

4. ALTERNATIVES CONSIDERED AND REJECTED

This section addresses Minn. Rules 4400.2100 (Alternative Permitting Process), which requires an applicant to identify any route segments or sites considered but not proposed to be used, and the reasons for rejecting them.

All of the alternative routes and/or route segments considered and rejected for the proposed Project are presented in Figure 4-1.

4.1 Alternative Routes Considered for Transmission Line

4.1.1 Alternative Route Segment 1 – Pequot Lakes Substation north to MP's 230 kV (91 Line)

This segment exits the Pequot Lakes Substation to the north and follows CR 112 for approximately 2,600 feet to its intersection with the 91 Line (Figure 4-2). This segment was rejected as an alternative upon closer inspection of CR 112 characteristics. The county road has many curves and few tangents of appreciable length, meaning several angle structures would be required, which would add significant cost. Also, because the cleared right-of-way along CR 112 is narrow, the addition of a transmission line would significantly impact the aesthetic character of the roadway.

4.1.2 Alternative Route Segment 2 – 69/34.5 kV shared corridor north to the 91 Line, east of and parallel to TH 371

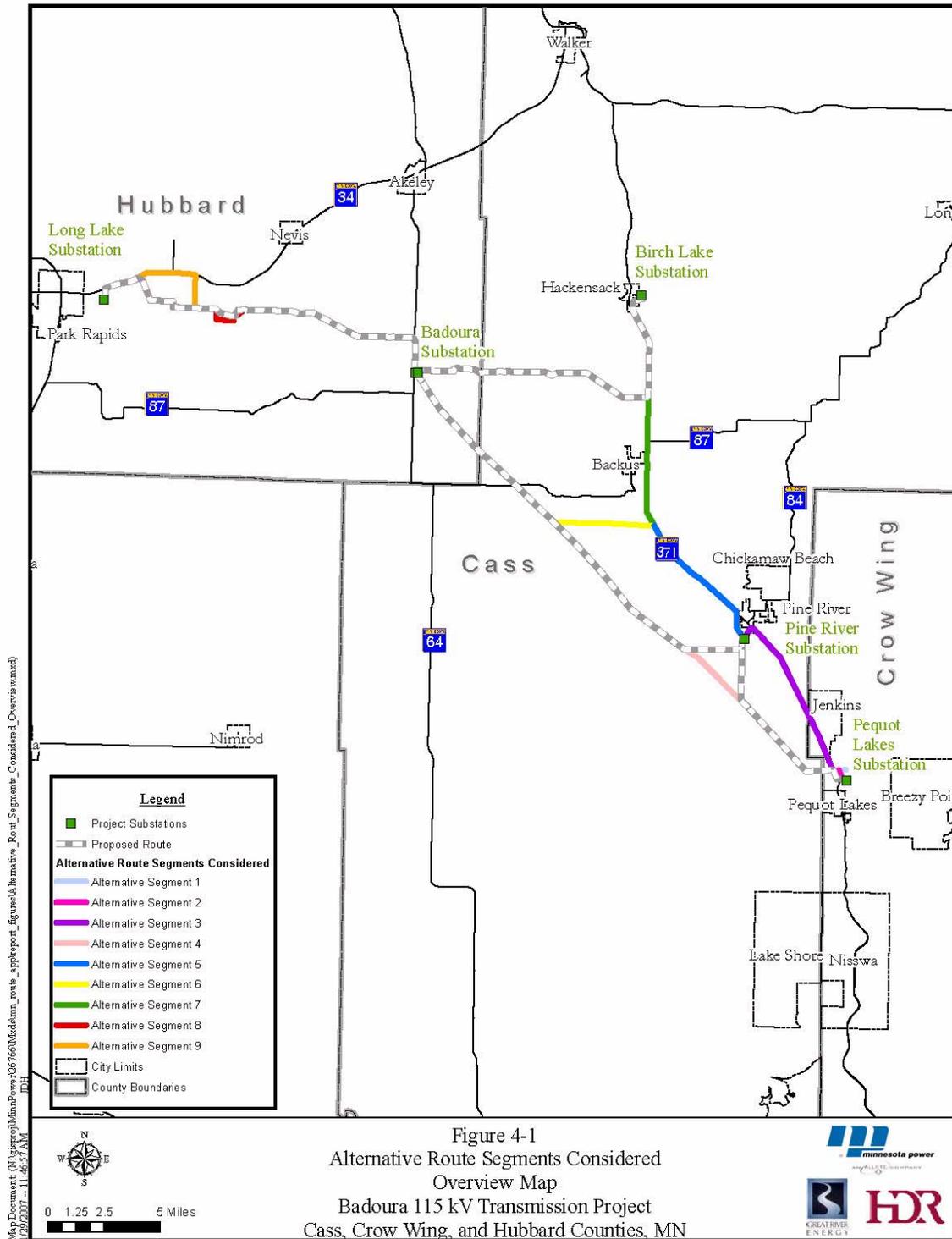
This segment connects the corridor shared by 69 kV and 34.5 kV circuits exiting the Pequot Lakes Substation to the 91 Line along a wide clearing just east of and parallel to TH 371 (Figure 4-2). Originally identified as an alternative from an analysis of aerial photography, this segment was rejected based on its proximity to TH 371, which is slated for widening by the Minnesota Department of Transportation (MNDOT).

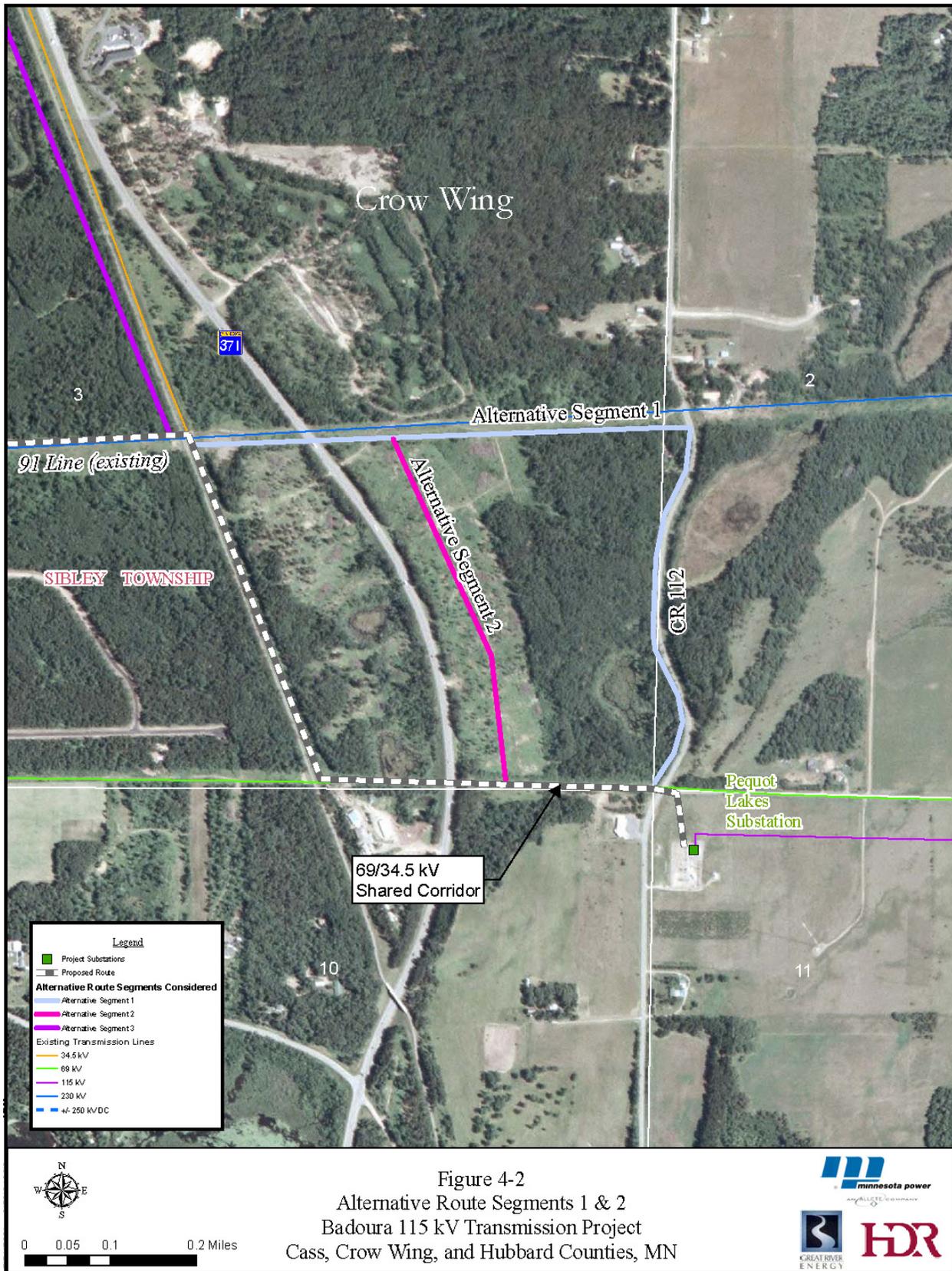
4.1.3 Alternative Route Segment 3 – Pequot Lakes to Pine River along TH 371

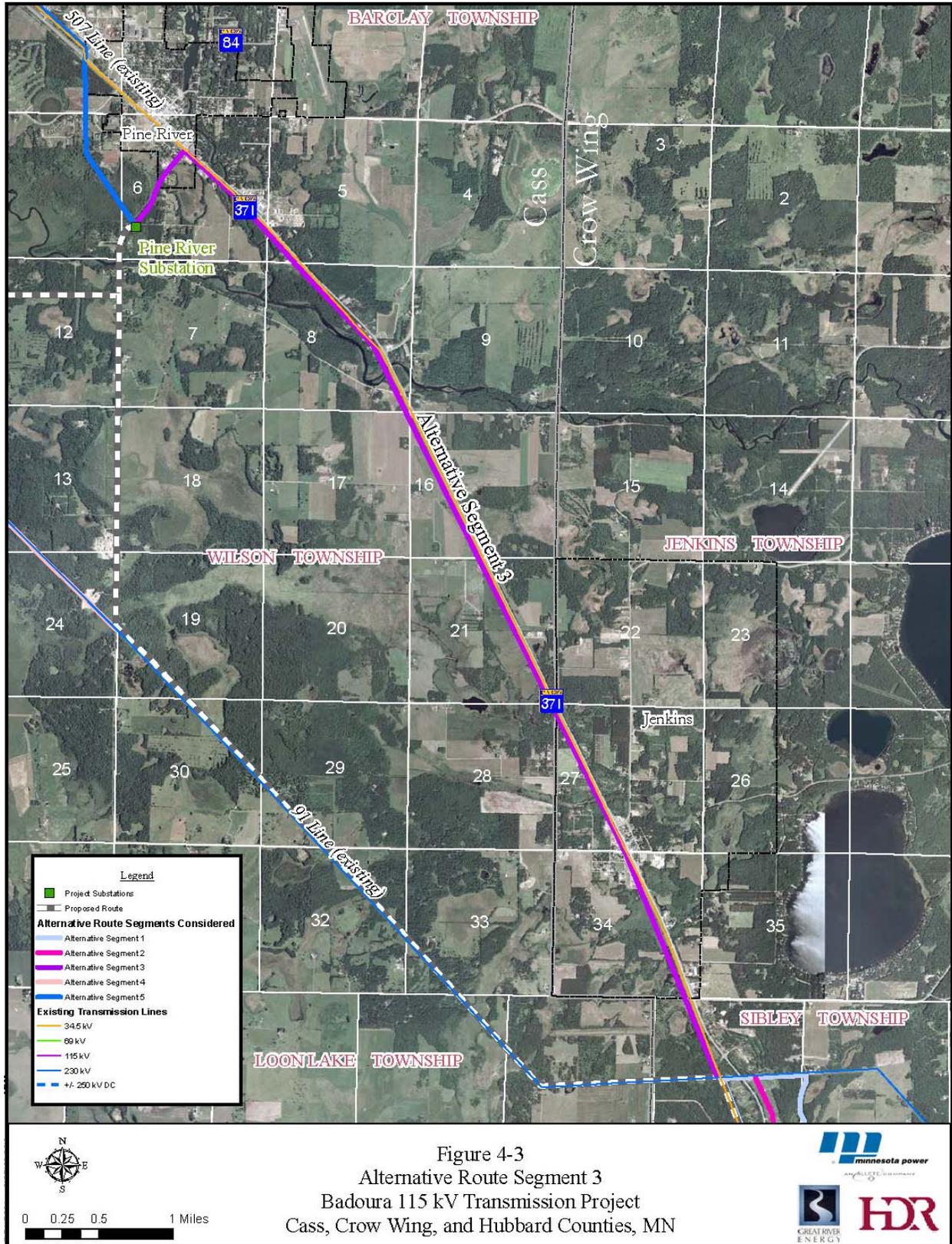
This segment runs from the intersection of MP's 34.5 kV (507 Line) in Pequot Lakes along the TH 371 corridor to Pine River at the existing CWP Pine River Substation (Figure 4-3). Although this segment provides a direct connection between the two distribution substations along an existing corridor, it was rejected for several reasons:

- MNDOT's plan to widen this section of TH 371 would require new right-of-way to be cleared outside of the possible scope of the future highway construction, leaving the landscape with two distinct corridors that would more or less parallel each other but be clearly separate.
- This segment traverses two significant commercial districts, each with several businesses in very close proximity to TH 371. Siting a transmission line

Figure 4-1 Alternative Route Segments Considered







along the relatively developed TH 371 corridor would result in greater socioeconomic impacts compared to the Proposed Route along the existing 91 Line right-of-way.

- MP must maintain the existing 34.5 kV distribution circuit along TH 371, which would have to be underbuilt on the new 115 kV structures. This would result in shorter spans, increased maintenance issues, and much higher costs.
- The opportunity to use existing right-of-way along the 91 Line (the additional right-of-way was acquired years ago with the intention of accommodating an additional circuit(s) in the future) is compelling compared to creating a new corridor along TH 371.

4.1.4 Alternative Route Segment 4 – Along 91 Line from CSAH 1 to CR 171

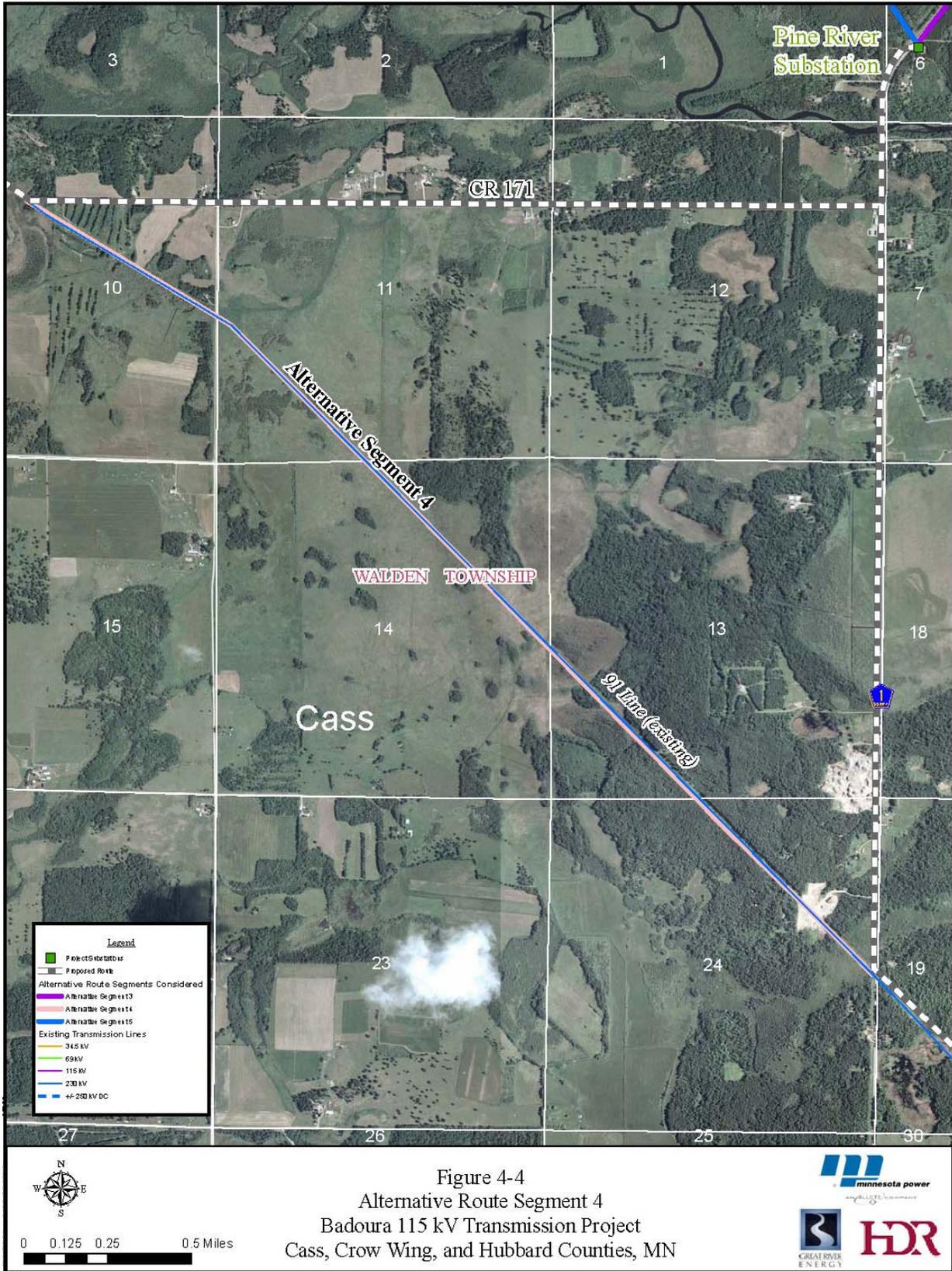
This segment runs adjacent to the 91 Line from its intersection with CSAH 1 at its southeast end to the intersection with CR 171 at its northwest end (Figure 4-4). This short segment along the 91 Line was rejected to minimize the length of double circuiting needed to get in and out the Pine River Substation. Utilizing both CSAH 1 and CR 171 (instead of one or the other) reduces the length of double circuiting of 115 kV from about 3.4 miles to 0.6 miles, which minimizes cost and maximizes the reliability designed into the Project.

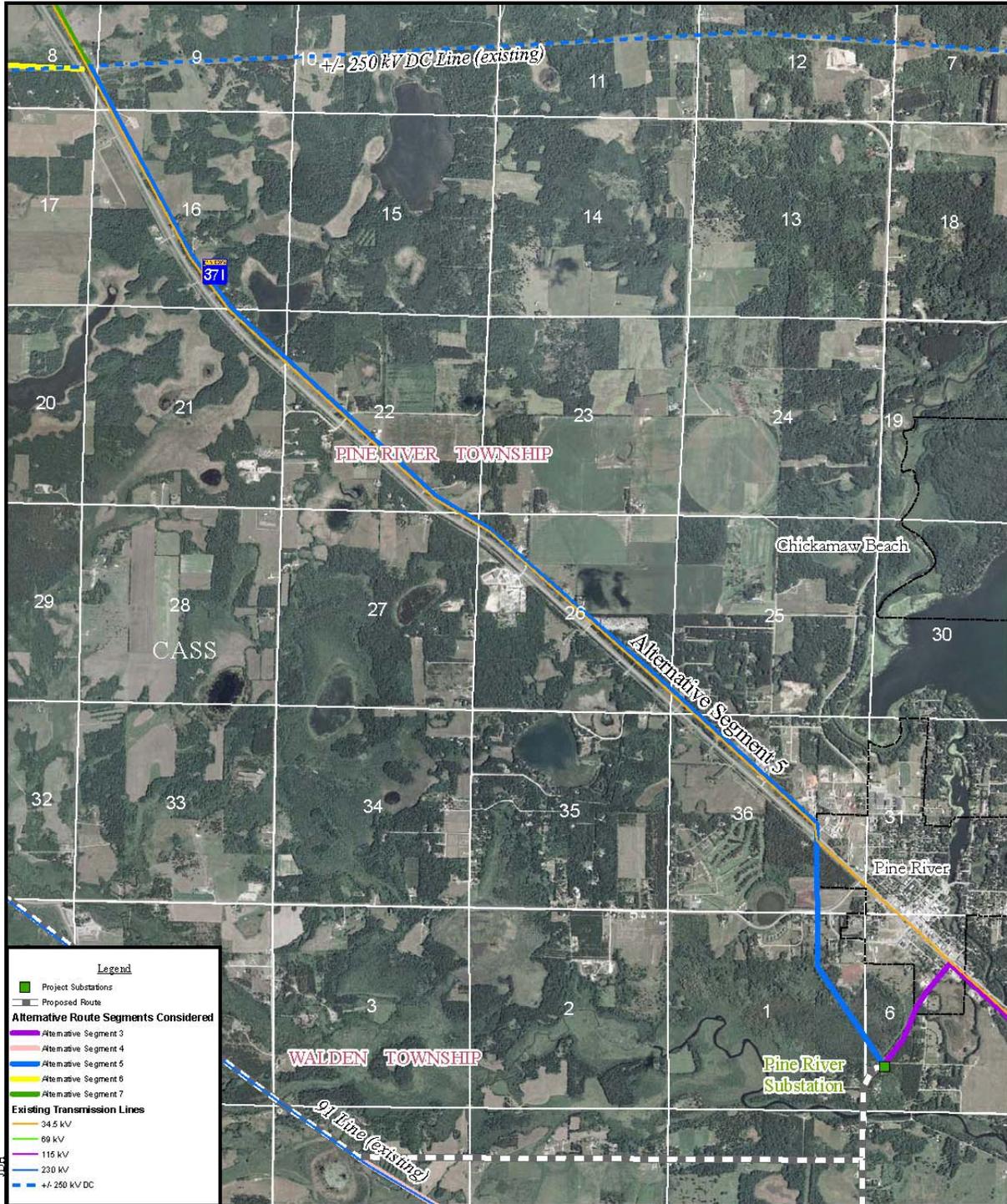
4.1.5 Alternative Route Segment 5 – Pine River along TH 371 to MP's +/-250 kV Direct Current (DC) transmission line (DC Line)

This segment, which runs from Pine River along TH 371 to its intersection with MP's DC Line (Figure 4-5), was rejected for many of the same reasons described above for Alternative Segment 3. Significant residential and commercial development, high per acre land values, uncertainty of MNDOT plans, and the relative ease of utilizing the existing 91 Line right-of-way combine to diminish the suitability of this alternative segment.

4.1.6 Alternative Route Segment 6 - TH 371 to 91 Line following the DC Line

This segment follows the section of MP's DC Line connecting TH 371 with the 91 Line (Figure 4-6). This segment was rejected because the adjoining TH 371 segments are no longer part of the Proposed Route. Early in the project planning, the overall TH 371 corridor was seriously considered as the likely preferred route due to its proximity to load growth areas and the efficiency that close association affords. As the studies progressed, it became clear that any efficiency in load serving was outweighed by increased costs of construction, maintenance, and rights-of-way acquisition as well as the increased visual impact on the TH 371 corridor.

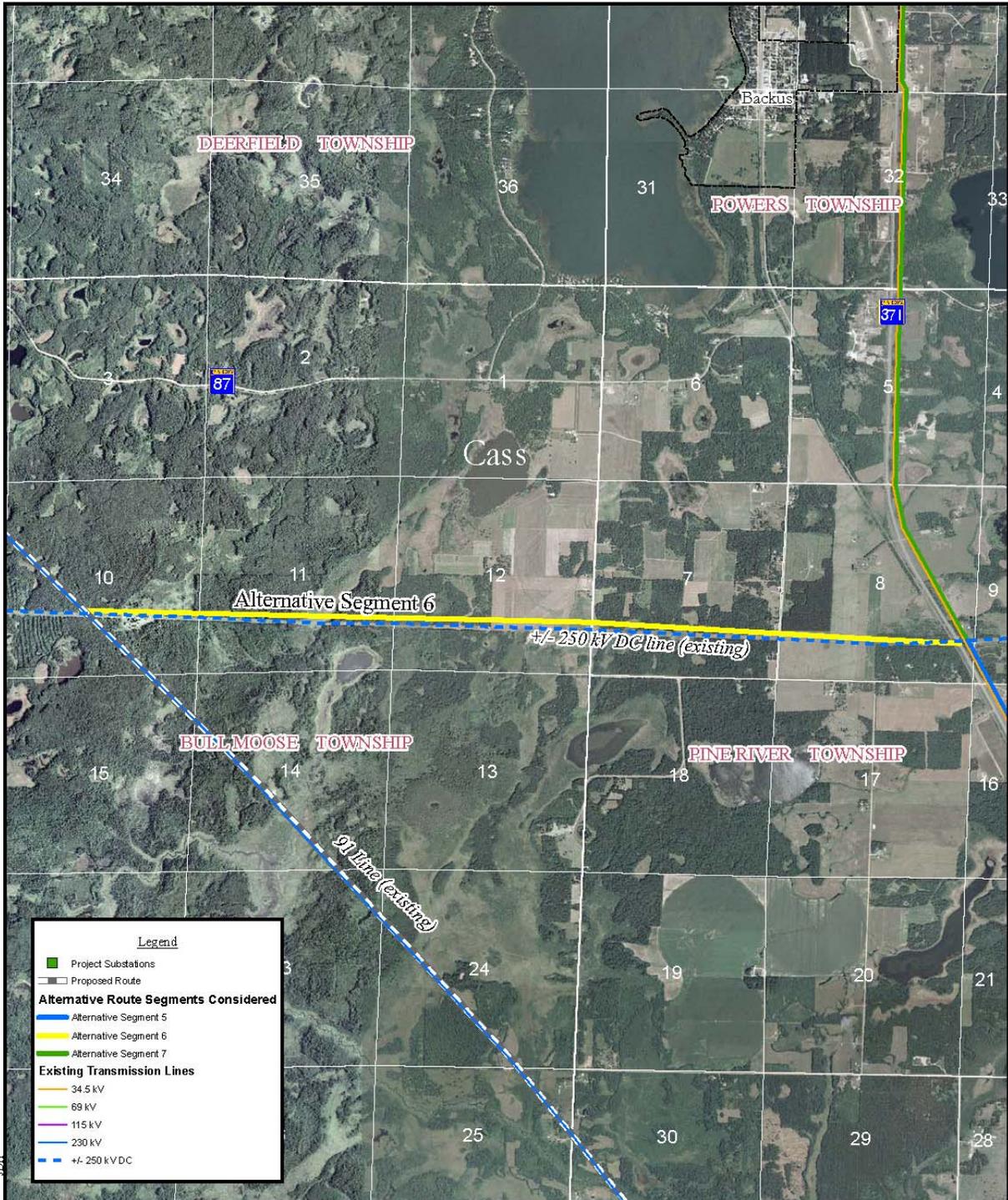




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Figure 4-5
 Alternative Route Segment 5
 Badoura 115 kV Transmission Project
 Cass, Crow Wing, and Hubbard Counties, MN





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Figure 4-6
 Alternative Route Segment 6
 Badoura 115 kV Transmission Project
 Cass, Crow Wing, and Hubbard Counties, MN



4.1.7 Alternative Route Segment 7 – TH 371 from the DC Line to the 507 Line north of Backus

This segment (Figure 4-7) was rejected for all the reasons described above for Alternate Route Segment 6. Until load growth necessitates the siting and construction of a new 115 kV substation along TH 371 between Pine River and Backus, 115 kV transmission will not be needed.

4.1.8 Alternative Route Segment 8 – Fifth Crow Wing Lake

This segment is located in Sections 29 and 30, T140N, R33W, Nevis Township.

The existing alignment in Section 29 (Figure 4-8) was rejected because it crosses diagonally through several properties in an ecologically sensitive area. Both GRE and the landowners would prefer to follow 174th Street (north side) completely in Section 29 rather than the existing line, as it provides better access, avoids the sensitive area, and avoids bisecting the properties.

The Proposed Route along 174th Street then turns the corner onto Crown Point Road southwesterly for approximately 1/3 mile, then goes cross-country west through Section 30. Another alternative, which would not utilize the existing alignment, was considered for this area. The alternative would continue south along Crown Point Road to a county road on the south edge of Section 30, follow that road (north side) to 219th Avenue, and then head north paralleling 219th Avenue to the intersection with the existing line at the edge of Section 25. This alternative was rejected because it would create a new transmission corridor and affect new property owners.

4.1.9 Alternative Route Segment 9 – Peysenske Lake Area

In the Peysenske Lake area (a couple miles east of the Long Lake Substation in Henrietta Township), the Applicants are proposing to utilize MP's existing 34.5 line corridor along 178th Street and CSAH 20 for the new transmission line. At public meetings held on the proposed Project, a group of landowners proposed an alternative route in this area that would not follow this existing line. This alternative would turn north at 209th Avenue in Section 25, follow 209th Avenue north to TH 34, and follow TH 34 west to the intersection of CSAH 20 and TH 34, where it would once again utilize MP's existing 34.5 kV line corridor (Figure 4-9).

This alternative was rejected for several reasons:

- Whenever possible, the Applicants use existing power line corridors so that new corridors are not created. If the new line were constructed along 209th Avenue and on the north side of TH 34 to utilize the existing MP distribution line alignment, twice as many homes and businesses within 300 feet of the line would be impacted compared to the Proposed Route.

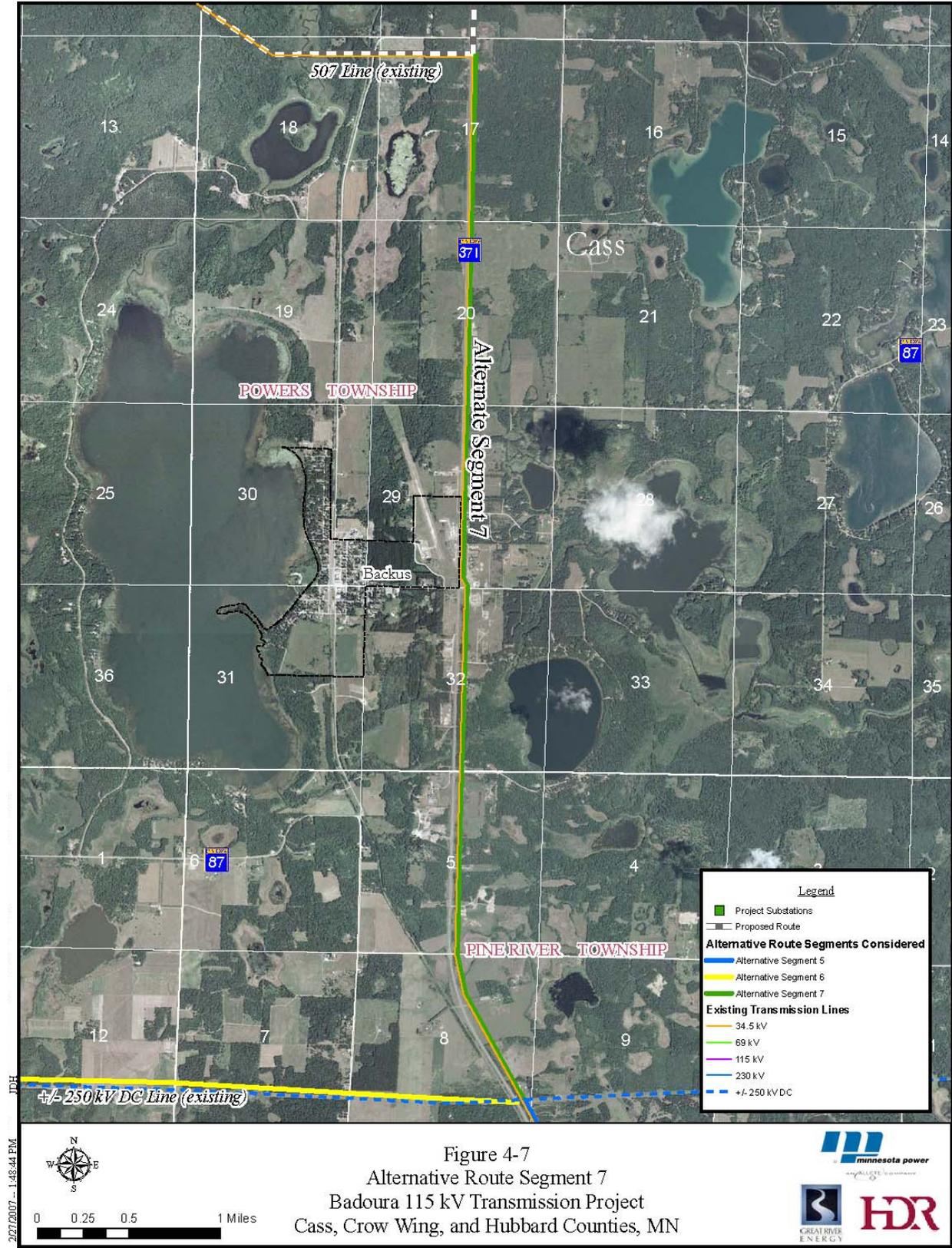
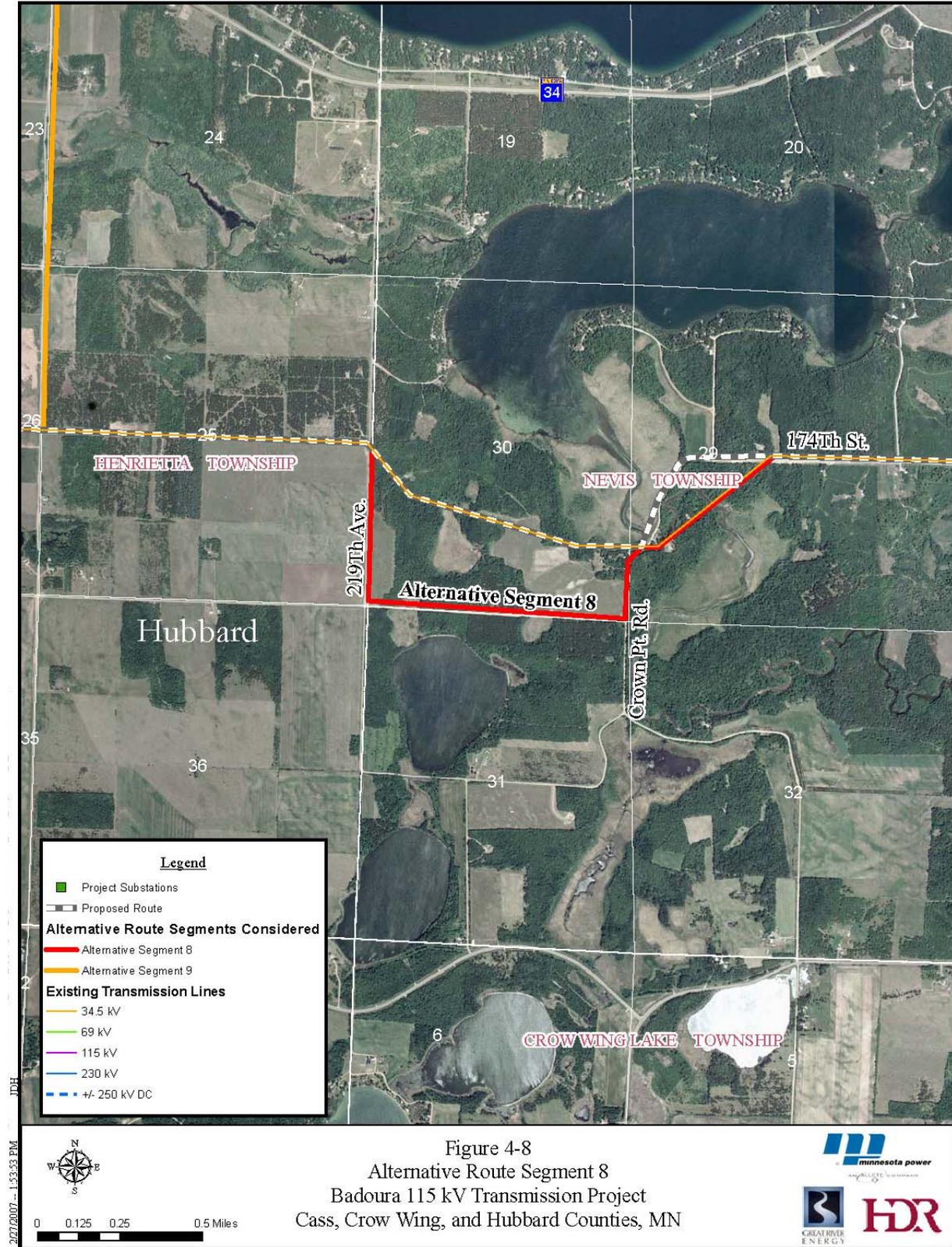
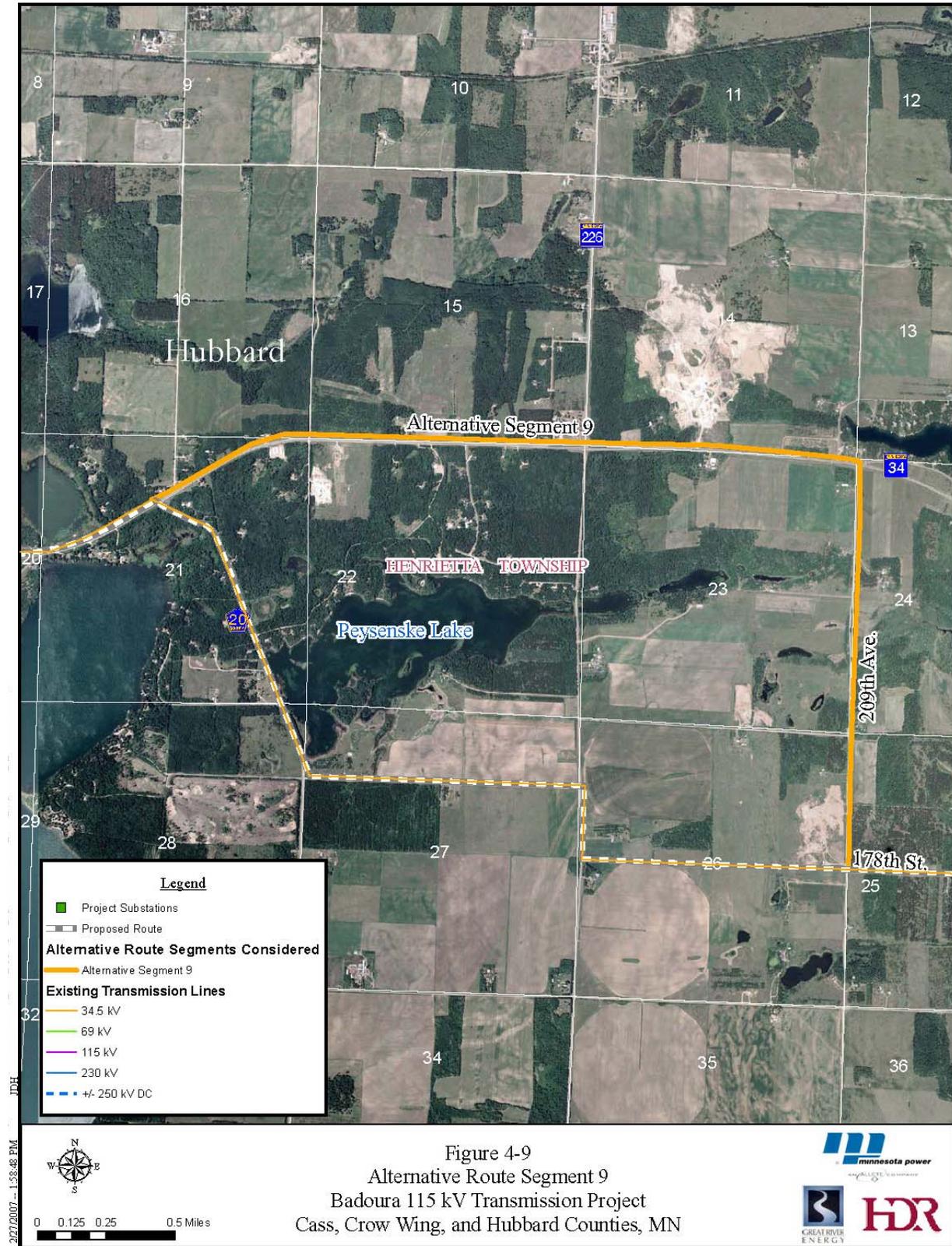


Figure 4-7
 Alternative Route Segment 7
 Badoura 115 kV Transmission Project
 Cass, Crow Wing, and Hubbard Counties, MN







- If the new line were constructed along 209th Avenue and on the south side of TH 34, the number of homes and business within 300 feet of the line would be about the same as for the Proposed Route; however, there would then be power lines on both sides of TH 34, and more tree clearing would be required compared to the Proposed Route.
- TH 34 is a state-designated Lake Country Scenic Byway.

The Peysenske Lake area is shown in more detail in Figure 4-10.

