacts to vegetation, soil, and wetlands from new H-Frame structures from the two proposed lines (proposed 57 Line and new 115 kV line) within a new about 160-foot-wide right-of-way
 - Temporary impact to vegetation from clearing, soil compaction, and wetland from a new about 160-foot-wide right-of-way for the new 115 kV line
 - No temporary and/or permanent impacts from removing the existing 57 Line
- Midway River to the existing 71 Line – The proposed 115 kV transmission line would parallel the proposed 57 Line ROW on west side for 1.4 mile to the intersection with the existing 71 Line. New about 60-foot-wide right-of-way would be needed for the new 115 kV line west of the existing 57 Line.
 - No temporary impact from clearing, soil compaction and disturbance within the existing 57 Line ROW
 - Temporary and permanent impacts to vegetation, soil, and wetlands from the new and rebuilt 57 Line structures, anticipated to have new H-Frame structures every 0.5 mile or 2 additional structures per mile
 - Temporary and permanent impacts to vegetation, soil, and wetlands from the new and rebuilt 57 Line structures through the Hermantown Cemetery will replace the H-Frame structures with monopole structures that will be about 300 feet apart
 - Permanent impacts to vegetation, soil, and wetlands from new H-Frame structures from the new 115 kV line within a new about 60-foot-wide right-of-way
 - Temporary impact to vegetation from clearing, soil compaction, and wetland from a new about 60-foot-wide right-of-way for the new 115 kV line
- Existing 71 Line to Hilltop Substation – double circuit with existing 71 Line to the Hilltop Substation, reroute to remove the existing 71 Line from Wild Rose Trail area

- Temporary and permanent impacts to vegetation, soil, and wetlands from the double-circuit structures with proposed 115 kV line and existing 71 Line that will be about 300 feet apart on existing Minnesota Power right-of-way
- Permanent impacts to vegetation, soil, and wetlands from new monopole structures on the double circuit line in new ROW on Twin Ridges LLC properties
- Temporary impact to vegetation and soils from clearing, soil compaction, and disturbance from a new 100-foot-wide ROW on Twin Ridges LLC properties
- Permanent impacts to vegetation, soil, and wetlands from new monopole structures for the 230kV line shifting to a new 130-foot-wide ROW at Wild Rose Trail
- Temporary impact to vegetation and soils from clearing, soil compaction, and disturbance from a new 130-foot-wide ROW for the 230kV line shifting to a new ROW at Wild Rose Trail and where the new 230 line going into the Hilltop Substation
- Temporary and permanent impacts to vegetation, soil, and wetlands from new monopole structures for the 230kV line going into the Hilltop Substation
- No temporary impact to vegetation from clearing, soil compaction, and disturbance from rebuilt 98 line within existing MP ROW
- No temporary impact to vegetation from clearing, soil compaction, and disturbance from the removal segment (Wild Rose Trail)
- 230kV Line Extension at Arrowhead
 - Permanent impacts to vegetation, soil, and wetlands from new line single pole structures
 - Temporary impact to vegetation from clearing, soil compaction, and disturbance from new transmission line within new MP ROW
 - No temporary impact to vegetation from clearing, soil compaction, and disturbance from the removal segment (parallel segment that crosses the Canadian National Railroad)
- 98 Line Thermal Upgrade
 - Temporary or permanent impacts were not considered

APPENDIX M
AGENCY CORRESPONDENCE

Meeting Minutes

Project: Duluth Loop Reliability Project

Subject: Minnesota Power - Duluth Loop Reliability Project

Date: Wednesday, January 06, 2021

Location: WebEx

Attendees: Adam Fulton

Jim Atkinson

Steven Robertson

Brian Hunker

Proposed Agenda:

- Introductions
- Project overview
- Permits required
- Stakeholder/public engagement
- Next steps

Introductions:

- Adam Fulton – City of Duluth Deputy Director of Planning
- Steven Robertson – City of Duluth Planning Team Lead. Oversees the environmental planning process and local permitting.
- Jim Atkinson – Minnesota Power Environmental and Real Estate Manager
- Brian Hunker – HDR Engineering, Inc (HDR) - Environmental Consulting Project Manager

Project Overview:

Minnesota Power and HDR provided a presentation that discussed the project need, description, anticipated permits, schedule, and outreach.

The Project will enhance reliability in Duluth and the North Shore areas. Minnesota Power achieved their milestone goal in 2020 with 50 percent generation from renewable sources – wind, solar, and hydro. Over the last several years, five smaller coal fired plants were idled and need to replace attributes of the coal fired plants.

The 115 kilovolt (kV) transmission voltage is the backbone of Minnesota Power’s system and thus 115kV is the proposed Project’s voltage. The Project includes three components:

- construction of approximately 10-20 miles of new 115 kV transmission line between the existing Ridgeview and Hilltop substations,
- construction of approximately one-mile extension of an existing 230kV transmission line, connecting to the Arrowhead Substation that will reduce potential outages along the 230kV system,
- and upgrades to the existing Ridgeview, Hilltop, and Arrowhead substations
 - Expansions at the Ridgeview and Hilltop substations may be required

Discussion Topics:

- It was recommended that the Project provides a presentation to Hermantown and Rice Lake
- The Project has scheduled an early consultation meeting with the Duluth Airport Authority to learn about constraints and restrictions with the airport
- The Duluth International Airport is in the process of revising their master plan. SEH Engineering is the consultant assisting the Duluth Airport Authority with the master plan.
- The City reiterated the importance of contacting the Duluth Airport Authority and the Joint Airport Zoning Board. The Joint Airport Zoning Board is comprised of representatives from cities and townships and mostly deals with airport safety zones. The airport area has large restriction area and the airport safety zones have height extensions. Depending on the final route, the Project may need a permit from Joint Airport Zoning Board.
- The City is revising their Skyline Parkway overlay, which is a zoning code for public benefit. The code will be restrictive of tall structures built between the parkway and lake that may block or alter the viewshed from the parkway towards the lake.
- The City has about 30 boards and commissions that cover various resources and topics. Planning staff recommended that the Project connect with the following four boards or commissions to inform them of our virtual open house. Steven will help us with the proper contacts.
 - Parks and recreation
 - Heritage preservation
 - Indigenous community
 - Economic planning
- Citizen groups will be concerned with affects to trails – hiking, walking, and mountain biking
- City staff will review Minnesota Power’s franchise agreement with the City to learn about coverage for street crossings and curb cuts and access management, particularly during construction
- The Project may need a municipal stormwater permit and a floodplain permit
- The team discussed wetland permitting that would be coordinated with the Board of Water and Soil Resources
- The Project inquired of any known planned developments –
 - Costco at Haines and Arrowhead roads

Next Steps:

- Stephen Robertson would be the Project’s contact moving forward. Briefings with smaller groups of city council members might be needed.

- Stephen Robertson would assist the Project with the following data:
 - Contacts at the City's Parks and recreation, Heritage preservation, Indigenous community, Economic planning boards/commissions
 - Shapefiles of the following resources
 - Airport safety overlays
 - Skyway Parkway overlays
 - Trails shapefile
 - Wetland zoning ordinance to learn about permitting
 - Floodplain zoning ordinance to learn about permitting
 - Planned developments

Meeting Minutes

Project: Duluth Loop Reliability Project

Subject: Minnesota Power - Duluth Loop Reliability Project

Date: Tuesday, January 12, 2021

Location: WebEx

Attendees: Attendees Column 1

Attendees Column 2 (Tab to add more rows)

- Jacob Martin, FAA – Program Manager for the District
- Mark Papko, Duluth Airport Authority – Director of Operations
- Steve Wabrowetz, Duluth Airport Authority – Airfield Manager
- Ryan Welch, Duluth Airport Authority – Assistant Airfield Manager
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Terri Bagwell, Minnesota Power – Compliance Specialist
- Dan Schmidt, HDR Engineering, Inc – Routing and Environmental Permitting
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager

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The 115 kilovolt (kV) transmission voltage is backbone of Minnesota Power’s system and thus the proposed projects voltage. The Project includes three components:

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Discussion Topics:

Transmission line routing:

- The existing 115 kV lines around Duluth are a primary routing factor due to the state's routing criteria to parallel or collocate with existing transmission lines
- There are existing transmission lines around the Duluth airport which would create a longer route but is less congested
- Steve Wabrowetz stated that if the new line would be about the same as the transmission lines currently on the landscape with structures about 80 ft high and about 500 ft spaced apart. If the elevation is the same, then there should be no issues at the airport.
- The new line would be placed adjacent to the existing lines as much as possible and as engineering design criteria allows
- Mark Papko stated that the airport is revising its Master Plan and they are glad to have knowledge of the project. The airport is less concerned with Project if it follows existing transmission lines and heights.

Helicopter construction techniques might be restricted around the airport, particularly with aircraft approaches. Minnesota Power will coordinate with the airport, otherwise they will look for ground construction techniques.

Obstructions – two different on airport proposal and off airport proposal air traffic and air traffic controls

- Notice 100:1 slope out to 20,000 feet elevation to the west will need to be studied
- 50:1 slope from the end of the runway
- If the line is closer to the airport, then there might be an issue if the poles are taller than 100 ft

FAA notifications forms 7460-1 and 7460-2 Obstruction Evaluation / Airport Airspace Analysis – 45 days prior to construction. 7460 forms will be at least a 45-day review from submittal, but plan for 60-day review. It might be recommended to submit when a viable route is approved.

Survey accuracy – 1A accuracy – survey grade data – less than 3 ft survey grade data and don't add a safety buffer of 50 ft added

- 2000 feet from the centerline

Airport layout plan has discussed – extending the north-south runway but it's not under consideration

No glare issues

Next Steps:

- Establish meeting with the Joint Airport Zoning Board
- Airport representatives would like to know where the poles are located

Meeting Minutes

Project: Duluth Loop Reliability Project

Subject: Minnesota Power - Duluth Loop Reliability Project

Date: Wednesday, January 13, 2021

Location: WebEx

Attendees:	Louise Miltich (COMM)	Mike Kaluzniak (PUC)
	Bill Storm (COMM)	Jim Atkinson (Minnesota Power)
	Bret Eknes (PUC)	Brian Hunker (HDREngineering, Inc)

Project Overview:

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 - Expansions at the Ridgeview and Hilltop substations may be required

Discussion Topics:

The Project has connected with Duluth City Council and the adjacent city mayors

The Project is planning for a couple public engagement meetings prior to filing the Application

The Project is planning for a combined, single application for a Certificate of Need and Route Permit. Currently planning for a Route Permit application submittal in June 2021.

DOC will review a draft application at least two weeks prior to submittal. DOC would like the draft as complete and complied as it would be filed

Joint the CON and Route Permit application would require a state EA document

Project Need

- Minnesota Power announced initiatives of no generation from coal sources by 2025 and carbon free in 2050
- ALJ report will need review and can be completed in an informal comment and reply process

Final route is not known at this time and Minnesota Power is working through the routing process. A primary route criterion that is being evaluated would be to follow existing lines to the extent practical.

PUC does ask for ALJ report for the overall record and public comment

The public meetings will be online through a WebEx and InterCall approach

- InterCall – queue people or operate line
- Comment on the Commission’s hotline
- Invite Bill Storm to the public meeting
- Minnesota Power plans to invite the public in the notice plan – Excel table of the stakeholder list

Duluth Loop Reliability Project

City of Rice Lake Initial Engagement Meeting

January 13, 2021

Attendees:

- Mayor John Werner Brian Hunker Jim Atkinson
- Maddie Forrest City Clerk Toni Blomdahl

Opening Remarks:

- Mayor John Warner – Lifelong Rice Lake resident with background in working on the North line burning and moving brush

Agenda Items:

- Introductions
- Overview on Project
- Interactive Map
- Questions/Comments

General Discussion:

- Questions/Comments from Mayor:
 - Minnesota Power provided a project overview from a PowerPoint
 - Very little impact/construction within Rice Lake aside from Ridgeview Substation being their south boundary – is that correct?
 - Jim- There are two principal route alternatives, thus it will depend on which route is selected – very minimal impact to Rice Lake if the southern route is selected. There would be some impact if the northern route is selected. The benefits on Rice Lake are greater than the impact.
 - The northern route is more straightforward for engineering, but twice as long, while southern route is more complex with engineering but shorter
 - What type of mechanism is in place to have maximum public notice?
 - **Rice Lake is interested in being a pick-up point for Information Packets**
 - Newspaper ads
 - Facebook feed
 - Mailed postcards
 - Mailed stakeholder letters

- Airport was interested in extending their north-south runway but they're in preliminary study process (2300 or 2800 ft extension)
 - Been around for 5+ years with active studies, Mayor knows there are other enhancements that need to be done before this would be done. Has been presented to city council on a few occasions.
 - Two city council members are part of the Joint Airport Zoning Board
- Are you planning single pole structures or structures like we presently have?
 - Answer: Depending on circumstances, but likely a combination of both.
- Follow Up Questions:
 - Any planned developments within the study corridors?
 - North of Martin Road along Rice Lake Rd, in process of doing core samples for water and sewer pipelines going north to a planned development that's adjacent to transmission line and pipeline. The development is about 0.5-mile north of Rice Lake Road and Martin Road. The city received a grant from the state last session and will be installing the lines in hopefully summer 2021.
 - Unsure if development will follow right away due to "driver" of the partners passing and the other partners reassessing, no concept drawings.
 - Behind Kwik Trip there are 27 acres adjacent to our area – there are a few "bites" on parcels in there – pandemic has slowed everything, but that area is serviced by water and sewer pipes, making it an attractive land mass, no concept drawings.
 - Anyone else we should connect with?
 - Wants to get a copy of this presentation to get to city council
 - Copy City Clerk Toni Blomdahl on all communications

Next Steps/Task List:

- Hard copies of information packets to be placed at Rice Lake City Hall
- Provide Mayor with copy of presentation for city council
 - Mayor would like to add information to their city website linking to additional information
 - MN Power/HDR will need to determine best link to share

Duluth Loop Reliability Project

City of Rice Lake Initial Engagement Meeting

January 14, 2021

Attendees:

- Mayor Chad Ward
- Jessica Rich
- Jim Atkinson
- Maddie Forrest
- Dan Schmidt

Agenda Items:

- Introductions
 - Chad Ward – Mayor
 - Jessica Rich – Proctor City Administrator
- Overview on Project
- Interactive Map
- Questions/Comments

General Discussion:

- Questions/Comments from Mayor Ward/Administrator Rich:
 - Clarification on where Hilltop substation is and how much of Proctor is actually included in this study area?
 - A very small amount has the potential of being affected. However, our corridor overlaps by maybe ¼ mile and for that reason we wanted to make sure you're engaged and aware of it.
 - Does it affect electric service, or will it improve anything to the affect residents?
 - It will physically affect those and potentially more residents. There's still dozens of homeowners on this narrow strip that will be benefited.
 - And you will be in contact with property owners on the North side of Proctor?
 - Yes, we will have notifications going out and will have multiple forms of engagement opportunities.
- Follow Up Questions:
 - None to list.

Next Steps/Task List:

- Administrator Rich requested a detailed map showing the affect area (north end) of Proctor.

Duluth Loop Reliability Project Meeting Notes – Department of Natural Resources

January 14, 2021

Attendance:

- DNR Staff:
 - Margi Coyle - Northeast Region – Environmental Review up until the Route Permit Application is submitted
 - Cynthia Warzecha – Energy Review Planner and will work alongside Margi Coyle - Coordinator after the Route Permit Application is submitted and will coordinate the DNR comments
 - Samantha Bump – NHIS and GIS concerns
 - Gaea Crozier – Nongame species (turtles)
 - Steve Mekkes – Engineering and Mining interest
 - Joe Rokala – Land and Minerals Program Director – Public Waters
 - Karen Tamminen – Lands and Minerals – License to Cross Public Waters
 - Stacy Saari – Mineral Potential Geologist
 - Patty Fowler – Hydrologist - PWI and MN PARS off-ROW crossing
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager

Agenda topics

- Standard PUC review process
- Land and Minerals has their own internal review process
- NHIS – floating march marigold – survey protocol
- Mining interests
- PWI crossings – similar application to previous
- Appreciate any comments for the routing purposes

Project Overview:

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- and upgrades to the existing Ridgeview, Hilltop, and Arrowhead substations
 - Expansions at the Ridgeview and Hilltop substations may be required

Comments:

- Redundant circuit improves general reliability
- Minnesota Power announced initiatives of no generation from coal sources by 2025 and carbon free in 2050
- At the Arrowhead Substation line extension reduces exposure from about 70 miles to about 8 miles and improves bulk transmission into the Duluth area
- Anticipated environmental review threshold – no local permitting and PUC Certificate of Need and Route Permit under the alternative review process
- License to Cross Public Waters is anticipated, but not a lot of state lands in the Duluth Area
- Anticipate having environmental plans to address concerns:
 - Comments can be addressed through plans that will help reduce terms of the license
 - Environmental protection plan
 - Vegetation management plan
 - Threatened and endangered species –
 - Avoidance plans
 - Take permit
 - Avian flight diverters
 - Pole placement to avoid wetlands
 - Trout stream crossings
 - Aquatic invasive species
 - Site plans for stream crossings
- NHIS review will be submitted
- Need access roads – not an issue since there are so many roads
- Wood H frame direct embed are the anticipated primary structure type
- Blanding’s turtles are a species of concern in this area
- Public Water Work permit is not anticipated since there is no anticipated work in streams
- Floating marsh marigold within streams – avoid with access road and transmission line
- Formal concurrence request – once route has been finalized
 - Concurrence request under the license agreement – not a form – list the items in the area
 - Provide details on how the Project plans to avoid impacts
- Hydrology concerns
 - Streams – Spotting and work timing
 - Wetlands – work in the frozen conditions

- Blanding's turtles
 - Not impact wetland during hibernation
 - Contractor education
 - SWPPP devices that are turtle friendly
 - DNR web site – rare species guide will list habitat requirements
- Nongame species –
 - Appreciates the work in advance. Information on the population
 - Blanding's turtle avoidance plan
 - Canada lynx – state listed species - IPAC
 - Northern Goshawk – species of special concern –
 - Look at NHIS data and avian concern with hawks ridge, waterfowl migration, diurnal migration between nesting and feeding areas
 - Avian protection plan – flight diverter placement and diverter type
 - MBS – addressed in NHIS
 - No rare plant communities
- No WCA permitting with the sites
- Minimize impacts of those area
- Avoid invasive species introduction
- Brooke Haworth will help with botanical survey in the MBS areas
- WCA - DNR TEP member for COE permit review
- Avoid WCA
 - Try to avoid forested wetland – it would be a change in wetland type
 - In kind replacement and higher replacement of forested wetlands

Next steps

- Formal NHIS concurrence request – Can submit now and again once a route has been finalized
- Reviews are valid for one year – need a review within one year
- Fee is valid for one year
- Conduct a review on our own

Duluth Loop Reliability Project Meeting Notes – State Historic Preservation Office, Office of State Archaeologist, Indian Affairs Council

January 14, 2021

Attendance:

- Sarah Beimers, SHPO, Manager of Environmental Review – historic structures
- Amanda Gronhovd, Office of State Archaeologist, State Archaeologist
- Melissa Cerda, Senior Cultural Resources Specialist, Indian Affairs Council
- David Mather, Office of State Archaeologist, National Register Archaeologist
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager
- Dan Schmidt, HDR Engineering, Inc – Senior Environmental Scientist

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Comments:

- Redundant circuit improves reliability
- Minnesota Power announced initiatives of no generation from coal sources by 2025 and carbon free in 2050
- At the Arrowhead Substation line extension reduces exposure from about 70 miles to about 8 miles and improves bulk transmission into the Duluth area
- Transmission line criteria from state is to follow existing transmission lines
- Literature review and field surveys inform the Environmental Assessment
- Phase I Literature Review – Engage a subcontractor

- Identify above ground properties
- National Historic Places
- Other sites on the landscape
- Recorded sites
- Suspected sites but not verified
- Recorded cemetery sites
- Do not track previously surveyed areas
- OSA
 - Consultants access OSA portal with sites forms and reports – scanned reports
 - ID areas of concern
 - Submit a OSA research request – [MN OSA ResearchRequest@state.mn.us](mailto:MN_OSA_ResearchRequest@state.mn.us)
 - Research review – set something up quickly
- SHPO
 - No portal
 - Subcontractor – contact Jim Crummy for search of data takes 1-3 weeks
 - Need copy of inventory forms – scan forms
 - Backlog – very quick at turning around – about one week
 - Comment on the Phase I review – 30 to 60 days
 - Identify high likelihood of areas needing survey
 - Within Hermantown along West Arrowhead Road is a large historic area of WPA-era houses
 - West of Highway 53
- Make sure to consult with the Fond du Lac Band of the Lake Superior Chippewa
- Structures would be around 50 to 80 feet above ground
- Site Summary –
 - Archaeological sites
 - Cemeteries
 - Phase 1 Literature Search – currently known sites
 - Phase 1a Literatures Search contains the literature review and scoping information
- Future work will be to conduct field surveys or review known site that might be affected
- Iterative review under state law for a route
- Consideration of known sites and field surveys
- State law consult on state and nationally register properties
- Federal involvement – treat as a federal review as an entire project

Duluth Loop Reliability Project Meeting Notes – Joint Airport Zoning Board (JAZB)

January 15, 2021

Attendance:

- Mark Papko - Duluth Airport Authority - Director of Operations – SME to the JAZB
- Steven B. Hanke – City of Duluth Assistant Attorney – Airport Authority
- Don Monaco of Monaco Air - owns and operates Monaco Air Duluth. Don is also a Metropolitan Airports Commission (MAC) Commissioner and JAZB member
- Darren Christopher of RS&H. RS&H is the JAZB’s consultant assisting with the JAZB ordinance revision and approval process
- Kevin Comnick – JAZB chairman - Canosia Township Board Chair serves as Chair of the Duluth International Airport Joint Airport Zoning Board
- Work scope committee with the new ordinance to MnDOT and get a response from MnDOT
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager

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Comments:

- Proposed 115 kV transmission line has two route opportunities
- North route around the airport is longer but less restricted by population and routing along the existing transmission line and property lines

- South route is shorter and connects to two other substations, but has more people and has harder engineering design
- Physical implications to the FAA
 - Wood H frame structures are proposed
 - 50 to 80 ft height would be compliant
 - Site transmission away from the airport and lower structures
- Apply for a variance from JAZB for the height restriction in Zone 1
- JAZB would have an Adjustment Board
- Zone 1 – no transmission lines
- Custom zoning is Zones 1, 2, and 3
- If Airport property is affected, then the Project would need to talk with Josh Fitzpatrick and would have a NEPA review
- Update the Exhibit A Airport Layout Plan and Airport Property Plan (easement) – this is the federal action
- Jacob Martin, FAA – Program Manager for the District and is the FAA lead
- All other project components are in
- Zone 3 - FAA Part 77 airspace submittal – airspace study on the approaches – for the line and construction
- Steve to email the ordinances and KMZ
- If needed apply a variance early for siting the line in Safety Zone A
- If not on airport property, then no FAA NEPA review
- Airspace zoning for structure height would be good

Meeting Minutes

Project: Duluth Loop Reliability Project

Subject: Minnesota Power - Duluth Loop Reliability Project

Date: Thursday, January 21, 2021

Location: WebEx

Attendees:	Kris Leman, US Army Corps of Engineering Regulatory Project Manager	Jim Atkinson – Environmental and Real Estate Manager
	David Demmer – BWSR Project Manager oversee WCA administration	Terri Bagwell – Environmental Compliance
	Mike Swenson – Environmental Consulting Wetland Specialist	Brian Hunker – Environmental Consulting Project Manager

Discussion Topics:

Minnesota Power and HDR provided a presentation that discussed the Project need, description, anticipated permits, schedule, and outreach.

The Project will enhance reliability in Duluth and the North Shore areas. Minnesota Power achieved their milestone goal in 2020 with 50 percent generation from renewable sources – wind, solar, and hydro. Plan to get 100 percent renewable by 2050. 2035 will be no coal. Need to have reliable power flow. Small line but has a large impact with 80K residents. Over the last several years, five smaller coal fired plants were idled and need to replace attributes of the coal fired plants.

The 115 kilovolt (kV) transmission voltage is the backbone of Minnesota Power's system and thus 115kV is the proposed Project's voltage. The Project includes three components:

- construction of approximately 10-20 miles of new 115 kV transmission line between the existing Ridgeview and Hilltop substations,
- construction of approximately one-mile extension of an existing 230kV transmission line, connecting to the Arrowhead Substation that will reduce potential outages along the 230kV system,
- and upgrades to the existing Ridgeview, Hilltop, and Arrowhead substations
 - Expansions at the Ridgeview and Hilltop substations may be required

Permitting Jurisdictions

- DOC drafts the Environmental Assessment for the state's evaluation
- The federal agency conducts an EA or similar for the NEPA evaluation

- WCA's Federal Approvals Exemptions applies to the Regional General Permit or Individual permit
- Current State rules are in order to use WCA's Federal Approvals Exemptions any wetland is jurisdictional under the Clean Water Act and that the Corps will take jurisdiction
- WCA LGUs are Duluth, Hermantown, Proctor, and Rice Lake

There are multiple LUGs that need to be notified with the Federal Approvals Exemption

Notice to affected LGUs will be made with submission of the 404 Permit Application

When the final route is selected then field review and delineate the impact areas

Field survey/delineation along the final route – delineation would follow the new transmission line and work proposed

- Level 1 delineation (desktop with field review) is sufficient for the transmission line
- Level 2 delineation (field delineation) at the substations to evaluate fill

Corps will coordinate with USFWS and SHPO on the Section 7 and Section 106 consultation

- SHPO uses 30 days to reply
- Federal review – USFWS 4D bat rule is a 30-day coordination

Regional General Permit expires in 2023 or it may be extended under the new permit

- Impacts are larger than 0.5 acre then the impacts need to be permitted by an Individual Permit
- Trout streams and listed species will need to coordinate with the DNR
- Permitted impacts for the structure locations
- Wetland type conversation from forested wetland to ROW. Mitigation maybe required for forested conversion.

Keep the permitting at a general permit level with each wetland or stream as a single and complete crossing. Each stream will be a separate crossing. Impacts in the north will be a separate from impacts in the south.

WCA point of contact will notice people and LGUs

Delineation and delineation review – Corps would like a concurrent review of the delineation with the local LGUs. Conduct the delineation, prepare a report, give Kris and David a notification of the completed report and application, then submit the report with the application, and David will coordinate with the LGUs.

Duluth is their own WCA LGU.

- Application would be provided to Duluth and they would review with their own local zoning ordinances
- State's Route Permit – preempts local zoning ordinances

Duluth Loop Reliability Project Meeting Notes – MN Air National Guard

January 21, 2021

Attendance

- Major Solberg – Base civil engineer
- Doug Ion – Facility manager
- Gerry Sjerven, Minnesota Power – Geospatial Infrastructure
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager

Project Overview:

Minnesota Power and HDR provided a presentation that discussed the project need, description, anticipated permits, schedule, and outreach.

The Project will enhance reliability in Duluth and the North Shore areas. Minnesota Power achieved their milestone with 50 percent generation from renewable sources – wind, solar, and hydro. Over the last several years, five smaller coal fired plants were idled and need to replace attributes of the coal fired plants. These transmission lines are short in length but are an important part to the transmission system.

The 115 kilovolt (kV) transmission voltage is backbone of Minnesota Power’s system and thus the proposed projects voltage. The Project includes three components:

- construction of approximately 10-20 miles of new 115 kV transmission line between the existing Ridgeview and Hilltop substations,
- construction of approximately one-mile extension of an existing 230kV transmission line, connecting to the Arrowhead Substation that will reduce potential outages along the 230kV system,
- and upgrades to the existing Ridgeview, Hilltop, and Arrowhead substations
 - Expansions at the Ridgeview and Hilltop substations may be required

Comments:

- The Project will be complete over the next few years
- Provide another feed to the base – transmission planners are looking at that feed. It would be a distribution level at the 13.8kV. Making provisions and will have the capability for redundant power
- Runway is managed by the Duluth Airport Authority
- Glide slope issues
- ANG follows FAA rules
- Runway 927 is primarily used
- Runway 321 – is about 5,000 ft long and can’t be used
- Second feed into building at corner of Haines Road and Voodoo Road. Bury distribution feed

Meeting Minutes

Project: Duluth Loop Reliability Project

Subject: Minnesota Power - Duluth Loop Reliability Project

Date: Monday, March 01, 2021

Location: WebEx

Attendees:

Introductions:

- Stacy Kotch Egstad – MnDOT Routing and Siting Coordinator to PUC projects
- Don Berre – MnDOT Aeronautics – North Region Airports and administration of grants
- Ann Driver – MnDOT Utility Permitting
- Wayne Scheer – MnDOT District 1 Permit Supervisor
- Jim Atkinson – Minnesota Power, Environmental and Real Estate Manager, siting and routing transmission lines
- Terri Bagwell – Minnesota Power, Environmental Compliance Specialist and administration and logistics
- Mark Wolcott – Minnesota Power, Transmission Structure Engineer
- Kurt Blomquist – Minnesota Power, Transmission Planning Engineering and Need analysis
- Kyle Larson – Supervisor of Transmission and Distribution and Construction Manager
- Brian Hunker – HDR, Environmental Consulting Project Manager
- Dan Schmidt – HDR, Transmission Line Routing and Permitting

Proposed Agenda:

- Introductions
- Project overview (PowerPoint)
- Trunk Highway 53 crossing
- ROW boundaries
- Airport rezoning status
- Structure type
- Clearances
- Single circuit – counterproductive – hard clearance

Project Overview:

Minnesota Power and HDR provided a presentation that discussed the project need, description, anticipated permits, schedule, and outreach.

The Project will enhance reliability in Duluth and the North Shore areas. Minnesota Power achieved their milestone goal in 2020 with 50 percent generation from renewable sources – wind, solar, and hydro. Minnesota Power is transitioning the generation fleet to coal free by 2035 and carbon free by 2050. Over the last several years, five smaller coal fired plants were idled and need to replace attributes of the coal fired plants.

The 115 kilovolt (kV) transmission voltage is the backbone of Minnesota Power’s system and thus 115kV is the proposed Project’s voltage. The Project includes three components:

- construction of approximately 10-20 miles of new 115 kV transmission line between the existing Ridgeview and Hilltop substations,
- construction of approximately one-mile extension of an existing 230kV transmission line, connecting to the Arrowhead Substation that will reduce potential outages along the 230kV system,
- and upgrades to the existing Ridgeview, Hilltop, and Arrowhead substations
 - Expansions at the Ridgeview and Hilltop substations may be required

Discussion Topics:

- Trunk Highway 53 has two Minnesota Power transmission line crossings
- There are many other utilities alongside Trunk Highway 53 that should be located prior to construction
 - There are planned new sewer lines going into the area – WSB is the engineering company
- MN DOT ROW mapping shows that Trunk Highway 53 has a 200-foot-wide total ROW width near the Haines Road intersection
- Mn DOT general safety criteria
 - Poles must be located outside of highway ROW
 - The ROW edge is 75 feet from centerline on each side of each lane
 - There is either 48 feet or 54 feet separation between lanes
 - The Haines Road intersection has sight corners in the SE and NW corners where MN DOT ROW increases to 100-foot-wide and cannot block the sight lines
- The frontage roads are either city or county managed
- Stacy will provide links to the MN DOT ROW maps and their Utility Accommodation Policy
- MN DOT clearance height is the National Electric Safety Code (NESC) standard by transmission line type and voltage
- MN DOT Utility Accommodation Policy lists that a perpendicular crossing is preferred and if the crossing is not perpendicular than the Permit will need to explain. In addition, MN DOT through that there was a 22-foot offset from their ROW, but that would need to be verified.
- The new transmission line’s maximum span would be 500 to 1,000 feet

- Trunk Highway 53 is a heavy haul route but there are no extra clearance requirements and Minnesota Power would need to follow the basic clearance requirements. Minnesota Power wants to avoid lifting conductors for house moves or other large loads.
- MN DOT's preference is to have the new transmission line adjacent to the existing transmission line. This is a preference more than a requirement. Minnesota Power may prefer separation to assist with routing into the Haines Road Substation.
- MN DOT will provide temporary access for construction but will not allow permanent access
- MN DOT does not have other ROWs than Trunk Highway 53 and Highway 2 in the Project Area
- MN DOT noted that at the existing 57-line crossing, western Trunk Highway 53 crossing, there is a snowmobile trail
- Structure height on the existing 57 line is around 70-foot-tall above ground height. Grade helps as it falls off to the west.
- MN DOT's Office of Environmental Stewardship will review Projects in trunk highway ROW
- Currently there is contaminated soils at the corner of Ugstad Road and Trunk Highway 53
- The Duluth Airport Zoning application was returned for revisions and the airport's team is currently reviewing MN DOT's comments
- Future construction
- MN DOT is updating the intersection of Highway 194 and Trunk Highway 53
- Mn DOT new maintenance buildings planned at Lindahl Road and Trunk Highway 53
- Currently, MN DOT is storing contaminated soils at this site

Duluth Loop Reliability Project Meeting Notes – Department of Commerce and Public Utilities Commission

March 2, 2021

Attendance:

- Louise Miltich, Department of Commerce
- Bret Eknes, Public Utilities Commission
- Mike Kaluzniak, Public Utilities Commission
- Bill Storm, Department of Commerce
- Jim Atkinson, Minnesota Power
- Kyle Larson, Minnesota Power
- Terri Bagwell, Minnesota Power
- Brian Hunker, HDR Engineering, Inc.

Project overview

- Minnesota Power provided a presentation that recapped the Project description and benefits and provided an update on the Project's route development. The Project developed Route Alternatives that were going to be presented to the public for their review and comment. The Project was going to review public comments and select a preferred route.
- Idled coal plants and need reliability
- Large impact with reliability to over 80,000 residences

Comments:

- The next public outreach will have four community meetings as they were well attended and no live chats
- Environmental Assessment development would take about three months from the scoping decision with order to the Commission
- The Department of Commerce would review a draft application for two weeks before filing and would need a complete application
- Bill Storm will not be available during June
- Shapefiles and GIS data that was used to generate the Application should be provided to the Department of Commerce
 - The data can be placed on a CD or flash drive and mailed to the Department of Commerce
- The data will be used to generate maps and verify information from the application
 - CON and Route Permit
- Environmental Review is a higher elevation and use CN application and ER's review / EA
- Include outreach in the route permit application
- Mike – a few hard copies application
- Landowner list as soon as possible
- Midway River and trout streams are sensitive environments

Meeting Minutes

Project: Duluth Loop Reliability Project

Subject: Minnesota Power - Duluth Loop Reliability Project

Date: Thursday, March 04, 2021

Location: WebEx

Attendees:	Kris Leman, US Army Corps of Engineering Regulatory Project Manager	Jim Atkinson – Environmental and Real Estate Manager
	David Demmer – BWSR Project Manager oversee WCA administration	Terri Bagwell – Environmental Compliance
	Mike Swenson – HDR - Environmental Consulting Wetland Specialist	Kyle Larson – Supervisor Transmission and Construction Manager
	Dan Schmidt – HDR - Environmental Consulting Permit Lead	Brian Hunker – HDR - Environmental Consulting Project Manager

Discussion Topics:

Minnesota Power provided a presentation that recapped the Project description and benefits and provided an update on the Project's route development. The Project developed Route Alternatives that were going to be presented to the public for their review and comment. Information on the second public outreach meeting planned from March 15 to April 2. The Project was going to review public comments and select a preferred route.

BWSR and Corps stated that the plan was to continue to use WCA's Federal Approval Exemption. BWSR would coordinate with the LGUs – Duluth, Hermantown, St. Louis County, Proctor, and Rice Lake.

There are no jurisdictional changes with the transmission line

Federal Approvals Exemption:

- No real change – Utility General Permit
- All activity is under the Corps permit
- Substation expansion might be covered under a Regional General Permit not utility exemption
- Hilltop Substation – utility general permit
 - Firm 0.5 acre of permanent fill then kick out of utility general permit
 - Associated facilities
- Ridgeview Substation
 - Need a level 2 wetland delineation
 - Associated facilities

- General permit or individual permit – quality for

Delineation

- Level 1 delineation is sufficient desktop with field review for transmission line
- Level 2 delineation at substations – delineation approval through the LGU
- 2023 – growing season
- Submit and review of the delineation data
- Duluth is the LGU at both substations

Wetland conversation

- No threshold but quality is concerned
- What is the quality of wetland – general observation of the wetland species and integrity
- Shrub car wetland – most fragmented wetland

Miller Creek

- No concerns

Midway River

- Approved sewer line
- Riparian wetlands associated with the river
- Baseflow and stormwater retention

Meeting Minutes

Project: Duluth Loop Reliability Project

Subject: Minnesota Power - Duluth Loop Reliability Project

Date: Thursday, March 04, 2021

Location: WebEx

Attendees: Adam Fulton

Kyle Larson

Steven Robertson

Brian Hunker

Introductions:

- Steven Robertson – Senior Planner with the City of Duluth – Planning and zoning, Grants and housing, and intergovernmental relations
- Adam Fulton – Deputy Director of Planning
- Kyle Larson – Supervisor of Transmission and Distribution and Construction Manager
- Brian Hunker – Environmental Consulting Project Manager

Discussion Topics:

Minnesota Power and HDR provided a presentation that recapped project need, benefits, and description. As well as, Minnesota Power and HDR provided an update on:

- Route development by presenting the Route Alternatives
- Information on the second public outreach meeting planned from March 15 to April 2
- Public comments from the first public meeting
- Schedule updates

City Hall remains closed and City staff appreciated the virtual public meetings and providing electronic and hardcopy information

HDR will mail hardcopy information packets to Steven Robertson, within the intention that the hardcopies can be provided to the City Commissioners

Duluth's wetland LGU is Kyle Demming who will review the wetland delineations with input from others

City staff mentioned that wetland impacts may occur near Sundby Road and Miller Trunk Highway

Cultural and architectural history sites were a concern to the city

Duluth Loop Reliability Project Meeting Notes – Western Lake Superior Sanitary District (WLSSD)

March 18, 2021

Attendance:

- Dianne Mathews – Senior Engineer at WLSSD
- Jim Atkinson – Environmental and Real Estate Manager
- Kyle Larson – Supervisor Transmission and Construction Manager
- Mark Wolcott – Engineer in Transmission
- Brian Hunker – HDR - Environmental Consulting Project Manager

WLSSD project overview:

- WLSSD is conducting a sanitary upgrade and extension starting in 2021 on the south side of Miller Trunk Highway
- Required through the DNR to have construction start on April 30th and be complete by Sept 15th
- Grass planting planned for fall 2021
- Warranty work would start in spring 2022 and complete in fall of 2022
- May bore under the highway with a pipe
- Mall Drive might be used for the project to work and store materials
- Haines Road – Can't close for more than two weeks – need to cross Haines Road in two weeks
- St. Louis County – sidewalk managed
- Duluth – lightning
- MnDOT involvement with working in DOT ROW

Other Comments:

- DNR – They are backed-up and need time to complete their review. License to Cross Public Waters application timeline and scheduling and have a tremendous time.
 - Northern long eared bat – trees and shrubs must be cleared by April 1
 - Bypass the trout stream tributary
 - No DNR comments about the Blanding's turtle
 - Kohls – rerouted Miller Trunk Highway road
- Route permit approved a route width
- Survey of buried utilities
- Cadastral surveys show property lines
- ROW and facility location files
 - Pipeline on the north and south of road
 - KMZ files shows the locations of sewer lines around the project area
 - Is the KMZ accurate for design? Or consider a design locate? Its accurate and can verify with manholes.
- Stay outside of WSLLD ROW
 - 10-20 ft on either side of the pipe

- Metering station at Haines Road and Trunk Highway 53 and lots of pipelines
 - This is a huge challenge with the landowner
- Lavaque Bypass and Trunk Highway 53 has a 6 inch force main in the area
- Wells Fargo contact
- Stormwater treatments needed due to work in and next to the trout stream
- Monitor flow – no

Duluth Loop Reliability Project Meeting Notes – Department of Natural Resources

March 19, 2021

Attendance:

- DNR Staff:
 - Margi Coyle - Northeast Region – Environmental Review up until the Route Permit Application is submitted
 - Cynthia Warzecha – Energy Review Planner and will work alongside Margi Coyle - Coordinator after the Route Permit Application is submitted and will coordinate the DNR comments
 - Deserae Hendrickson - Fisheries Supervisor and Fish Management
 - Joe Rokala – Land and Minerals Program Director – Public Waters
 - Patty Fowler – Hydrologist - PWI and MN PARS off-ROW crossing
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Terri Bagwell, Minnesota Power - Environmental Compliance
- Kyle Larson, Minnesota Power - Supervisor Transmission and Construction Manager
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager

Introduction

Minnesota Power and HDR provided a presentation that recapped project need, benefits, and description. As well as, Minnesota Power and HDR provided an update on:

- Route development by presenting the Route Alternatives
- Minor alternate routes to avoid streams
- Information on the second public outreach meeting planned from March 15 to April 2
- Public comments from the first public meeting
- Schedule updates

Minnesota Power submitted the NHIS review form for concurrence

- Floating marsh marigold
- Northern goshawk
- Blanding's turtle
 - DNR fact sheet

Northern long eared bat construction techniques

PWI crossings will be similar to GNTL Project

Trout stream crossings –

- What construction techniques will be used?
- Structure spotting and setbacks
- Work timing and schedule of construction

Wetlands

- Prefer work in winter

Blandings turtles –

- Not impact wetland during hibernation
- Contractor education

- SWPPP devices that are turtle friendly

Floating marsh marigold

- Span the stream and minimal impacts

Northern goshawk

- No effects anticipated due to mobility species

Floodplain permit –

- Hermantown
- Midway townships

Application for a License to Cross Public Waters

- DNR wants a draft submittal to put a que in their system for 2023
- Submit the application to the PUC –
 - Not much in the application to track the project

Fisheries

- Lesser impact on streams due to the project spanning streams
- Issues with clearing of utility crossings
- Clearing up to the stream and crossing area
- Widening the stream corridor
- Need filter run off
- Shading from shrubs and trees helps to not warm up the water
- Unmapped tributaries were provided in a point file
- No work in the public waters
- No bridges of the public waters
- Riparian corridors
- 20 ft path through a 75 ft buffer
 - Hand clear
 - Maintain shrub and brush
 - Leaving smaller and lower vegetation – filters runoff
 - No adequate shading – lose adequate shading
- Temporary bridges for construction access
- Wetland
 - WCA comment
 - Lose forested wetlands
 - Full replacement of in-kind wetlands or higher than number of wetland replacement
 - Avoid forested wetlands
- Two parallel lines
 - 160 foot of ROW
 - Separate lines would need 200-foot ROW
 - FERC and NERC standards on tall growing trees
- Forested wetlands
 - In-kind replacement
 - Credit on wetland banking on mitigation
 - Replace a shrub wetland with another shrub wetland
 - Fill wetland
 - Replacement credit
 - If you clear, then its not considered a fill
 - No net loss category of the wetland

- Cleared ROW that affects
- Pollinators and reseeding of the ROW should be considered
- Cynthia Warzecha
 - No compliance plans
- Margi Coyle
 - Coordinate with comments – April 2 comments
- Public meeting handout and schedule

Closing Thoughts:

Another meeting – one month – prior to select the preferred route

Have DNR comments – then schedule a meeting

Meet again around April 12th

Duluth Loop Reliability Project

St. Louis County Phase 2 Engagement Meeting

March 31, 2021

Attendees:

- Mayor Wayne Boucher (City of Hermantown)
- John Mulder (City of Hermantown)
- Jim Atkinson (MP)
- Terri Bagwell (MP)
- Maddie Forrest (HDR)
- Kurt Bearinger (HDR)
- Dan Schmidt (MP)
- Matt Hagelin (MP)

Agenda Items:

- Introductions
- Overview on Project
- Questions/Comments

Overview Presentation:

- Jim Atkinson walked through the community meeting presentation to provide a project overview.

General Discussion:

- John Mulder - Are there going to be new corridors or is MP going to utilize existing corridors?
 - The impact of the substation upgrades are minimal to Hermantown correct?
 - Yes
 - The Arrowhead Substation 230kV line is just heading up to the NW, correct?
 - Yes
 - On existing ROW?
 - Yes, it is mostly on Minnesota Power land
 - Mayor Boucher – Is there existing lines on your land?
 - Yes. We will be adding another circuit.
- Mayor Boucher
 - Concerned about the C2 segment, would it be a completely new line with a new ROW?
 - Yes

- No existing infrastructure to follow like gas lines?
 - No, we would mainly need to follow property lines and stay as far away from homes as we can
- Jim - C1 is wider so there is some flexibility to reduce impacts to trout streams and existing homes
 - Mayor Boucher – Are there any negative comments on C1?
 - Yes, we received a comment about a possible development opportunity on the northern portion of that segment
 - John Mulder – development there would be tough because there is no water or sewer in the area
 - City just replaced a big culvert at Midway River and Hermantown Rd
 - Eric Enberg of Morris Thomas will be putting in a greenhouse and solar array on his property
- C2 Segment
 - John Mulder – Would this line be similar to what we see behind City Hall off Maple Grove Rd?
 - Correct
 - Police canine training facility on MP land was confirmed
 - No need to MP to disturb this
- John Mulder – Just South of Maple Grove – would be just to the west of 3-4 homes on the south side of the road.
 - Correct
 - Would B1 or B2 be used if you ran up C1
 - We could use either. B2 would be a little cheaper
 -
- Mayor Boucher
 - We'd prefer the project stays within existing ROW as much as possible to reduce impact on property owners and keep neighborhood character
 - Hermantown Marketplace – Fleet Farm and Sam's Club
 - Discussion about alignment through this area
 - John Mulder – It would be an improvement to flatten out the line in this areas as currently proposed.
 - John Mulder – South of substation, south of Market and Lindgren
 - Future development plans and would like to update Lindgren with a concrete curb
 - The City would like another presentation once the line is narrowed down
 - Include council members and any other interested staff
- 230kV Line
 - Most of the extension is on MP-owned land
 - Planning to parallel existing line

Next Steps/Task List:

- MP/HDR to meet with city staff and elected officials once final proposed route has been determined

Duluth Loop Reliability Project

City of Rice Lake Phase 2 Engagement Meeting

March 31, 2021

Attendees:

- Mayor John Werner (City of Rice Lake)
- Toni Blomdahl (City of Rice Lake Clerk/Treasurer)
- Jim Atkinson (MP)
- Kyle Larson (MP)
- Terri Bagwell (MP)
- Maddie Forrest (HDR)
- Kurt Bearinger (HDR)
- Dan Schmidt (HDR)

Agenda Items:

- Introductions
- Overview on Project
- Questions/Comments

Overview Presentation:

- Jim Atkinson and Dan Schmidt walked through the community meeting presentation to provide a project overview.

General Discussion:

- Mayor Werner – Has there been any feedback from Rice Lake residents?
 - A few comments have come in about routing the new line further north of the existing line along Martin Road
 - There were a few Rice Lake folks that attended the community meetings last week
 - Impacts to Rice Lake Reservoir have been considered as well as other biological constraints
- The City has not received any direct comments from residents.
- Mayor Werner
 - Sounds like this will have minimal impact in our area and no houses are right up against the existing transmission line
 - There's a good chance that the project won't impact Rice Lake at all if B2 is selected

Next Steps/Task List:

- Kurt to send presentation to Toni

Duluth Loop Reliability Project

St. Louis County Phase 2 Engagement Meeting

March 31, 2021

Attendees:

- Victor Lund (St. Louis County)
- Matthew Johnson (St. Louis County)
- Julie Marinucci (St. Louis County)
- Mark Lindhorst (St. Louis County)
- Jim Atkinson (MP)
- Kyle Larson (MP)
- Terri Bagwell (MP)
- Maddie Forrest (HDR)
- Kurt Bearinger (HDR)
- Dan Schmidt (HDR)

Agenda Items:

- Introductions
- Project Overview
- Questions/Comments

Overview Presentation:

- Jim Atkinson and Dan Schmidt walked through the community meeting presentation to provide a project overview.

General Discussion:

- Matt Johnson questions:
 - What anticipated permits, feedback, and documentation does Minnesota Power need from the county?
 - As we get into the certificate of need, we'll be looking for local government support
 - While the state PUC process is the main permitting process, we will have a need for several local permits. Wetlands in particular
 - Mark Lindhorst will be the lead contact for wetlands

- Vic Lund questions:
 - Would like to know draft alignments once proposed route is narrowed down so we can avoid any conflicts with roads and land use planning
 - HDR to share updated shape files in a month or so
 - Has MP reached out to MnDOT and local cities about crossing any roadways?
 - MP has been in discussions with MnDOT about the crossing at Hwy 53
 - Discussions about city streets to occur one proposed route has been finalized
- Route Alternative:
 - Vic Lund
 - Does MP have a database on road jurisdictions – clarity on who owns which roads?
 - Walked through the project map and pointed out the different road crossings:
 - County Owned
 - Midway Road, Maple Grove Road, Morris Thomas Road, Lavaque Road, Haynes Road, Stebner Road south of Morris Thomas, Martin Road, Rice Lake Road, Arrowhead Road between 53 and Rice Lake Road, Samuelson Road/234, Ugstad Road
 - Hermantown Road - City Street
 - MP to contact Jackie Macewicz from CN Railroad
 - jackie.macewicz@cn.ca
 - When the project is crossing a county road, no issues with the structure height, question will be about pole spacing as it crosses. County would like MP to keep poles at a minimum 100 ft from the road way centerline to mitigate any future conflicts with road expansions.
 - Julie Marinucci – Land use and planning side
 - Will need to dig into it more
 - Whatever you can send us now on your proposed routes would be helpful in our current discussions with the City of Duluth
 - Dan to send shape files

Next Steps/Task List:

- Dan Schmidt will send proposed route alternatives shape files to Vic and Julie.
- HDR will send proposed route shape files to Vic once finalized.
- MP to contact Jackie Macewicz from CN Railroad
 - jackie.macewicz@cn.ca

Duluth Loop Reliability Project Meeting Notes – Fond du Lac Band of the Lake Superior Chippewa

April 9, 2021

Attendance:

- Jill Hoppe – Fond du Lac Band of the Lake Superior Chippewa Tribal Historic Preservation Office
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Terri Bagwell, Minnesota Power - Environmental Compliance
- Kyle Larson, Minnesota Power - Supervisor Transmission and Construction Manager
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager

Comments:

- The Tribal Historic Preservation Office found it helpful to have the shapefiles and finalized reviews of the alternatives to overlay cultural sites
 - There are a couple areas of concerns
- Questions – Scoping notifications
 - The Project does not have a federal nexus – no Section 106 consultation is anticipated
 - Provide information in a letter
 - Generally, it looks good
- Two areas with concern
 - One Area is about 750 ft from the boundary of Alternative Route D
 - Index page number 18
 - Mogie Lake is a wild rice lake
 - Wild rice lakes are protected and its within 1,000 ft
 - Second area is on the eastern side of the project
 - Index map 9, 2, 3, and 4
 - Former “Trail” on the GLO and trade route maps – trail is not present that goes from Chief Buffalo Tract north to Wild Rice Lake
 - Tribal Historic Preservation Office will send the trial map
 - Chief Buffalo – leader with dealing with European
 - Treaty with US in 1854 and 1837, 1847
 - Mostly like not developed
- Not aware of burials in the project area
- Fond du Lac neighbor with a formal cemetery
- Trade maps – purchased from the Trade Land Office in Ely, MN
- Wetland permit will have a regional general permit coverage – no formal Section 106 consultation
- US ACOE will initiate Section 106 for the regional general permit and Jill will provide a more formal letter

Duluth Loop Reliability Project Meeting Notes – State Historic Preservation Office, Office of State Archaeologist, Indian Affairs Council

May 10, 2021

Attendance:

- Sarah Beimers, SHPO, Manager of Environmental Review – historic structures
- Amanda Gronhovd, Office of State Archaeologist, State Archaeologist
- Melissa Cerda, Senior Cultural Resources Specialist, Indian Affairs Council
- David Mather, Office of State Archaeologist, National Register Archaeologist
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Terri Bagwell, Minnesota Power - Environmental Compliance
- Kyle Larson, Minnesota Power - Supervisor Transmission and Construction Manager
- Brian Hunker, HDR Engineering, Inc, Environmental Consulting Project Manager
- Dan Schmidt, HDR Engineering, Inc, Senior Environmental Scientist
- Jim Parker, HDR Engineering, Inc, Cultural Resources
- Mike Justin, Michael Justin Consulting, Inc, Cultural Resources

Proposed Route Comments:

- Phase 1a Literature Review – reviewed many features within one mile of the study corridor
- The proposed route avoids many features – WPA ear homes along West Arrowhead Road, Skyline Parkway
- The Proposed Route includes the Hermantown Cemetery which is next to an existing transmission line. In addition, it includes one archaeological site
- Phase 1a Literature Review contained great background info
- SHPO, OAS and IAC concur with the recommendation for a follow-up survey
- Additional level of review for preferred route
- There are not many areas that need field survey due to development
- Agree that a survey is appropriate on the preferred route
- Section 106 federal review is only their permit area and upland areas
- Not warrant survey
- Primary Investigator for survey can review and develop a scope of the field survey
- Setting the scope for the survey for high potential areas
- Consult with Primary Investigator for survey scope

Schedule:

- Filing the Certificate of Need and Route Permit application in August/September 2021
 - Process to approve takes roughly 18 months

Engagement:

- More information can be found at: DuluthLoop.com

Duluth Loop Reliability Project Meeting Notes – Board of Water and Soil Resources and US Army Corps of Engineering

June 11, 2021

Attendance:

- Kris Leman, US Army Corps of Engineering Regulatory Project Manager
- David Demmer – BWSR Project Manager oversee WCA administration
- Jim Atkinson – Environmental and Real Estate Manager
- Terri Bagwell – Environmental Compliance
- Mike Swenson – Environmental Consulting Wetland Specialist
- Brian Hunker – Environmental Consulting Project Manager

Proposed Route Comments:

- Minnesota Power provided an overview of a proposed route, specifically near difficult areas like the Midway River and Miller Creek
 - Acquisition of real estate parcels in the area
 - More environmental and engineering friendly crossing point with one span
- Substation update
- Hilltop – ditch
- Riverview – Ditch and wetland north (isolated)
- JD on the wetland north
- Hilltop Substation
 - Fill impact at the substation that is due to the substation expansion or is the transmission line is driving the substation fill
 - Temporary matting for the line construction
 - Federal Utility Exemptions removes substations from the federal approvals
 - Under the Regional General Permit substation improvements are allowed
 - Federal approvals for the transmission line
 - Non-jurisdictional wetlands are not federal wetlands – They are ditches excavated in uplands
 - Incidental wetlands – ditches cut from uplands are outside of Wetland Conservation Act (WCA) scope
 - Large focus on hydrology with downstream hydrology
 - Under the Federal Approvals all wetlands are jurisdictional
 - Substation wetland delineation reports should be submitted to the city of Duluth, as the LGU, with a memo explaining why they are incidental wetlands
 - The delineation report and no loss application (no loss because its incidental)
 - BWSR wants a field review and delineation report
- Ridgeview Substation
 - The ditches might be constructed out of wetlands
 - The city of Duluth is the LGU with jurisdiction
 - In the application include an overview of the proposed work at each substation

- Recommend to do a separate replacement plan for each substations under WCA
- Federal exemptions apply to the line
- Federal approvals – all affected wetlands are jurisdictional
- Substations – informal recommendations through emails with substation approach
- Delineation reports
 - Field review schedule with the LGU and decide on the no loss – RC Boheim (St Louis County SWCD) and Kyle Demming (City of Duluth LGU)
 - Delineation report and ask for TEPs and notice the LGUs to obtain preliminary decisions / determinations. Scope of the review are for this substation location. Notice and decision procedures
 - Duluth has a standing month TEP meeting date and the next meeting is July 8th
- Federal approvals
 - Transmission line delineation is a Level 1 review
 - Submit information to the LGUs prior to application
 - Submit application to the Corps

Schedule:

- Filing the Certificate of Need and Route Permit application in August/September 2021
 - Process to approve takes roughly 18 months

Engagement:

- More information can be found at: DuluthLoop.com

Duluth Loop Reliability Project Meeting Notes – Duluth Planning

June 14, 2021

Attendance:

- Adam Fulton – City of Duluth Deputy Director of Planning
- Steven Robertson – City of Duluth Planning Team Lead
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Terri Bagwell, Minnesota Power - Environmental Compliance
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager
- Maddie Forrest, HDR Engineering, Inc – Project Outreach

Proposed Route Initial Thoughts:

- Minnesota Power provided an overview of a proposed route
- *Is the black line the land that Minnesota Power intends to purchase or for seeking easements?*
 - The black line is the proposed route that will be applied for in the Route Permit application. The right-of-way is not shown on the map, but is a lot smaller of an area where Minnesota Power would be seeking easement
- *Was there a plan to have information/open house meetings around the same time frame as the filing?*
 - Not at this time – The state would notify landowners and Minnesota Power would be working with some landowners with identifying land that may need to be purchased
- There is a July 8 meeting with wetland impacts
- No initial comments regarding concerns – Duluth is supportive of the proposed line

Schedule:

- Filing the Certificate of Need and Route Permit application in August/September 2021
 - Process to approve takes roughly 18 months

Engagement:

- More information can be found at: DuluthLoop.com

Duluth Loop Reliability Project Meeting Notes – City of Hermantown

June 15, 2021

Attendance:

- Mayor Boucher, City of Hermantown
- John Mulder, City Administrator, City of Hermantown
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Terri Bagwell, Minnesota Power - Environmental Compliance
- Brian Hunker, HDR Engineering, Inc, Environmental Consulting Project Manager
- Maddie Forrest, HDR Engineering, Inc, Strategic Communications

Initial Routing Thoughts/Questions Asked:

- *Was there a lot of public engagement on this?*
- *Is everything within your ROW right now?*
- Minnesota Power is looking at easements and/or acquiring properties
 - In areas, it may be simpler to acquire land, develop the line, and figure out what the best use of the property is going forward
- The Midway River area is challenging. The existing transmission lines on the northern end – existing 57 and 58 lines will connect. The yellow dashed line will be an underground fiberoptic to maintain a communication network between the systems.
- South end of this segment near the Vukonich Trust properties would be another area for consideration
- Minnesota Power would be removing more easement than acquiring in this area
- Many segments will be rebuilt or realigned on the current ROW and transition some of the structures to steel monopole structures to fit a new easement
- Wild Rose Trail Subdivision where many homes were built under the existing transmission line. Minnesota Power will propose to remove the transmission line, realign on the Twin Ridge properties, and then double-circuit the existing 115kV line to the Hilltop Substation
 - *“The residents of that subdivision will be very happy with that removal.”*
- *I think it's the least disruptive of the options. The only community opposition would be from folks in the Midway River area. Would there be a chance you could sell it back to them once you have what you need?*
 - *Yes. We would consider selling it to any developer and would be interested in getting the city's input before we sold it back.*
- Lee Atchinson has land in that area, and he is in the process of retiring in Arizona, so he may be happy to hear an offer, but he'll want more. Minnesota Power works with real estate companies to help with an offer, if that approach is used.
 - Property also has large vehicles (buses, cars, etc.) parked on the property
- Lightning Drive
 - Structures will be realigned to the north to have greater separation between the buildings that were built. Not moving the structures too much. They will be closer to the road. Trying to increase the horizontal and vertical clearances from the buildings as much as possible.

- Same with townhomes that are located by Stebner Road
- It may not look like a huge change but will have a substantial electrical safety improvement
- Hermantown has the idea of redoing Lightning Drive/reconstructing and putting a sewer pipe and extending it west (just short of Lavaque Rd), which may be just to the north of the Minnesota Power easement. The City doesn't anticipate impacts to Minnesota Power's easement, but something to be aware of.
- Vukonich Trust
 - A realtor is hoping to have a development on this parcel
 - Minnesota Power is assessing to acquire easement or property
 - Minnesota Power can develop the line and figure out the use of the property
 - Minnesota Power would like to move the existing transmission line from the Midway River
 - Need to approach on an alignment
 - Would sell back the parcels when done
- Hermantown Cemetery
 - Need to rebuild both circuits on monopole structures
- *Can we get paper/emailed maps of this?*
 - *Minnesota Power can send that to you once our finishing touches are done on this.*
 - *Minnesota Power can send a link with mapping alternatives to John and Mayor Boucher*

Schedule

- Filing the Certificate of Need and Route Permit application in August/September 2021
 - Process to approve takes roughly 18 months
 - State will send notices to landowners via public notice

Engagement:

More information can be found at: DuluthLoop.com

Duluth Loop Reliability Project Meeting Notes – Department of Commerce and Public Utilities Commission

June 16, 2021

Attendance:

- Louise Miltich, Department of Commerce
- Bret Eknes, Public Utilities Commission
- Mike Kaluzniak, Public Utilities Commission
- Bill Storm, Department of Commerce
- Jim Atkinson, Minnesota Power
- Kyle Larson, Minnesota Power
- Brian Hunker, HDR Engineering, Inc.

Proposed Route Initial Comments:

- Minnesota Power provided an overview of a proposed route
- Double-circuit is not an option since the Duluth Loop needs be a separate line
- Thermal upgrades along the existing 98 line will occur
- Many of the existing transmission lines will be rebuilt and realigned and this work will add new structures and added structure height
- The new line parallels existing transmission lines allowing for ROW sharing so the ROW will be 160 ft wide versus 200 ft wide for separate ROWs
- Commercial area is general retail along Lightning Drive and Mall Drive and will have realignments and rebuilds to have greater clearance from buildings
 - Currently two H-Frame structures and replaced with steel monopole that may need more ROW
- Explain why the project is parallel and not double-circuit in the application
- Switch monopole to H-Frame
 - Monopole are more robust and fit into smaller places – vertical configuration – 300 ft span and expense
 - H-Frame – 600 span and cheaper

Feedback:

- Feedback on what Minnesota Power is proposing – smallest new footprint is a greenfield and the rest of the project follows existing lines
- Opinion and leave to the Commissioners
- Following existing transmission wins the day and draw fire from people that own property in the area
- Validation or on the wrong path
- Staff are following the logic and it's a good job to fix issues and rework the congested areas. Scoping may tweak things here and there

- Give the overview and talk about the different sections and give many maps – talk about a section with a small map
- With the existing line over the river – what the mitigation would be
- The DOC has a Tribal Liaison, who will be interested in outreach

Schedule:

- Filing the Certificate of Need and Route Permit application in August/September 2021
 - Process to approve takes roughly 18 months

Engagement:

- More information can be found at: DuluthLoop.com

Duluth Loop Reliability Project Meeting Notes – St Louis County

June 16, 2021

Attendance:

- Jon Bodovinitz, St Louis County
- Julie Marinucci, St Louis County
- Jim Atkinson, Minnesota Power
- Brian Hunker, HDR Engineering, Inc
- Maddie Forrest, HDR Engineering, Inc

Initial Thoughts and Questions on Routing:

- Minnesota Power provided an overview of a proposed route
- *What is the black width on the routing map?*
 - *This is our permitted route within which we can site the facility. The ROW will be a small portion.*
- *Is it safe to say that most of these areas have an existing ROW?*
 - *Yes*
- St Louis County will have a few of the county road crossings
 - Right-of-way utility permit by project basis – online application for all of the crossings (one ROW permit)
- Process of moving permitting through = relatively easy process (closer to 4 months)

Engagement:

- More information can be found at: DuluthLoop.com

Action Items:

- Maddie: email out the public meeting recording to St Louis County team

Duluth Loop Proposed Route Meeting Notes – Proctor

June 17, 2021

Attendance:

- Charliene Jones – Operations Manager, Proctor Public Utilities
- Jim Atkinson – Minnesota Power
- Brian Hunker – HDR Engineering, Inc
- Terri Bagwell – Minnesota Power
- Maddie Forrest - HDR

Public Routing Thoughts and Questions:

- Minnesota Power provided an overview of a proposed route
- Clarification on location of the Hilltop Substation
 - North 77th Avenue West and Vinland St
- The existing 230 kV line goes through northern section of Proctor, near Youngdahl Rd
 - This 230 kV line will be reconductored for thermal upgrades
 - Residents will receive notification of the work but it is on Minnesota Power ROW
 - Youngdahl Rd
 - By Johnson Rd, Proctor only services two properties on that side of Johnson Road
 - *There is already an existing transmission line, correct?*
 - *Yes. There will be no additional ROW needed for this.*
 - The thermal upgrades is not a part of the route permit but Minnesota Power is including this at the same time for efficiency sake – since they're happening at the same time it may look like the same project.
 - Benefits
 - 80,000 people will be directly affected by the improved reliability of this project
 - Proctor is not opposed but would like to continue to be notified as it affects their residents
 - Website: duluthloop.com
 - *Is the schedule/timeline online?*
 - *Yes, at a high level.*

Schedule

- Filing the Certificate of Need and Route Permit application in August/September 2021
 - Process to approve takes roughly 18 months

Engagement:

- More information can be found at: DuluthLoop.com

Duluth Loop Reliability Project Meeting Notes – Department of Natural Resources

June 18, 2021

Attendance:

- DNR Staff:
 - Margi Coyle - Northeast Region – Environmental Review up until the Route Permit Application is submitted
 - Cynthia Warzecha – Energy Review Planner and will work alongside Margi Coyle - Coordinator after the Route Permit Application is submitted and will coordinate the DNR comments
 - Deserae Hendrickson - Fisheries Supervisor and Fish Management
 - Joe Rokala – Land and Minerals Program Director – Public Waters
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Terri Bagwell, Minnesota Power - Environmental Compliance
- Kyle Larson, Minnesota Power - Supervisor Transmission and Construction Manager
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager
- Dan Schmidt, HDR Engineering, Inc – Routing and Siting Lead

Proposed Route Comments:

- NHIS review was submitted on March 16
- Clearing diagrams were provided to the DNR for review
- Minnesota Power provided an overview of a proposed route
- Centerline may change within the permit
- No plans or mapping for the unnamed tributaries. They were provided to Minnesota Power as points
- Interest in your honest feedback since it's a big undertaking to wreck out transmission lines
- Minnesota Power would need to acquire easements or real estate to make this happen
- Significant loss of riparian shade and cover due to the many crossings and large benefit to the stream and offsets the few new crossings that will be needed
- Miller Creek – stream restoration next summer and reminder from the channelized creek
 - St Louis County SWCD – Ann Thompson – 218-723-4867 is the project contact
- Survey for floating marsh marigold – not required
- Environmental review process and connect with all landowners
- March 2021 the NHIS request was submitted and have a large backlog
- Cynthia will contact NHIS staff for an update

Schedule:

- Filing the Certificate of Need and Route Permit application in August/September 2021
 - Process to approve takes roughly 18 months

Engagement:

- More information can be found at: DuluthLoop.com

Duluth Loop Reliability Project Meeting Notes – South St Louis County Soil Water Conservation District (SWCD)

June 22, 2021

Attendance:

- Tim Beaster, SWCD – Conservation Speciation
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Terri Bagwell, Minnesota Power - Environmental Compliance
- Kyle Larson, Minnesota Power - Supervisor Transmission and Construction Manager
- Joel Carlson, Minnesota Power - Construction Manager
- Kurt Bearinger, Minnesota Power - Transmission Planning Engineering
- Mark Wolcott, Minnesota Power - Transmission Structure Engineering
- Mike Swenson, HDR Engineering, Inc – Environmental Permitting
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager

Proposed Route Comments:

- The SWCD is working through design
- Permitting plan set in July 2021
- This stream alignment can be tweaked
 - July 1 to Sept 15, 2022
- Minnesota Power's and DNR preference is for a 90 degree crossing
- Miller Creek's natural grade is very low slope and having a 90 degree crossing may not follow the low channel
- Earliest aerial is 1939 and only a few spots where the stream channel can be seen on and it was ditched at that time
- Locate the low point of the valley
- Minnesota Power has a rotating vegetation maintenance plan
 - Spot spraying
 - Clearing / Mowing
- Construction space needed will depend on the type of structure
- Steel poles would be used to cross Miller Creek
- The SWCD needs to buffer the existing transmission line structures
- Setting up work pads in order to have drilled pier foundations
- Don't scour the foundations and the more room with the structure sites the better
- 50 ft radius of the existing and proposed structures
- Outside stream bank will have wood structures to prevent scour
- Pools will be approximately 5 ft below ground and 2 ft below ground
- DNR PWI water – a lot of buffers around stream edge – usually around 75 ft
- 75 ft clearing
- 150ft building set back
- SWCD needs a safe working distance from the existing transmission structure

- Existing H-Frame structure will be replaced with monopole
- Does the SWCD anticipate water height increase as Minnesota Power will need to know for concrete reveal
- SWCD would like the approximate location of the new structure but Minnesota Power is not that far in design
- Connecting to the preexisting floodplain and the ditch is below ground
- Beaver has flooded the entire area and flooded the area
- Currently modeling the flood flows in the area
- Route approved by the state at the end of 2022
- What is the SWCDs appetite to delay project
 - Can't delay due to funding – Lessard Funding through the DNR and can't get an extension
 - Follow-up call to discuss proposed alignment
- Floating Marsh Marigold is an endangered plant in the stream – SWCD wanted to do the project 5 or 6 years ago
 - NHIS complete
 - Avoid the plants
 - DNR funded project and they are in full support
 - SWCD is supposed to do your best to minimize impacts

Schedule:

- Filing the Certificate of Need and Route Permit application in August/September 2021
 - Process to approve takes roughly 18 months

Engagement:

- More information can be found at: DuluthLoop.com

Duluth Loop Reliability Project Meeting Notes – South St Louis County Soil Water Conservation District (SWCD)

July 01, 2021

Attendance:

- Tim Beaster, SWCD – Conservation Speciation
- Ann Thompson, SWCD – Conservation Speciation
- Matias Valero, SWCD – Project Engineer
- Karl – DNR Clean Water Legacy Specialist
- Karen Tamminen, DNR Lands and Minerals
- Patty Fowler – DNR Hydrologist
- Jim Atkinson, Minnesota Power - Environmental and Real Estate Manager
- Terri Bagwell, Minnesota Power - Environmental Compliance
- Kyle Larson, Minnesota Power - Supervisor Transmission and Construction Manager
- Joel Carlson, Minnesota Power - Construction Manager
- Mark Wolcott, Minnesota Power - Transmission Structure Engineering
- Mike Swenson, HDR Engineering, Inc – Environmental Permitting
- Brian Hunker, HDR Engineering, Inc – Environmental Consulting Project Manager

Comments:

- Minnesota Power has been working with Margi Coyle, Deserae Hendrickson, Cynthia Warzecha, and Joe Rokala on the Duluth Loop Project consultation
- Minnesota Power presented their proposed route
- Minnesota Power was informed that its preferred to cross streams at perpendicular angles and the Project worked hard to have perpendicular stream crossings
- Concern on Minnesota Power’s existing right-of-way (ROW) and existing structures with stream scour or migration into the structures
- Concern with Minnesota Power’s proposed Project ROW and structure placement between the stream meander and MN DOT ROW
- Design of the new structures to accommodate flooding, if necessary
- Minnesota Power will need access during construction
- Stream construction crews need a safe working distance from the transmission line and structures
- Duluth Loop construction is planned to begin in Fall 2023 and the project does not want to wash out stream meander work
- Constraints and goals of the stream meander project
 - Connect stream to the floodplain
 - Generally, put the stream in the low point of the valley
 - Risk stream cutting into the channel

- Conflicts
 - Construction might occur at the same time and need to stage activities
 - Placement of the stream meander conflicts with current transmission line structure location and potentially future structure locations
 - Spacing of structures and setbacks
- Minnesota Power's plan is to span Miller Creek and Miller Trunk Highway
- Coordinate construction
- Span the proposed meander
- The current wood H-Frame pole would be replaced with a steel monopole on drilled pier foundation
- The existing transmission line has to operate while the new line is being installed

- Miller Creek construction would be in 2022
 - Backfill the trenched creek and excavate the new meander creek
 - Off-channel ponds for fish habitat will need to be moved
 - Stream bank scour is low and there are no high banks
 - Toe wood, dense planting, and root wads are planned to be installed to hold the banks and slopes
 - One foot every 100 years of bank erosion
 - The stream will move over time within a "belt width" and transmission towers
- The stream will naturally adjust to the low point in the valley
- Transmission line is planned to remain for many years, for example greater than 60 years
- Karen Tamminen or Patty Fowler can address the 90 degree transmission line stream crossing
- The transmission line structure should not be placed immediately adjacent to the stream
 - Minnesota Power asked for the expected set-backs from the transmission structures
 - Usually the DNR wants 75 ft from the stream channel
- Existing structure – what are the limits of disturbance from the stream meander?
- Bank armoring would extend about 8 feet back from the stream bank and be about 20 ft from the structures
- Timeline for transmission line design as design is a year away
 - Material lead time and commodity lead times are far out
 - The transmission line alignment will be final after the Route Permit is issued
- Need certainty of the channel location
 - Channel offset and definition of the channel
 - Concern for the existing channel conflicts with the transmission line structure
- Operation and maintenance concerns
 - Keep from two separate crossings within the ROW
 - Ditched stream is wider at 20 ft
 - Patty Fowler – construction access does it have to follow the transmission line – For construction there will be a travel way with a temporary crossing of the creek
- PWI – the new channel will be the PWI
 - Old channel will be filled in and a few spots will be left open – The new channel material will be placed into old channel

- The existing structure is in place and moving the stream closer. Need to make sure that the DNR is ok with the setback on the existing structure
- City of Duluth - Shoreland and floodplain standards –
 - Route Permit preempts – local ordinances and permitting
- Minnesota Power needs to understand the construction envelope
 - Finalize the alignment and survey models
 - Be outside of MN DOT ROW – buffer of MN DOT ROW. Setbacks over the road surface
 - Stream channel plus the offset distance
 - Setback from MNDOT ROW
- Minnesota Power needs a 100 by 100 foot work pad
- Will the City enforce the 75 ft setback?
 - Karen Tamminen will talk with Joe Rokala about the 75 ft setback
- The SWCD needs to verify that there will be no tall vegetation is planted in the ROW
 - No shrub or tree protection – no fencing on the stream
- Existing permit – covers existing structure to be located within 75 of the stream
- New structure placement will need latitude on the 75 feet of final structure placement. Need temporary construction impacts within the 75 feet. Construction pad for the foundation erection and structure erection will need to be matted.
- SWCD – clarify if the existing tower is not subject from the 75 ft setback of the new channel
 - Include Tim with conversations