

**Appendix D**

**Comparison of Key Environmental Factors for the  
CSAH 5 Route Segment Alternative and the  
Corresponding Portion of the Red Segment Alignment**

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## **APPENDIX D**

### **COMPARISON OF KEY ENVIRONMENTAL FACTORS FOR THE CSAH 5 ROUTE SEGMENT ALTERNATIVE AND THE CORRESPONDING PORTION OF THE RED SEGMENT ALIGNMENT**

As described in Section 2.2 of Plum Creek's Route Permit Application, Plum Creek analyzed an alignment alternative (the CSAH 5 Alignment Alternative ) to the portion of the Red Segment that was proposed by the MNDNR near the intersection of CSAH 5 and CSAH 4 (the MNDNR Alignment Alternative; depicted in Appendix C, Page 2) because Plum Creek has not been able to secure voluntary easements along the MNDNR Alignment Alternative. The CSAH 5 Alignment Alternative is approximately one mile in length and parallels the western side of CSAH 5 between 180th Street and CSAH 4.

The CSAH 5 Alignment Alternative is half the length of MNDNR Alignment Alternative and crosses fewer acres of cultivated crop land; therefore, the total number of poles that would be installed in cultivated crop land is less (four vs. 11, respectively). Similarly, the amount of prime farmland within the 150-foot right-of-way of the CSAH 5 Alignment Alternative is approximately half of the total within the right-of-way of the MNDNR Alignment Alternative. Both alignment alternatives are 100 percent co-located with linear features; the CSAH 5 Alignment Alternative is co-located with CSAH 5 for the entirety of its length while the MNDNR Alignment Alternative is co-located with property lines for the majority of its length. The CSAH 5 Alignment Alternative is within 151 to 300 feet of one residence, while the MNDNR Alignment Alternative is not within 500 feet of residences.

The CSAH 5 Alignment Alternative crosses the Cottonwood River 6 times due to the winding path of the river in this location, while the MNDNR Alignment Alternative crosses the Cottonwood River only one time, just south of CSAH 4. The 150-foot right-of-way of the MNDNR Alignment Alternative crosses more wetlands, including forested wetlands, than the CSAH 5 Alignment Alternative, and more acres of FEMA-designated 100-year flood zone, as well. In addition, the MNDNR Alignment Alternative crosses two designated Sites of Biodiversity Significance (SOBs) while the CSAH 5 Alignment Alternative avoids SOBs. No other conservation easements or designated lands are crossed by either alignment alternative.

A comparison of the CSAH 5 Alignment Alternative and the MNDNR Alignment Alternative is presented in the table below.

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<b>Appendix D</b> <b>Comparison of Key Factors of the CSAH 5 Alignment Alternative and the MNDNR Alignment Alternative along the Red Segment</b>		
<b>Environmental Features</b>	<b>CSAH 5 Alignment Alternative</b>	<b>MNDNR Alignment Alternative</b>
<b>General</b>		
Length (miles)	1.0	2.0
150-foot Right-of-Way (acres)	18.3	36.2
<b>Corridor Sharing</b>		
Paralleling Existing Transmission Line (miles)	0.0	0.0
Roads and Railroads (miles)	1.0	0.8
Property and Field Lines (miles)	0.0	1.2
No Linear Feature Sharing (miles)	0.0	0.0
Total Linear Feature Sharing (miles)	1.0	2.0
Total Linear Feature Sharing (percent)	100%	100%
<b>Proximity to Residences</b>		
Number of Residences 0 to 75 feet from Route Segment	0	0
Number of Residences 76 to 150 feet from Route Segment	0	0
Number of Residences 151 to 300 feet from Route Segment	1	0
Number of Residences 301 to 500 feet from Route Segment	0	0
Total Number of Residences within 500 feet of Route Segment	1	0
<b>Agricultural Impacts</b>		
Number of Structures in Cultivated Crop Land (estimated)	4	11
<b>Prime Farmland</b>		
Total All Categories of Prime Farmland Within 150-foot Right-of-Way (acres/percent)	18.1/98.9%	35.6/98.3%
Farmland of State Importance Within the 150-foot Right-of-Way (acres/percent)	0.2/1.1%	0.6/1.7%
<b>Land Cover (NLCD, 2016)</b>		
Cultivated Crop Land Within 150-foot Right-of-Way (acres/percent)	3.9/21.4%	22.3/61.6%
Hay/Pasture Land Within 150-foot Right-of-Way (acres/percent)	0.0/0%	1.5/4.1%
Emergent Herbaceous Wetlands Within the 150-foot Right-of-Way (acres/percent)	5.0/27.2%	6.7/18.6%
Herbaceous Land Within the 150-foot Right-of-Way (acres/percent)	0.0/0%	0.0/0%
Developed Areas Within the 150-foot Right-of-Way (acres/percent)	9.4/51.5%	5.7/15.7%
<b>Wetlands (NWI)</b>		
Total Wetlands Within the 150-foot Right-of-Way (acres/percent)	6.0/33%	7.0/19%
Non-Forested Wetlands Within the 150-foot Right-of-Way (acres/percent)	4.2/23%	6.6/18%

<b>Appendix D</b> <b>Comparison of Key Factors of the CSAH 5 Alignment Alternative and the MNDNR Alignment Alternative along the Red Segment</b>		
<b>Environmental Features</b>	<b>CSAH 5 Alignment Alternative</b>	<b>MNDNR Alignment Alternative</b>
Forested Wetlands Within the 150-foot Right-of-Way (acres/percent)	1.8/10%	0.4/1%
Number of Poles in Wetlands (estimated)	4	4
<b>PWI and Shallow Lakes</b>		
Number of Stream and River Crossings by 150-foot Right-of-Way <sup>a</sup>	6	2
Number of PWI Stream Crossings by 150-foot Right-of-Way <sup>a</sup>	6	2
<b>Conservation Easements and Other Designated Lands</b>		
Number of Sites of Biodiversity Significance Within 150-foot Right-of-Way	0	2
<b>FEMA-designated Flood Zones</b>		
Total FEMA-designated 100-year floodplains (acres/percent)	10.3/57%	12.1/33%
<b>Cultural Resources</b>		
Total Number of Previously Recorded Archaeological Sites and/or Historic Architectural Resources Within Route	0	0
Total Number of Previously Recorded Archaeological Sites and/or Historic Architectural Resources Within 1 mile of Route	0	0
<sup>a</sup> Both alignment alternatives would cross the same waterbodies, an unnamed stream and the Cottonwood River, both of which are PWI waterbodies. However, the CSAH 5 Alignment Alternative would cross the Cottonwood River five times due to the windy path of the river in this area.		