Bad River Band – 401(a)(2) Hearing Rebuttal Comments

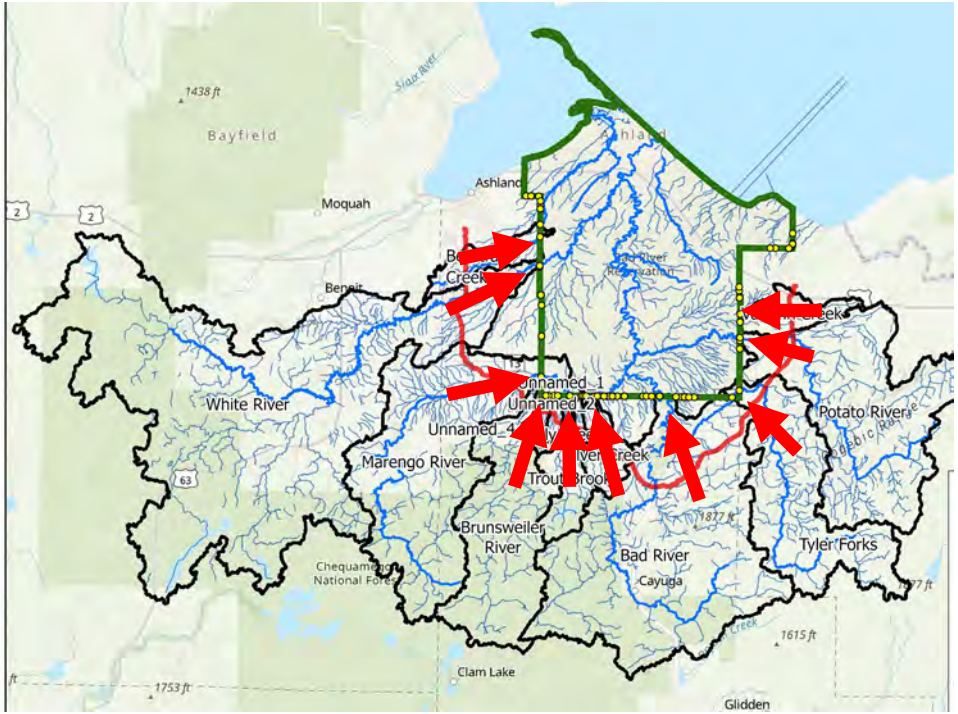
Fundamental purpose of this hearing

Address the question:

Will construction of the L5R project likely cause a violation of the Bad River Band's water quality standards?

Appropriate follow-up question:

Will a water quality standard (either numeric or narrative) be violated at any of the locations where a watercourse crosses into the Bad River Reservation?



Bad River Band – 401(a)(2) Hearing Rebuttal Comments (cont'd)

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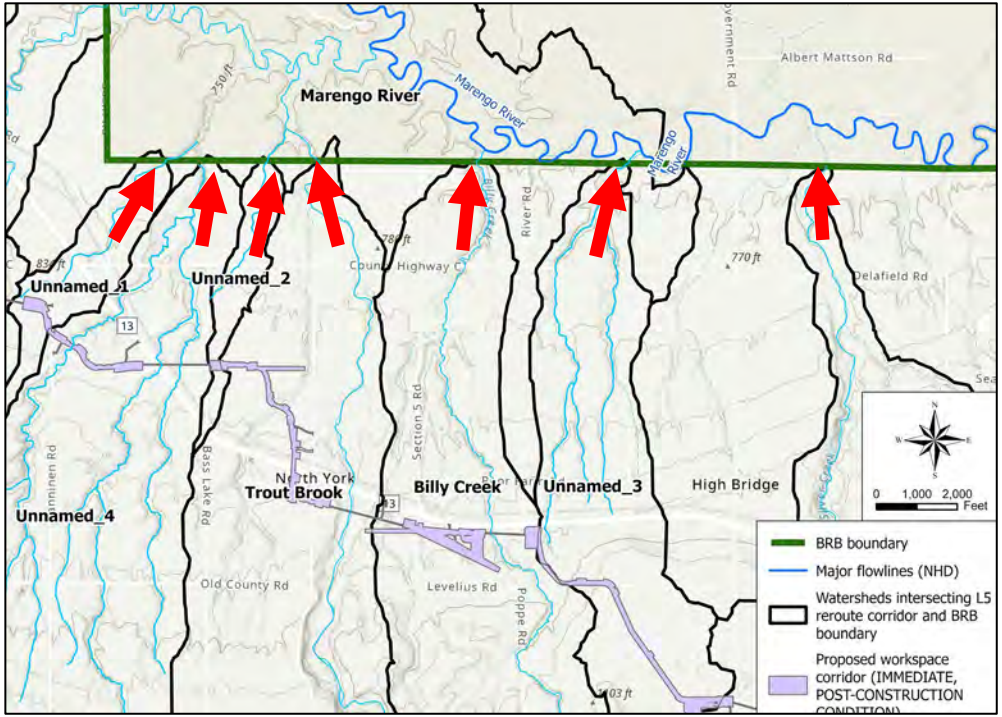

Bad River Band – 401(a)(2) Hearing Rebuttal Comments (cont'd)

Topic 1 (WWE)

Enbridge comment suggests the % disturbance of the entire Bad River watershed (caused by the L5R Project) means there will be no hydrologic effects from the Project:

Unofficial transcript statement:

- *There's about 270,000 acres in the larger Bad River watershed.*
- *Of that, 144,000 acres are upstream of the reservation.*
- *Of that 144,000 acres, 118.4 acres of forest land will be converted to grassland*
- *What that amounts to is .04% of the total watershed of the 270,000 acres is going to be impacted.*
- *And if you just looked at those portions of the watershed that are upstream of the reservation, that's 0.08% of the portion of the watershed that would be affected.*

Rebuttal Comment:

Calculating the % disturbance of the overall Bad River watershed does not address local hydrologic changes occurring in individual watercourses that cross into the Bad River Reservation.

Bad River Band – 401(a)(2) Hearing Rebuttal Comments (cont'd)

Topic 2

Enbridge comment regarding Manning's "n" coefficient implies that increases in runoff rates are similarly low across all drainages.

Unofficial transcript statement:

- *We express runoff in many ways, but one of the most common ways is looking at Manning's "n", which is used to develop runoff coefficients.*
- *A higher Manning's roughness coefficient indicates more resistance to overland flow.*
- *So, a forest deciduous forest would typically have a Mannings "n" of 1.5, whereas a grassland would be about half that at 0.8.*
- *What that means is that the runoff coefficient will be reduced by about 50%.*
- *What that will result in is a runoff rate. If you were to look at that for the aggregate of the project of …an increase in runoff overall, a .02 to .04% into the streams that feed the Reservation.*

Rebuttal Comment:

This application of Manning's "n" (and presumably using the Kinematic Wave Equation) does not address increased runoff rates for individual streams. The statement does, however, acknowledge an aggregate increase in runoff (albeit relatively small) which is in violation of the Band's standards.

Bad River Band – 401(a)(2) Hearing Rebuttal Comments (cont'd)

Topic 3

Enbridge comments regarding HDD Inadvertent Release (IR) analyses of the White River and Beartrap Creek (in addition to the Bad River)

Rebuttal Comment:

The focus of the *Sediment Discharge Monitoring Report,* Appendix 7 to the USACE Environmental Assessment for the Enbridge Line 5 Wisconsin Relocation Project, was limited to HDD IRs from the Bad River only. Analyses of HDD Releases into the White River and Beartrap Creek were not provided in Appendix 7.

Appendix 7 did not assess HDD IRs in smaller watercourses with a lower relative ambient TSS concentration located near the Reservation boundary. Assessment of these watercourses is more likely to demonstrate exceedances of the Band's standards.

Bad River Band – 401(a)(2) Hearing Rebuttal Comments (cont'd)

Topic 4

Enbridge comments regarding wetland impacts.

Unofficial transcript statement:

- *It is a 41 mile reroute of the Line 5 pipeline with projected impacts to include:*
  - *101 acres of temporary impacts to 534 wetlands*
  - *0.2 acres of temporary impacts to water bodies, including 72 jurisdictional crossings and*
  - *0.02 acres of permanent impacts to wetlands.*

Rebuttal Comment:

Given the 101 acres of projected temporary impacts to 534 wetlands, the 0.02 acres (less than 900 sq. ft.) of permanent impacts to wetlands is unreasonably low.

Simply replacing fill back into a wetland, even if segregating and replacing topsoil, does not replace a wetland.

The density, chemistry, and topography of the replaced wetlands will not be the same as the original wetlands. This changes the quality of the wetlands.

Bad River Band – 401(a)(2) Hearing Rebuttal Comments (cont'd)

Topic 5 (LimnoTech)

Enbridge comments regarding trenching/sheet piles/blasting and groundwater impacts.

Unofficial transcript statement or paraphrase:

- *Blasting is not going to change the groundwater conditions*
- *There are no areas with high potential for artesian conditions*
- *Impacts of blasting are really zero*
- *Flow rates, timing, temperature, and contaminants will not increase in Reservation surface waters*

Rebuttal Comments:

Given more than 6 miles of blasting, extensive changes to shallow bedrock permeability and fracture density, and high subsurface flow potential along trenches partially backfilled with rock, the characterization of minimal impacts is unrealistic.

The installation of trench breakers is unlikely to mitigate enhanced subsurface flow due to short-circuiting of flow around the barriers due to bedrock alteration by blasting and other construction methods (sheet piles).

There are multiple areas where artesian conditions have been identified along the project corridor, so associated statements are inaccurate.

Bad River Band – 401(a)(2) Hearing Rebuttal Comments (cont'd)

Topic 6

Enbridge comments regarding bedrock geology.

Unofficial transcript statement or paraphrase:

- *The bedrock in the project area is sandstone.*
- *Radionuclides, arsenic, and sulfate/sulfide minerals are not present in bedrock along the project corridor.*

Rebuttal Comments:

The crystalline bedrock in the upland areas of the project corridor that will be impacted by extensive blasting is known to contain metals and other harmful minerals that will be mobilized by construction disturbance, based on mineralization. This mineralization has led to a proposed mine in headwater areas.

The sedimentary bedrock formation located under the clay plain areas of the project area is known to contain radionuclides.

The bedrock geology and mineralogy along the pipeline corridor have not been well characterized.

Bad River Band – 401(a)(2) Hearing Rebuttal Comments (cont'd)

Topic 7

Enbridge comments regarding wetland/filled trench and sheet pile interaction with groundwater and surface water.

Unofficial transcript statement or paraphrase:

- *There are 26 blasting sites near water bodies, but only 7 are perennial.*
- *There will be very little use of sheet piling, unlike for Line 3.*
- *The pipeline can't act as a dam if buried properly.*
- *Trench backfill could become a conduit for enhanced groundwater flow, but this will be prevented by trench breakers.*

Rebuttal Comments:

- Permanent draining of perched wetlands in upland bedrock areas and redirection of subsurface flow is likely due to the inability of trench breakers to create barriers that are 100% effective due to fracturing beyond the blasted trench.
- Extensive areas of artesian conditions have been identified along the Re-route that will likely result in breaching.
- Mitigation plans associated with breaching and additional subsurface issues are not clearly identified.