

400 North Fourth Street  
Bismarck, ND 58501  
701-222-7900

July 16, 2020

Executive Secretary  
North Dakota Public Service Commission  
State Capitol Building  
Bismarck, ND 58505-0480

Re: Mandan to Ellendale Transmission System Upgrade Project  
Case No. PU-20-\_\_\_\_

Montana-Dakota Utilities Co. (Montana-Dakota) herewith electronically submits this filing in accordance with North Dakota Century Code 49-22-03(3) governing the statutory certification procedure that provides for an exemption from the siting process for certain activities including the construction of the same type of facility as the existing type facility. Montana-Dakota herewith submits its intention to reconductor approximately 90 miles of the 230 kV Mandan to Ellendale Transmission System and make other upgrades as necessary.

The following exhibits are provided in support of Montana-Dakota's intention to reconductor the 230 kV Mandan to Ellendale Transmission System in accordance with N.D.C.C. § 49-22-03(3):

- Exhibit 1 - Certification signed by Mr. Jay Skabo, Vice President of Energy Supply
- Exhibit 2 – Map of the overall project area.
- Exhibit 3 – Map of the minimal reroute described in Exhibit 1.
- Exhibit 4 – H-Frame Structure Drawing

Please refer all inquiries regarding this filing to:

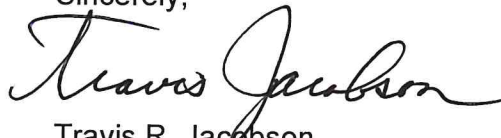
Travis R. Jacobson  
Director of Regulatory Affairs  
Montana-Dakota Utilities Co.  
400 North Fourth Street  
Bismarck, ND 58501  
[travis.jacobson@mdu.com](mailto:travis.jacobson@mdu.com)

Robert Frank  
Director of Transmission Engineering  
Montana-Dakota Utilities Co.  
400 North Fourth Street  
Bismarck, ND 58501  
[robert.frank@mdu.com](mailto:robert.frank@mdu.com)

Also, please send copies of all written inquiries, correspondence, and pleadings to:

Karl Liepitz  
Assistant General Counsel  
MDU Resources Group, Inc.  
P.O. Box 5650  
Bismarck, ND 58506-5650  
[Karl.Liepitz@MDUResources.com](mailto:Karl.Liepitz@MDUResources.com)

Sincerely,

A handwritten signature in black ink that reads "Travis R. Jacobson". The signature is written in a cursive, flowing style.

Travis R. Jacobson  
Director of Regulatory Affairs

Attachments

cc: Karl Liepitz  
Robert Frank  
Jay Skabo

# Exhibit 1

STATE OF NORTH DAKOTA  
PUBLIC SERVICE COMMISSION

Montana-Dakota Utilities Co.  
Mandan to Ellendale Transmission System Upgrade Case No. PU-20-\_\_  
Siting Exclusion Certification

CERTIFICATION RELATING TO N.D.C.C. § 49-22-03(3)(a)

Pursuant to N.D.C.C. § 49-22-03(3)(a), the undersigned, Jay Skabo, Vice President of Energy Supply, for Montana-Dakota Utilities Co. (Montana-Dakota), with the authority to bind Montana-Dakota to the following hereby certifies as follows:

1. Montana-Dakota currently owns and operates a 230 kV transmission system beginning near Mandan, North Dakota and ending near Ellendale, North Dakota (Project). The existing 230 kV transmission lines generally run cross country, across a mixture of cultivated fields, pasture lands, and some urban areas around Bismarck and Mandan. The line, which was built in 1966, is located within private right-of-way.
2. Pursuant to N.D.C.C. § 49-22-03(3)(a), Montana-Dakota proposes to upgrade the 230 kV line within the existing centerline, except for a 0.5 mile re-route on the Mandan end of the line in four (4) phases. The 0.5 mile re-route on the Mandan end of the line is located on Company owned property and was necessary to avoid Heskett 3 and the planned Heskett 4 natural gas turbines and to move the line termination to the east of the Mandan Substation to accommodate a second power transformer as shown on Exhibit 3.
3. The Project will be constructed in four phases beginning in May 2020 and is expected to be completed in January 2022. The phases are as follows:
  - Phase 1: May 2020 – July 2021 – This phase involves replacing structures and reconductoring the line from the Mandan Substation located near the Heskett Station to the Napoleon Substation. The entire reconductor from Mandan to Napoleon is approximately 60 miles. The new conductor requires replacing 300 H-Frame round wood pole structures in this section with 300 H-Frame round wood pole structures that are approximately 15 feet taller than the existing structures. A diagram of the H-Frame structures to be installed is provided in Exhibit 4.
  - Phase 2: July 2020- October 2020 – This phase involves reconducting the line between the Merricourt Substation and the Ellendale Substation. This reconductor is approximately 30 miles in length. Three H-Frame round wood pole structures will be

replaced with approximately 15-foot taller H-Frame round wood pole structures.

- Phase 3: August 2021 – October 2021 – This phase involves adding additional ground clearance that is required on the line section between the Napoleon Substation and the Wishek Substation. To achieve the required clearance, 26 H-Frame round wood pole structures will be replaced with approximately 15-foot taller H-Frame round wood pole structures.
  - Phase 4: November 2021 – January 2022 – This phase involves adding additional ground clearance that is required on the line section between the Wishek Substation and the Merricourt Substation. To achieve the required clearance, 36 H-Frame round wood pole structures will be replaced with approximately 15-foot taller H-Frame round wood pole structures.
  - As noted, the line remains in the original location (same centerline) within the existing easement. New wood poles will be placed within 10 feet of the existing wood pole locations. The Company is replacing the existing 795 kcmil Aluminum Conductor Steel Reinforced (ACSR) with 795 kcmil Aluminum Conductor Steel Supported (ACSS). ACSS is designed to operate continuously at higher temperatures up to 250°C without loss of strength. This allows for a significant increase in current carrying capacity over ACSR. ACSS is self-damping, sags less than ACSR under emergency electrical loadings, and its final sags are not affected by the long-term creep of aluminum. These advantages make ACSS useful in new line applications where structures can be optimized due to the reduced conductor sag, where high emergency loads may be required, or in lines where Aeolian vibration is a problem. Existing lines can be re-conducted using ACSS to allow for increased current using the existing clearances and tensions.
4. The proposed upgrades were identified by Midcontinent Independent System Operator (MISO) through an interconnection study performed when a generator requested to interconnect to Montana-Dakota's integrated transmission system at the Company's Napoleon Substation.
  5. Montana-Dakota and the generator subsequently signed a Generator Interconnection Agreement wherein the Company agrees to provide transmission service to the generator and identifies the facility upgrades that are necessary to provide that service.
  6. The generator as the interconnecting customer is responsible for the cost of the upgrades. As such, Montana-Dakota and the generator have entered into a Facilities Service Agreement (FSA), applicable under the MISO tariff to allow Montana-Dakota to recover the costs of the project

over a 20-year period. The Project will not be included in Montana-Dakota's state regulated rate base or income statement.

7. Montana-Dakota will continue to operate and maintain its integrated transmission system consistent with current practice and continue to use these assets to serve its integrated system customers.
8. Construction of the Project will not affect any known exclusion or avoidance areas and no new environmental concerns will be created as a result of the upgrade.

Dated this 16<sup>th</sup> day of July 2020.



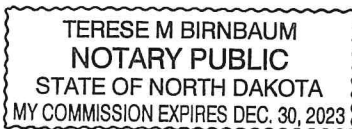
\_\_\_\_\_  
Jay Skabo  
Vice President of Energy Supply  
Montana-Dakota Utilities Co.

STATE OF NORTH DAKOTA    )  
  )  
COUNTY OF BURLEIGH    )

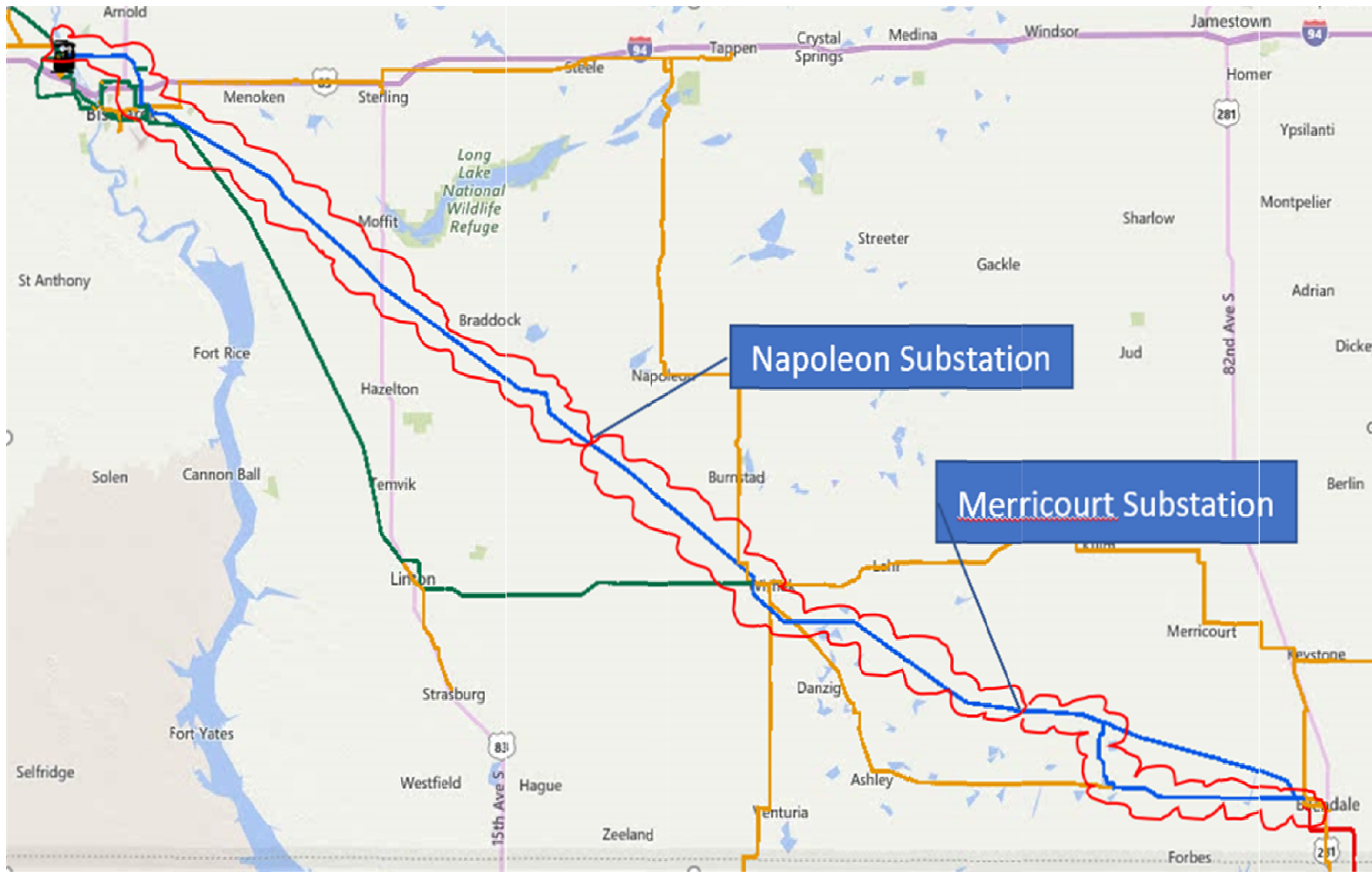
Subscribed and sworn to before me, a Notary Public for the state and county above named, this 16<sup>th</sup> day of July 2020.



\_\_\_\_\_  
Terese M. Birnbaum, Notary Public  
Burleigh County, North Dakota  
My Commission Expires: 12/30/2023



# Exhibit 2



# Exhibit 3

# Mandan - Heskett

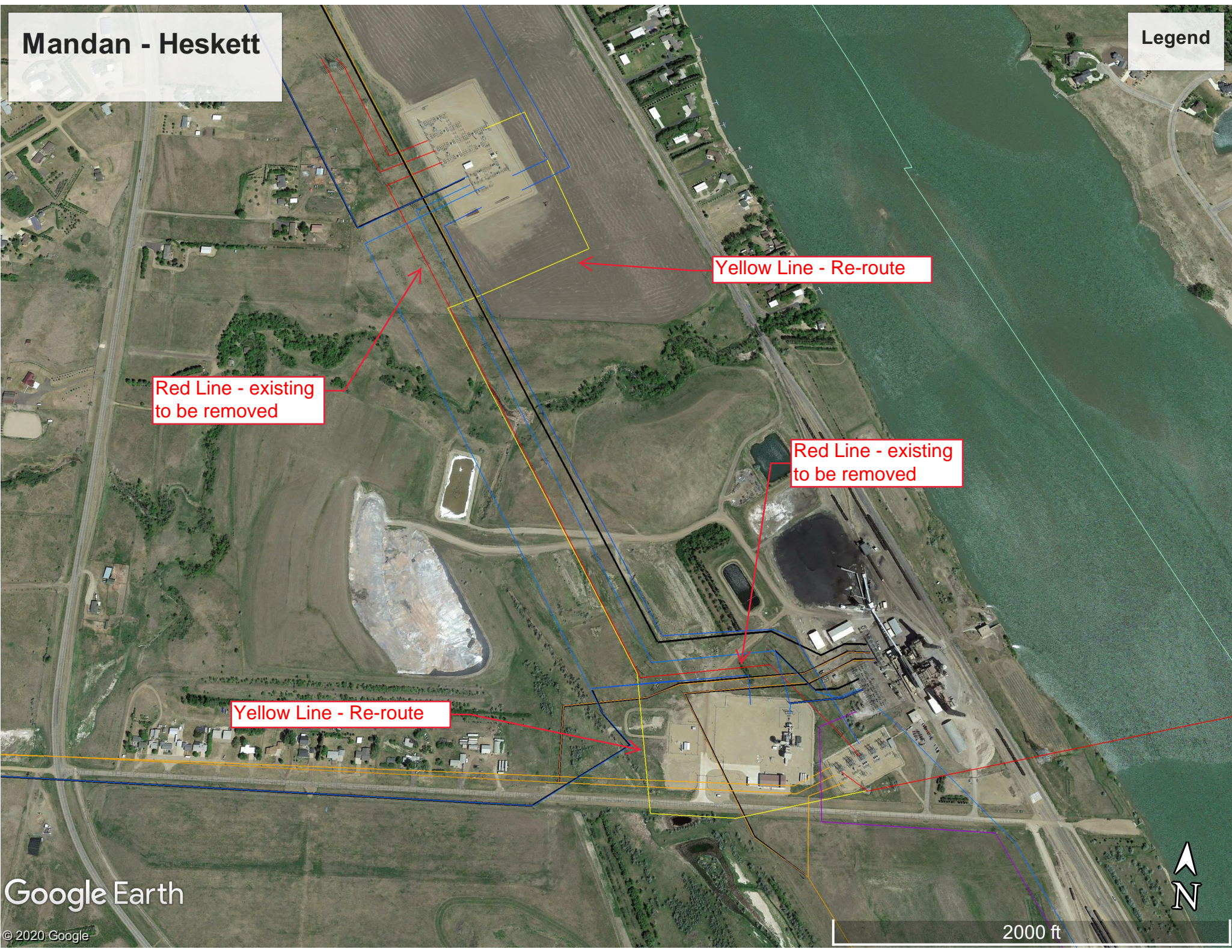
Legend

Red Line - existing to be removed

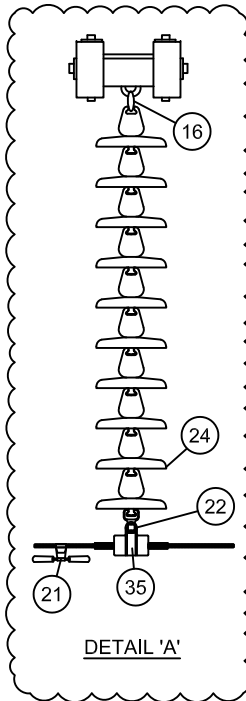
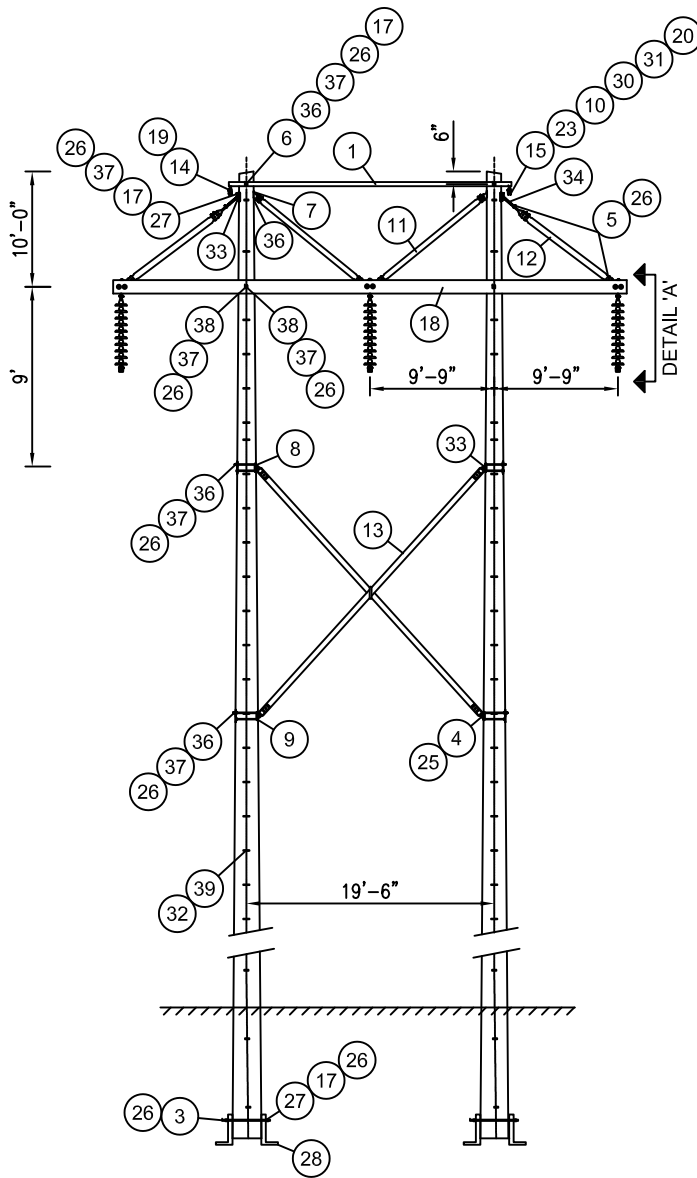
Yellow Line - Re-route

Red Line - existing to be removed

Yellow Line - Re-route



# Exhibit 4



**NOTES:**

1. FIELD DRILLED HOLES SHALL BE THOROUGHLY TREATED.
2. GROUND WIRE MOULDING MUST BE FLUSH AGAINST THE POLE WITH NO GAPS BETWEEN THE MOULDING AND THE POLE.
3. SEE T-M-11 ASSEMBLIES FOR POLE GROUNDING DETAILS. USE COVERED GROUND WIRE WHEN UNDERBUILD IS INSTALLED.
4. INSTALL GROUND WIRE SUCH THAT ONE FOOT OF GROUND WIRE STICKS UP ABOVE THE TOP OF THE POLE.

|     |           |  |
|-----|-----------|--|
|     |           |  |
| TJM | 6/8/2020  | UPDATED CROSSARM HEIGHT FROM 9'-6" TO 10'-0" |
| TJM | 4/27/2020 | DRAWING CREATED                              |

| MATERIAL LIST |     |                    |  |
|---------------|-----|--------------------|--|
| T-230-A       |     |                    |  |
| DWG REF       | QTY | MDU CATALOG NUMBER | DESCRIPTION  |
| 1             | 1   | ANGLE-SWST230A     | ANGLE SHIELD WIRE SUPPORT T230D - 21' 6"                   |
| 2             | 2   | BOLT-DA7824        | BOLT DA 7/8 X 24   |
| 3             | 2   | BOLT-DA7830        | BOLT DA 7/8 X 30   |
| 4             | 4   | BOLT-MA0103        | BOLT, MACHINE, 1" X 3" W/ NUT                              |
| 5             | 4   | BOLT-MA7803        | BOLT MACHINE 7/8 x 3 W/ NUT                                |
| 6             | 2   | BOLT-MA7812        | BOLT MACHINE 7/8 x 12 W/ NUT                               |
| 7             | 4   | BOLT-MA7814        | BOLT MACHINE 7/8 x 14 W/ NUT                               |
| 8             | 4   | BOLT-MA7816        | BOLT MACHINE 7/8 x 16 W/ NUT                               |
| 9             | 4   | BOLT-MA7818        | BOLT MACHINE 7/8 x 18 W/ NUT                               |
| 10            | 1   | BONDING-WIREOPGW   | GROUND WIRE, #4 CU ROPE                                    |
| 11            | 2   | BRACE-KNEE35       | BRACE KNEE 3 3/8 X 5 3/8 - 11'-7"                          |
| 12            | 2   | BRACE-STRN34       | BRACE STRAIN 3 3/8 X 4 3/8 - 9'-1 1/2"                     |
| 13            | 1   | BRACE-X20          | BRACE-X19FT6IN PS CENTER CLAMP                             |
| 14            | 1   | CLAMP-SUSMI38      | CLAMP SUSP MI 5/16-3/8 W/ROD                               |
| 15            | 1   | CLAMP-SUSOPGW      | (1) SUSPN. CLAMP W/ SGL ARMOR ROD, BNK (AFL - SUME450/475) |
| 16            | 3   | CLEVIS-YBALL       | CLEVIS-YBALL 30,000LBS.                                    |
| 17            | 6   | CLIP-GRDWR         | CLIP GROUND WIRE BONDING                                   |
| 18            | 1   | CROSSARM-T230A     | CROSSARM (DBL. ARM ASSY)T230A                              |
| 19            | 1   | DAMPER-SPRL1/0     | DAMPER VIB SPIRAL 1/0 2/0 3/8                              |
| 20            | 1   | DAMPER-SPRL4/0     | DAMPER VIB SPIRAL 4/0 ACSR                                 |
| 21            | 3   | DAMPER-STBG***     | DAMPER VIB STCKBRG **** ACSR                               |
| 22            | 3   | EYE-SOCK***        | SOCKET, EYE **** LONG **** DIA. HOLE, **K LBS              |
| 23            | 1   | EYE-YCLEVIS-OPGW   | YC90E-750-1750, *REQUIRES SHACKLE*                         |
| 24            | 30  | INSULATOR-SUS15X   | INSULATOR SUSPN 15KV 20000#                                |
| 25            | 4   | LOCKNUT-01         | LOCKNUT MF 1"  |
| 26            | 26  | LOCKNUT-78         | LOCKNUT MF 7/8"  |
| 27            | 4   | PLATE-BONDING      | BONDING PLATE, HOT DIP                                     |
| 28            | 4   | PLATE-BRGPOL       | PLATE BEARING POLE   |
| 29            | 1   | ROD-ARMS3/8        | ARMOR ROD SET, 3/8 SHIELD WIRE                             |
| 30            | 1   | SHACKLE-OPGW       | SHACKLE ANCHOR 5/8 INCH, BNK (ANDERSON AS-35-BNK)          |
| 31            | 1   | SQUEEZON-CF22      | SQUEEZON CU 2TAB #4-#2M#4-#2T                              |
| 32            | 2.2 | STAPLE-CW          | STAPLE, COPPERWELD WIRE (IN POUNDS)                        |
| 33            | 6   | TEE-DE             | TEE DEADEND 1-1/4 ATTC HOLE                                |
| 34            | 2   | TURNBUCKLE-230     | TURNBUCKLE CLEVIS EYE 7/8 12"                              |
| 35            | 3   | UNIT-AGSUS***      | UNIT ARMOR-GRIP SUSPENSION ***                             |
| 36            | 12  | WASHER-CURV78      | WASHER CURVED 4x4 15/16 HOLE                               |
| 37            | 16  | WASHER-SPR78       | WASHER SPRING 7/8 INCH                                     |
| 38            | 4   | WASHER-TL78        | WASHER TAPPED LIP 7/8"                                     |
| 39            | 300 | WIRE-CUSD4         | WIRE CU BARE #4 SOLID SD (IN FEET)                         |

NOTES:

1) MACHINE BOLT LENGTHS MAY NEED TO BE ADJUSTED FOR THE POLE SIZE

2) ARMOR GRIP UNIT BASED ON CONDUCTOR SIZE\*\*\*

3) EYE SOCKET BASED ON CONDUCTOR SIZE \*\*\* [4/0 ACSR : EYE-SOCK58 , 336 ACSE : EYE-SOCK58 , 477 ACSR/ACSS : EYE-SOCK34 , 795 ACSR/ACSS : EYE-SOCK1 , 954 ACSR/ACSS : EYE-SOCK1 ]

**230KV TRANSMISSION STRUCTURE**

**H-FRAME STRUCTURE**

**TANGENT STRUCTURE**

DRAWN BY:

TJM

DATE:

4/27/20



**ELECTRIC  
TRANSMISSION  
STANDARDS**

SCALE:

N.T.S

DRAWING NO:

T-230-A