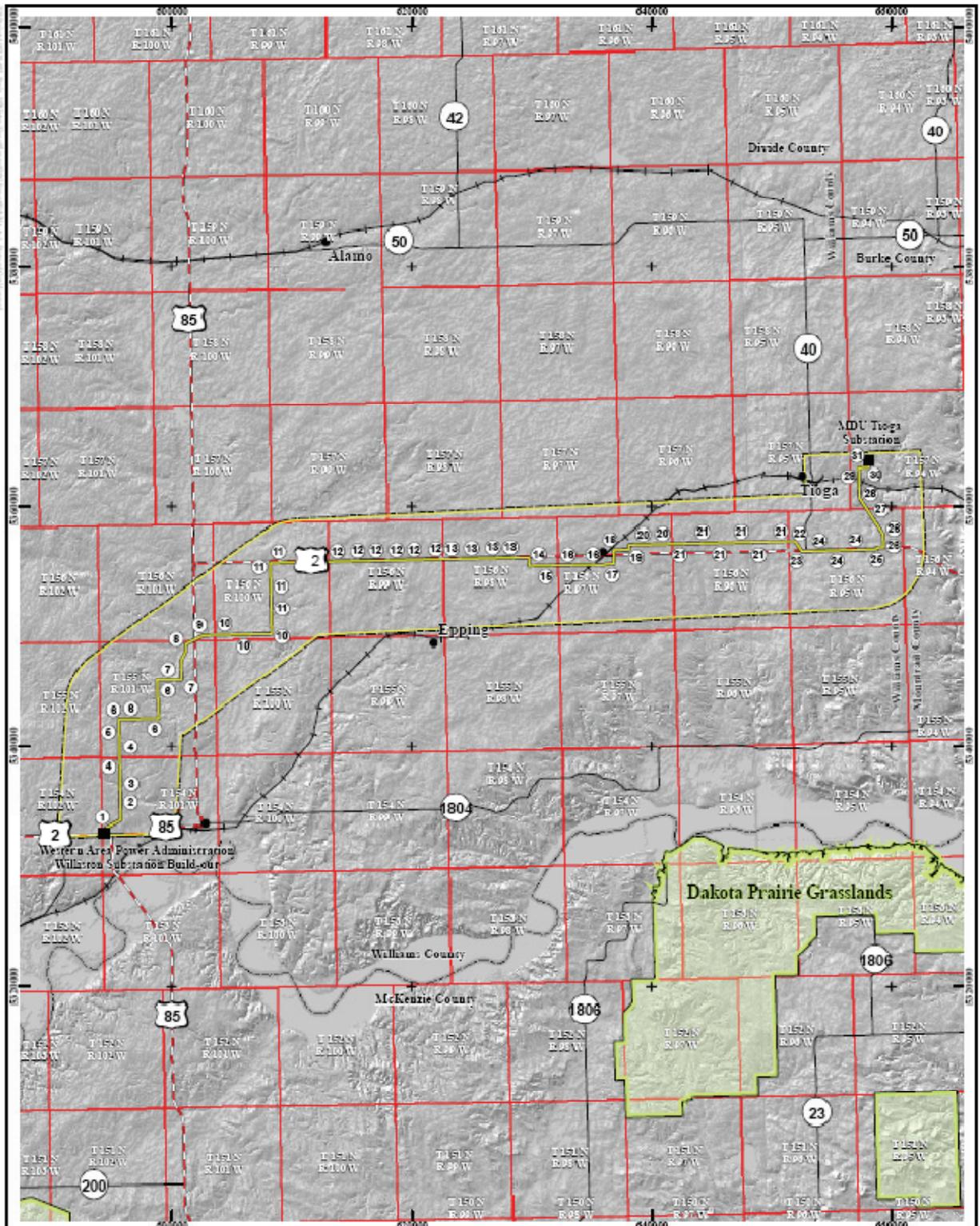


Appendix C

Detailed Routing



<p>Area of Detail North Dakota</p>	<p>LEGEND</p> <ul style="list-style-type: none"> PROPOSED ROUTE PROPOSED CORRIDOR TOWNSHIP SUBSTATIONS CITY OR TOWN RAILROAD U.S. NATIONAL GRASSLAND 	<p>Scale in Miles</p>	<p>Williston to Tioga Transmission Project</p> <p> Basin Electric Power Cooperative A Buckeye Energy Companies AEP</p> <p>Figure C-1 Refined Routing Locations</p>
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**Williston to Tioga 230-kV Transmission Line
Route Selection and Analysis Summary**

Map #	Section	Township	Range	Routing Rationale/Discussion
1	19	154	101	Western is adding a new 230-kV bay on the north side of their existing substation. Existing lines and industrial development limit the space available to route the proposed new line. The Preferred Route diagonals NE to the section line before proceeding north.
2	18	154	101	The Preferred Route proceeds north along the east section line. An elk farm is avoided as well as houses east and west of the route. At the north end of the section, the line diagonals 0.25 mile west to accommodate a house and is preferred by the landowner.
3	7, 8	154	101	The Preferred Route continues north 0.50 mile before turning back to the section line in the north 1/2 of the section.
4, 4, 6	6, 31, 32	154 155	101 101	The land use is pasture and cropland as the Preferred Route proceeds north along the section line.
6	30	155	101	Land use is pasture and cropland. The Preferred Route continues along the county road. If zoning regulations allow, the route will be as close to the road right-of-way edge as possible.
8	19, 20, 21, 22, 16	155	101	Extensive field reconnaissance and landowner interviews were done to determine a route in this difficult area. Residences in Sections 13, 17, 19, and 20 make routing the line difficult. The Preferred Route follows the south edge of Sections 20 and 21 and the east edge of Sections 21 and 16. Land use is innately pasture with some cropland. Rough terrain in the middle of Sections 16 and 21 is avoided. Also, a landing strip and residence in the SW corner of Section 16 is avoided.
7	10, 11	155	101	To minimize the impact on cropland, the Preferred Route is adjacent to the south edge of Section 10. The Preferred Route turns north just under 0.25 mile into Section 11. The Preferred Route turns at this location to avoid a pipeline.
8	2	155	101	A U.S. Highway 2 crossing location near the NE corner of Section 2 was selected. A suitable crossing was difficult to find because of rough terrain, residences, and businesses. This proposed crossing has high ground on both sides and is not close to a residence or business. The Preferred Route through Section 2 minimizes impact on cropland.

**Williston to Tioga 230-kV Transmission Line
Route Selection and Analysis Summary**

Map #	Section	Township	Range	Routing Rationale/Discussion
8	36	156	101	The land use in this section is pasture. The line diagonals 0.25 mile north to avoid a school and two pipelines.
10	31 ,32, 33	156	100	The Preferred Route heads east, 0.25 mile north of the section line to follow a property line. An irrigation system is planned in Section 31. The line was routed around the proposed irrigation. At the east edge of Section 33, the line turns north and follows the section line.
11	28, 21, 16, 15, 14, 13	156	100	The Preferred Route continues to follow the section line. At the north end of Section 15, the line turns east and parallels U.S. Highway 2. The line would be adjacent to the edge of the highway right-of-way to minimize the impact on the adjoining fields.
12	18, 17, 16, 15, 14, 13	156	99	The Preferred Route is adjacent to the U.S. Highway 2 right-of-way. Land use is mainly pasture. No residences exist on this side of the highway. Also, the area north of U.S. Highway 2 is cropland where lentils and peas are grown. These crops require use of aerial spraying. A transmission line would interfere with crop spraying. Discussions were held with crop spraying pilots and they prefer the route along the highway and said the line would not be a problem for them.
13	18, 17, 16, 15	156	98	The Preferred Route continues along the highway right-of-way edge. The land use is cropland and pasture. See write-up for T156N, R99W, for why the line is adjacent to the highway.
21	14	156	98	The line continues along the highway right-of-way for 0.50 mile, then turns south. The Preferred Route turns south to avoid residences along the highway and the city of Ray. Land use is cropland. The Preferred Route follows the 0.25 line, which is the borderline between fields minimizing the impact on farming.
21	13	156	98	The Preferred Route continues along the 0.25 line. The line would be on field boundaries, and residences along the highway are avoided.
18	18, 17	156	97	The Preferred Route continues along the 0.25 line. The line would be on field boundaries, and residences along the highway are avoided. At the east edge of Section 17, the line angles around a wetland area and a cultural site.

**Williston to Tioga 230-kV Transmission Line
Route Selection and Analysis Summary**

Map #	Section	Township	Range	Routing Rationale/Discussion
18	16	156	97	As the Preferred Route approaches the south edge of the Ray golf course, the route angles to the south side of the road to avoid the golf course. Just past the golf course at about the center of the section, the proposed route angles slightly north, then parallels the 0.25 line to the east edge of the section. The line then turns north and follows the section line. The NW1/4 of Section 16 is owned by the city of Ray. The city agrees with the Preferred Route.
18	9	156	97	The Preferred Route continues into Section 9 along the east section line for 0.25 mile. Then the route would turn east along a property line.
20	10	156	97	The Preferred Route continues along a property line for 0.75 mile then turns north for 0.25 mile then turns east for 0.25 mile to the section line.
20, 21	11, 12	156	97	The route continues along the 0.25 line. Land use is cropland. The Preferred Route is mostly on the property line to minimize the impact. The line cannot run adjacent to the highway in this area because of residences and an existing water pipeline.
21	7, 8, 9, 10, 11, 12	156	96	The route continues along the 0.25 line. Land use is cropland. The Preferred Route is mostly on the property line to minimize the impact. The line cannot run adjacent to the highway in this area because of residences and an existing water pipeline.
22	7	156	95	The Preferred Route extends 0.50 mile into Section 7 before it diagonals to the south side of the highway. The route goes back to the highway to avoid residences and businesses along State Highway 40 just south of Tioga.
24	18	156	95	The Preferred Route enters Section 18 as it crosses U.S. Highway 2 and immediately turns east along the highway right-of-way. A residence and oil well are avoided.
24	17, 16, 15	156	95	The Preferred Route continues along the south side of the highway right-of-way. Residences on the north side are avoided. Land use is cropland. Impact to cropland would be minimal.
23	14	156	95	The Preferred Route continues along the south side of the highway for about 1/3 mile. It then crosses the highway to avoid a residence.

**Williston to Tioga 230-kV Transmission Line
Route Selection and Analysis Summary**

Map #	Section	Township	Range	Routing Rationale/Discussion
24	11, 12	156	95	The Preferred Route runs parallel to U.S. Highway 2 on the north side. In the SE corner of the section, it would pass between the highway and a group of tanks. Land use is cropland. The line would cross over into Section 12 before turning north for about 0.75 mile. Here the route would turn to the NW and go back into Section 11. The location of this turn was selected to avoid cropland in Section 1 and minimize impact to cropland in Section 11. This angle point location is preferred by the landowner.
27	2	156	95	The land use in this section is pasture. Cropland is avoided by going diagonally through the section. The elevation of the structure tops was reviewed relative to the Tioga Airport. The Preferred Route meets clearance requirements for the airport.
28	31	157	94	The Preferred Route goes diagonally to the center of the section and then proceeds north on the 0.25 line. The line also meets regulations regarding the Tioga Airport.
29	30	157	94	The Preferred Route is adjacent to the N-S 0.25 line to avoid a field. Land use is pasture and cropland. The impact on farming is minimal because the line will not be in the field. The landowner prefers this route.
30	19	157	94	The Preferred Route enters the section at the south 1/4 corner and proceeds east along a grass strip adjacent to cropland. The line would parallel an existing line within this grass strip. The angle point was selected to avoid a wetland.
31	20	157	94	The Preferred Route turns north on the west edge of the section and would proceed north to the Tioga Substation. The line would parallel an existing distribution line and enter the substation from the west.