

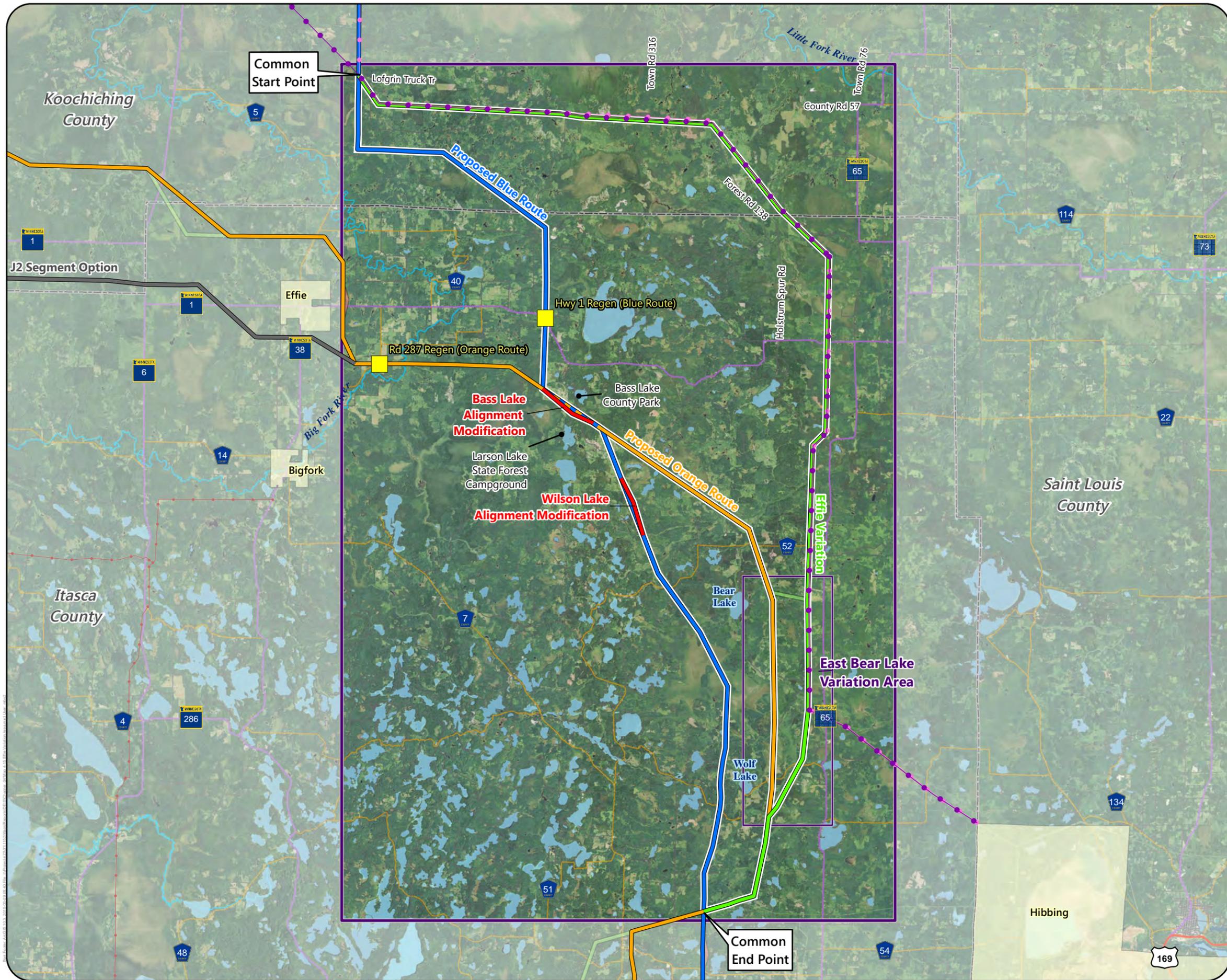
- Proposed Regeneration Site
- Proposed Blackberry Substation Location
- Proposed Routes**
 - Blue/Orange Route
 - Blue Route
 - Orange Route
 - Segment Option
- Alternatives**
 - Route Variation
 - Alignment Modification
- Existing Transmission Lines**
 - 69 or 115 kV
 - 230 kV
 - 500 kV
- Streets and Highways**
 - US Highway
 - State Trunk Highway
 - County State Aid Highway
 - Local Road
- Variation Area
- Project Section
- Municipal Boundary
- County Boundary



Map 4-14

EAST SECTION OVERVIEW
Great Northern Transmission Line
Draft Environmental Impact Statement

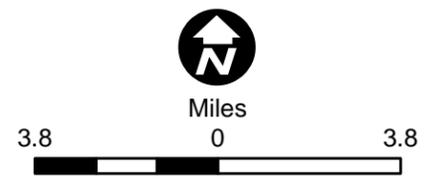




- Proposed Regeneration Site
- Proposed Routes**
- Blue/Orange Route
- Blue Route
- Orange Route
- J2 Segment Option
- Alternatives**
- Effie Variation
- Alignment Modification
- Existing Transmission Lines**
- 69 or 115 kV
- 230 kV
- 500 kV
- Streets and Highways**
- US Highway
- State Trunk Highway
- County State Aid Highway
- Local Road
- Variation Area
- Municipal Boundary
- County Boundary

Note:
Anticipated alignments are shown offset for display purposes only. Please refer to more detailed maps for precise alignment placement.

The Applicant will be issued a Route Permit with a specific route width. The proposed route widths are shown in Appendix S.



Map 4-15

EFFIE VARIATION AREA
Great Northern Transmission Line
Draft Environmental Impact Statement





- Proposed Routes**
-  Blue Route
 -  Orange Route
- Alternatives**
-  East Bear Lake Variation
- Existing Transmission Lines**
-  230 kV
 -  500 kV
- Streets and Highways**
-  State Trunk Highway
 -  County State Aid Highway
 -  Local Road
 -  Variation Area

Note:
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Map 4-16

EAST BEAR LAKE VARIATION AREA

Great Northern Transmission Line
Draft Environmental Impact Statement



Table 4-5 Proposed Routes, Variations, and Alignment Modifications in the East Section

Variation Area	Variation Names in the EIS	Name(s) in the Scoping Decision Document	Length (mi)
Effie	Proposed Blue Route	Blue & Blue/Orange Routes	41.1
	Proposed Orange Route	Blue, Blue/Orange, & Orange Routes	44.6
	Effie Variation	Effie Alternative Route Segment	49.8
	Bass Lake Alignment Modification	Bass Lake Alignment Modification	2.5
	Proposed Blue/Orange Route	Blue/Orange Route	2.4
	Wilson Lake Alignment Modification	Wilson Lake Alignment Modification	2.4
	Proposed Blue Route	Blue Route	2.4
East Bear Lake	Proposed Orange Route	Orange Route	8.9
	East Bear Lake Variation	East Bear Lake Alternative Route Segment	10.5
Balsam	Proposed Blue Route	Blue & Blue/Orange Routes	12.9
	Proposed Orange Route	Orange & Blue/Orange	13.7
	Balsam Variation	Balsam Alternative Route Segment 1	17.8
	Grass Lake Alignment Modification	Grass Lake Alignment Modification	1.3
	Proposed Blue Route	Blue Route	1.3
Dead Man's Pond	Proposed Blue Route	Blue Route	2.2
	Dead Man's Pond Variation	Dead Man's Pond Alternative Route Segment	2.3
	Dead Man's Pond Alignment Modification	Dead Man's Pond Alignment Modification	1.6
	Proposed Blue Route	Blue Route	1.6
Blackberry	Proposed Blue Route	Blue Route	5.4
	Proposed Orange Route	Orange Route	6.1
	Trout Lake Alignment Modification	Trout Lake Alignment Modification	1.0
	Proposed Orange Route	Orange Route	1.0

modification is the same length as the comparable segment of the Proposed Blue Route (Table 4-5). The modification shifts the alignment east to avoid corporate land; land ownership changes from corporate and state lands to mostly state lands. Section 6.5.3.2 provides additional information on the Wilson Lake Alignment Modification.

4.3.3.2 East Bear Lake Variation Area

The East Bear Lake Variation Area is located in the east-central portion of the East Section (Map 4-14). The primary issue identified by commenters in this variation area is the presence of the Bear-Wolf Peatland. The East Bear Lake Variation Area is within the Effie Variation Area (Map 4-15). Table 4-5 and Map 4-16 provide details for the East Bear Lake Variation Area.

Variations

There are two route alternatives within the East Bear Lake Variation Area: the Proposed Orange Route and the East Bear Lake Variation (Table 4-5, Map 4-16). The Proposed Orange Route and East Bear Lake Variation have a common start point located just north of Bear Lake Forest Road E in the northwestern

portion of the East Bear Lake Variation Area. The Proposed Orange Route and East Bear Lake Variation do not share their alignments in this variation area. The Proposed Orange Route and East Bear Lake Variation have a common endpoint located southeast of Wolf Lake in the southern portion of the East Bear Lake Variation Area. The East Bear Lake Variation is over one mile longer than the Proposed Orange Route (Table 4-5)

4.3.3.3 Balsam Variation Area

The Balsam Variation Area is located in the central portion of the East Section (Map 4-14). The primary issue identified by commenters in this variation area is concern over potential impacts from the proposed transmission line on the town of Balsam. The Balsam Variation Area is overlapped by the Effie Variation Area to the north (Map 4-15). Table 4-5 and Map 4-17 provide details for the Balsam Variation Area.

Variations

There are three route alternatives within the Balsam Variation Area: the Proposed Blue Route, Proposed Orange Route, and the Balsam Variation (Table 4-5, Map 4-17). The proposed routes and

Balsam Variation have a common start point along the existing 230 kV transmission line corridor approximately one mile north of County Road 539 in the northeastern portion of the Balsam Variation Area. The Proposed Blue and Orange routes share one portion of their alignment in this variation area. The Proposed Orange Route and the Balsam Variation share one portion of their alignment in this variation area. The proposed routes and Balsam Variation have a common endpoint located near Diamond Lake Road in the southern portion of the Balsam Variation Area. The Balsam Variation is 5 miles longer than the Proposed Blue Route and about 4 miles longer than the Proposed Orange Route; the Proposed Orange Route is about one mile longer than the Proposed Blue Route (Table 4-5).

Alignment Modification

The Grass Lake Alignment Modification is located along the Proposed Blue Route in the northeastern portion of the Balsam Variation Area (Map 4-17). The alignment modification is the same length as the comparable segment of the Proposed Blue Route (Table 4-5). The alignment modification shifts the ROW east to avoid crossing Grass Lake, a MnDNR Public Waters Inventory (PWI) lake and a wild rice waterbody. The land ownership changes from private, corporate, and state forest lands to just corporate and state forest lands. Section 6.5.3.3 provides additional information on the Grass Lake Alignment Modification.

4.3.3.4 Dead Man's Pond Variation Area

The Dead Man's Pond Variation Area is located in the south-central portion of the East Section (Map 4-14). The primary issue identified by commenters in this variation area is the use of corporate and state fee lands instead of private land. The Dead Man's Pond Variation Area is located within the Balsam Variation Area (Map 4-15). Table 4-5 and Map 4-17 provide details for the Dead Man's Pond Variation Area.

Variations

There are two route alternatives within the Dead Man's Pond Variation Area: the Proposed Blue Route and the Dead Man's Pond Variation (Table 4-5, Map 4-17). The Proposed Blue Route and Dead Man's Pond Variation have a common start point just north of where the Proposed Blue Route crosses CSAH 8 in the northeastern portion of the Dead Man's Pond Variation Area. The Proposed Blue Route and Dead Man's Pond Variation do not share their alignments in this variation area. The Proposed Blue Route and Dead Man's Pond Variation have a common endpoint located approximately 0.5 miles south of CSAH 57 in the southwestern portion of the

Dead Man's Pond Variation Area. The Dead Man's Pond Variation is slightly longer than the Proposed Blue Route (Table 4-5).

Alignment Modification

The Dead Man's Pond Alignment Modification is located along the Proposed Blue Route in the south-central portion of the Dead Man's Pond Variation Area (Map 4-17). The alignment modification is the same length as the comparable segment of the Proposed Blue Route (Table 4-5). The modification shifts the alignment west and away from one residence; however, the shift is to private land that requires crossing a MnDNR PWI waterbody. Section 6.5.3.4 provides additional information on the Dead Man's Pond Alignment Modification.

4.3.3.5 Blackberry Variation Area

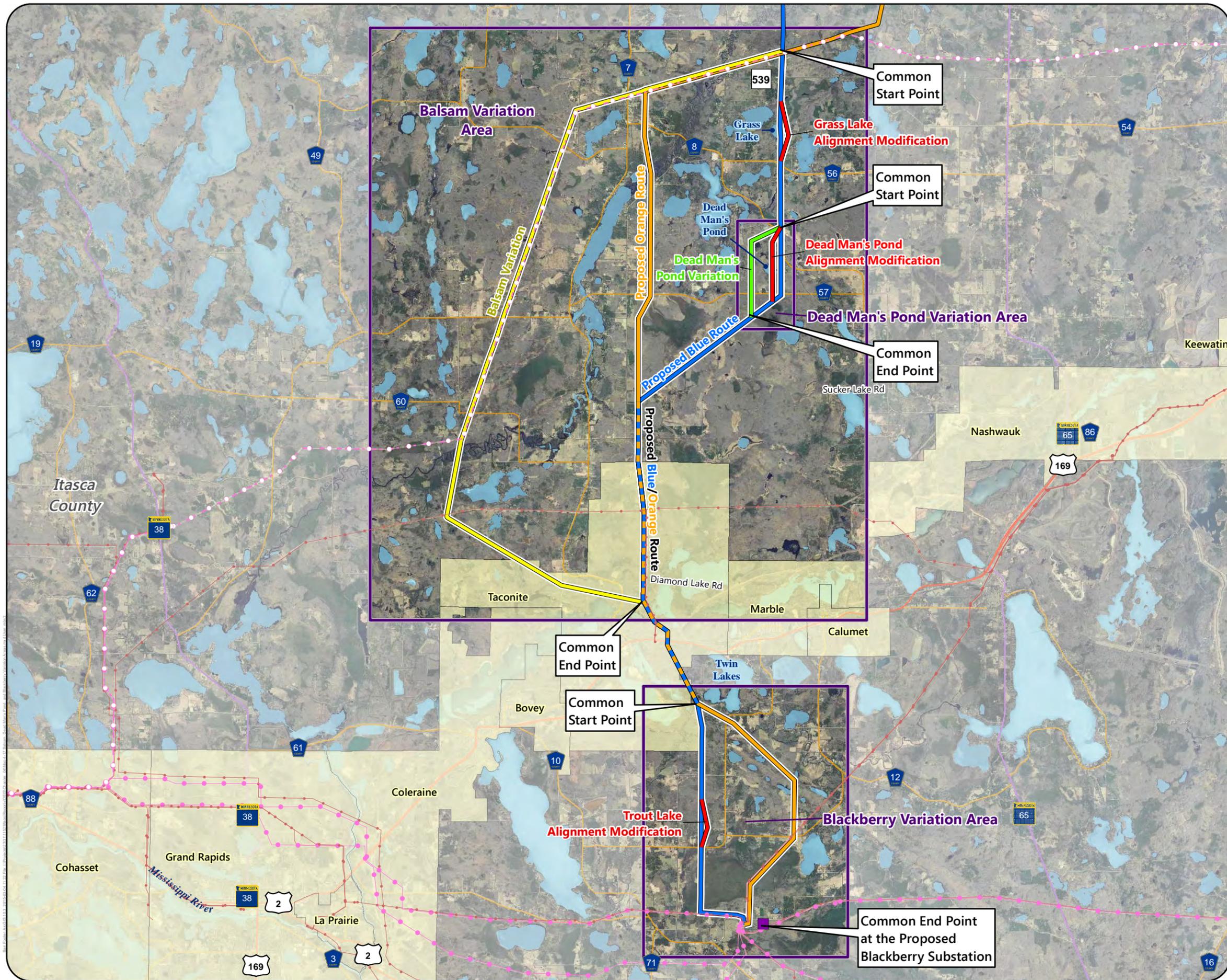
The Blackberry Variation Area is located in the southern portion of the East Section (Map 4-14). The primary issues identified by commenters in this variation area are the presence of the Mesabi Iron Range (with associated mining) and existing Blackberry Substation. The Blackberry Variation Area is located south of the Balsam Variation Area (Map 4-15). Table 4-5 and Map 4-17 provide details for the Blackberry Variation Area.

Variations

There are two route alternatives within the Blackberry Variation Area: the Proposed Blue Route and the Proposed Orange Route (Table 4-5, Map 4-17). These proposed routes have a common start point located west of Twin Lakes where the Proposed Blue/Orange Route diverges in the northwestern portion of the Blackberry Variation Area. The Proposed Blue and Orange routes do not share their alignments in this variation area. The proposed routes have a common endpoint located at the proposed Blackberry Substation in the southern portion of the Blackberry Variation Area. The Proposed Orange Route is less than one mile longer than the Proposed Blue Route (Table 4-5).

Alignment Modification

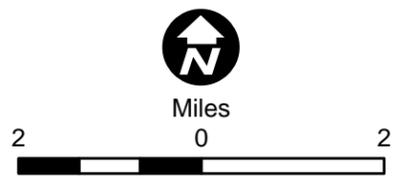
The Trout Lake Alignment Modification is located along the Proposed Blue Route in the western portion of the Blackberry Variation Area along the Proposed Blue Route (Map 4-17). This alignment modification is the same length as the comparable segment of the Proposed Blue Route (Table 4-5). The alignment modification shifts the alignment east from a mix of private and corporate lands to all corporate lands. Section 6.5.3.5 provides additional information on the Trout Lake Alignment Modification.



- Proposed Blackberry Substation Location
- Proposed Routes**
 - Blue/Orange Route
 - Blue Route
 - Orange Route
- Alternatives**
 - Balsam Variation
 - Dead Man's Pond Variation
 - Alignment Modification
- ⋯ Abandoned 230 kV Transmission Line Corridor
- Existing Transmission Lines**
 - 69 or 115 kV
 - 230 kV
- Streets and Highways**
 - US Highway
 - State Trunk Highway
 - County State Aid Highway
 - Local Road
 - Variation Area
 - Municipal Boundary

Note:
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Map 4-17

BALSAM, DEAD MAN'S POND, AND BLACKBERRY VARIATION AREAS
 Great Northern Transmission Line
 Draft Environmental Impact Statement



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