



Line 5 Wisconsin Segment Relocation Project

Project Update Information

Enbridge has incorporated minor design changes to the Line 5 Wisconsin Segment Relocation Project (“Project”) as part of its continued planning and preparation for the Project. These design changes have resulted in minor adjustments to information in either tables or maps previously submitted to Wisconsin Department of Natural Resources (“WDNR”) and US Army Corps of Engineers (“Corps”) in support of Enbridge’s permit applications for the Project. These minor revisions include the addition of three mainline block valves and an alignment adjustment to the proposed Highway 13 horizontal directional drill (“HDD”) plans. Additional geotechnical information associated with Enbridge’s planning for the proposed HDDs and direct pipe crossing of select waterbodies is also included in this Project update.

ADDITIONAL MAINLINE BLOCK VALVES

Mainline block valves (“valves”) are designed and installed to isolate sections of the pipeline for maintenance purposes or in the event of a release. On April 8, 2022, the Pipeline and Hazardous Materials Safety Administration (“PHMSA”) finalized a rulemaking, published in the *Federal Register*, *Valve Installation and Minimum Rupture Detection Standards*, (Docket No. PHMSA-2013-0255-0005), that updates requirements for placement of valves. The rulemaking revised the federal safety standards applicable to most newly constructed pipelines. As relevant to the Project, the final rule modifies the spacing requirement for valve placement on new pipelines that are 6 inches or greater in diameter.

Enbridge has evaluated the final rules and assessed the number of valves needed on the Project to comply with PHMSA’s final rule. Enbridge has determined that three additional mainline valves are needed to comply with the final rule, increasing the total number of valves to be installed on the Project from seven to ten (see Enbridge’s November 30, 2022 responses to the Wisconsin Department of Natural Resources’ (“WDNR”) October 31, 2022 Data Request). The total number of valves includes installation of three mainline block valves on the existing Enbridge Line 5 pipeline. Specifically, two mainline block valves will be installed west of the western Project tie-in point and one mainline block valve will be installed east of the eastern Project tie-in point. Additionally, Enbridge will install seven mainline valves along the proposed route of the Project. Each proposed mainline block valve is a permanent aboveground facility that will be approximately 0.13 acres in size (including the valve, instrumentation and controls, an electrical service building and grounding, and fencing). Each mainline block valve site will also include a permanent access road and a small graveled parking/turn-around area.

As discussed in Enbridge's March 2, 2021 data response to WDNR data request question #4, Enbridge uses Intelligent Valve Placement ("IVP") analysis modeling as a design methodology to determine where valves should be placed. The objective and guiding principle of the IVP methodology is to meet or exceed the regulatory requirements and to reduce the maximum potential release volume as much as reasonably practicable in the unlikely event of a pipeline release. Enbridge's IVP analysis included modelling the entire pipeline route associated with the Project, taking into account the topography of the right of way, the elevation profile of the pipeline, the line size and throughput, and the location and topography of watercourses. The IVP methodology also considers potential impacts of a pipeline release on sensitive features, or High Consequence Areas ("HCAs"), including highly populated areas, other populated areas, reservoirs holding water intended for human consumption, commercially navigable waterways, and environmentally sensitive areas.

Upon completion of its IVP analysis, Enbridge conducted a field verification of the recommended three additional valve locations. The field verification was focused on evaluating the impact of constructing the valves on the environment, including evaluation of the following factors: valve site access, constructability, power, and land availability. The topography, location of flood plains, presence of HCAs, availability of land, availability of power, accessibility, and environmental impacts such as wetland avoidance were also evaluated in determining the final valve locations. The three selected sites further reduce environmental disturbance by using existing access roads and/or existing public road entrances where available.

Enbridge also incorporated the three additional valves into its' spill modeling reports, previously submitted to the WDNR and the Corps on February 13, 2023. These additional valves were also incorporated into Enbridge's stormwater application materials, submitted on February 10, 2023. Along with the information previously provided, Enbridge has determined that minor modifications to select tables included in Enbridge Environmental Information Report ("EIR") and supplemental filings are also necessary. These minor modifications are provided in Attachment A and listed below:

- EIR Table 4.2.3-1 Proposed Access Roads
- Application Supplement Table 3.1.3-1 Proposed Access Roads
- Application Supplement Table 3.1.5-1 Mainline Valves
- Application Supplement Attachment F – Wetland and Waterbody Table (Excel format)

Minor modifications to select tables were also identified in Enbridge's Stormwater Permit application and supplemental information. These minor modifications are provided in Attachment B and listed below:

- Stormwater Pollution Prevention Plan Attachment E – Proposed Access Roads
- Stormwater Pollution Prevention Plan Attachment H – Wetland and Waterbody Crossing Table

HORIZONTAL DIRECTIONAL DRILL PLANS

Enbridge has made a minor adjustment to the proposed HDD at the Highway 13 crossing, located at milepost ("MP") 15.1 in Ashland County, Wisconsin. The proposed modification shifts the HDD approximately 100 feet north of the original alignment to increase the separation between an adjacent property and the intersection of the private driveway with Highway 13. The resulting shift places the HDD installed pipeline beneath two, previously avoided emergent wetlands (wasa1071e and wasc1069e) and modifies the crossing distance and associated acreage impacts of wetlands wasc1034e, wasc1035e, wasc1036s, wasc1015e, wasc1016e, and wasc1017e. The minor shift also modifies the crossing location of waterbodies sasa1028i, WDH-18, sasc1010i, and WDH-20; however, associated temporary impacts for these waterbodies will not change. Table 1 below lists the wetland crossing length and associated acreage differences between the original route and the proposed HDD modification.

Wetland ID	Cowardin	Eggers and Reed	Crossing Distance (feet) ¹		Temporary Construction Impacts (acres) ^{1,2}		Wetland Conversion (acres) ¹		Permanent Fill (acres) ¹	
			Original	Modified	Original	Modified	Original	Modified	Original	Modified
wasa1072f	PFO	Hardwood swamp	19.34	19.84	0.04	0.04	0.02	0.02	0	0
wasa1071e	PEM	Fresh (wet) Meadow	N/A	10.00	N/A	<0.01	N/A	0	0	0
wasc1069e	PEM	Fresh (wet) Meadow	N/A	53.86	N/A	0.04	N/A	0	0	0
wasc1036s	PSS	Shrub-Carr	94.51	45.27	0.07	0.03	0.07	0.03	0	0
wasc1035e	PEM	Fresh (wet) Meadow	8.26	10.84	<0.01	<0.01	0	0	0	0
wasc1034e	PEM	Fresh (wet) Meadow	4.92	4.97	<0.01	<0.01	0	0	0	0
wasc1015e	PEM	Fresh (wet) Meadow	5.89	7.29	<0.01	<0.01	0	0	0	0
wasc1016e	PEM	Fresh (wet) Meadow	15.89	13.51	0.07	0.07	0	0	0	0
wasc1017e	PEM	Fresh (wet) Meadow	42.02	33.40	0.08	0.07	0	0	0	0
Totals			190.82	198.98	0.27	0.28	0.09	0.05	0	0

¹ Numbers have been rounded to the nearest hundredth for display purposes
² Temporary construction impacts includes the temporary workspace as well as the permanent easement

Enbridge has also incorporated a minor modification to the Silver Creek HDD. This modification lengthens the HDD by approximately 200 feet to maintain pipeline depth of cover along a portion of the HDD path adjacent to an existing sand and gravel business

on the east side of the river crossing. This adjustment does not change any resource impacts.

To assist WDNR and Corps in their continued review of the Project, Enbridge is providing updated HDD profile drawings, the geotechnical analysis reports, and the hydro-fracture analysis for each proposed HDD (see attached).

Enbridge has updated the Project map sets to include the additional mainline block valve locations as well as the HDD modifications. The following revised map sets from the Project application and supplemental materials are included in Attachment C:

- Application Supplement Attachment A - Topographic Maps
- Application Supplement Attachment B - Aerial Maps
- Application Supplement Attachment G – SSURGO Maps

Enbridge also identified minor modifications to select mapping in Enbridge's Stormwater Permit application and supplemental information. These minor changes (provided in Attachment D and listed below) are associated with the Highway 13 HDD shift:

- Erosion and Sediment Control Plan B Sheets – ESCP Mainline
 - Changes made to Sheets 37, 38, 39, and 47
- Erosion and Sediment Control Plan C Sheets – ESCP Site Specific Aerial Plans
 - Changes made to Sheets 20, 21, and 29
- Erosion and Sediment Control Plan D Sheets – ESCP Site Specific Topo Plans
 - Changes made to Sheets 20 and 21

GEOTECHNICAL INFORMATION

Both WDNR and the Corps have requested additional information on the geotechnical analysis conducted for the HDD/Direct Pipe crossings. Attachment E contains updated profile drawings for each HDD/Direct Pipe crossing. Attachment F contains the geotechnical reports for each HDD/Direct Pipe crossing. Attachment G contains the hydrofracture analysis for each HDD/Direct Pipe crossing.