Fredrikson
& BYRON, P.A.

September 30, 2015

Jamie MacAlister
Minnesota Department of Commerce, Energy
Environmental Review and Analysis Unit
85 Seventh Place East
Suite 500
St. Paul MN 55101-3165

Re: **In the Matters of the Application of Enbridge Energy, Limited Partnership for a Certificate of Need and Pipeline Routing Permit for the Line 3 Replacement Project in Minnesota from the North Dakota Border to the Wisconsin Border**
MPUC Docket Nos. PL-9/CN-14-916 and PL-9/PPL-15-137 and
OAH Docket No. 11-2500-32764

Dear Ms. MacAlister:

Enbridge Energy, Limited Partnership ("Enbridge") submits the following comments in response to the Notice of Application Acceptance – Public Information and Environmental Analysis Scoping Meetings (the "Notice") issued by the Minnesota Public Utilities Commission (the "Commission") and the Minnesota Department of Commerce, Energy Environmental Review and Analysis ("DOC-EERA") on July 20, 2015. Pursuant to the Notice, Enbridge provides comments on route alternatives and the scope of environmental review concerning the Line 3 Replacement Project in Minnesota (the "Project").

As described in more detail below, Enbridge has grouped the route modifications into three categories:

- **Route alternatives**: route modifications that extend outside of the 700-foot route width requested by Enbridge in its applications for a certificate of need and pipeline routing permit (the "April 2015 Route"). Enbridge requests that each of these route alternatives be accepted for further environmental review, and that five of these route alternatives be accepted as part of the April 2015 Route.

- **Route width modifications**: limited areas where the route width must be expanded beyond the requested 700-foot route width to accommodate additional temporary workspace for special construction techniques at

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horizontal directional drill ("HDD") sites and highway crossings. Enbridge requests that each of these widened route widths be accepted as part of the April 2015 Route for further environmental review.

- **Centerline adjustments**: minor adjustments to the centerline that fall within the 700-foot route width. Enbridge provides these minor adjustments to the Preferred Route to ensure all parties are working from the same centerline during the course of permitting and environmental review.

I. PROJECT BACKGROUND AND PURPOSE.

The Project will replace the existing Line 3 pipeline in its entirety in Minnesota, from the North Dakota border to the Wisconsin border. As described more fully in Enbridge's Application for a Pipeline Routing Permit (the "Application"), the Project will serve the same purpose as the existing Line 3 pipeline, which is the transportation of crude oil from the North Dakota border, to the Enbridge Clearbrook Terminal near Clearbrook, Minnesota, and to Enbridge's Superior Station and Terminal Facility near Superior, Wisconsin.[1]

Specifically, the Project must cross into Minnesota in Kittson County, Minnesota, to connect with the segment of Line 3 being replaced in North Dakota (which ultimately connects to the Canadian portion of Line 3).[2] In addition, the Project must connect to the existing Enbridge Clearbrook Terminal in order to: (1) make deliveries to Minnesota refineries via Minnesota Pipe Line Company's system; and (2) interconnect with other Enbridge pipelines.[3] Finally, the Project must exit Minnesota in Carlton County, Minnesota, to connect with the segment of Line 3 being replaced in Wisconsin. Continued delivery to Enbridge's Superior Station and Terminal Facility is essential so that the crude oil transported on the Project can be injected into the Enbridge Mainline System for deliveries to refineries in Wisconsin and elsewhere in the Midwest and Eastern Canada.[4]

An alternative which does not provide the interconnections to existing pipeline infrastructure described above would not meet the need for the Project. Considering the Project's need and Minnesota law's applicable routing criteria, Enbridge developed the Preferred Route set forth in the Application. The Preferred Route meets the Project's need while also

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[1] *See* Application at 2-4.

[2] *Id.* at 6-2.

[3] *Id.*

[4] *Id.* at 6-2 – 6-3.

mitigating impacts to humans and the environment. In addition, Enbridge has identified the route modifications described below, which are consistent with the Project's need and may offer additional flexibility to minimize and mitigate potential impacts.

II. ROUTE MODIFICATIONS.

A. Route Alternatives Outside of 700-Foot Route Width.

Enbridge has identified nine route alternatives that extend outside the 700-foot-wide April 2015 Route. Enbridge developed these route alternatives to address landowner requests and suggestions, avoid sensitive environmental features or address initial concerns raised by Minnesota state agencies during early coordination, further reduce the impacts of construction, or improve constructability. Discussions of the nine route alternatives and associated maps are included as Appendix A. Each discussion provides the information required by Minnesota Rule 7852.1400, including a description of the route alternative, its purpose, and an analysis of the impacts of the route alternatives compared to the corresponding section of the April 2015 Route. Each discussion also includes a table that quantifies the prominent land use and environmental features crossed by the route alternative and the April 2015 Route. As described in Appendix A, Enbridge respectfully requests that each these route alternatives be included for further environmental review, and that five of these route alternatives be accepted as part of the April 2015 Route.

B. Expanded Route Widths for Additional Temporary Workspace.

Enbridge has identified six locations where additional temporary workspace is needed to accommodate special construction techniques at HDD sites and highway crossings, and Enbridge therefore requests that its April 2015 Route be expanded in these areas. Appendix B provides summary information for the six locations, identifying the milepost locations, dimensions, and reason for each expanded route width. Maps depicting these expanded route widths are also included in Appendix B. Enbridge respectfully requests that these expanded route widths be accepted as part of the April 2015 Route for further environmental review.

C. Centerline Adjustments Within 700-Foot Route Width.

Enbridge has identified 67 minor centerline adjustments from the April 2015 Route. The centerline adjustments are short in length, involve a small separation distance from the April 2015 Route centerline, and all occur within the requested route width. Appendix C provides summary information for each of the centerline adjustments, identifying the milepost locations, length, and reason for each centerline adjustment. Appendix C is organized according to the reason for the centerline adjustment: Environmental (Table C-1); Landowner (Table C-2); and Constructability (Table C-3). Maps depicting the centerline adjustments are also included in Appendix C. These centerline adjustments have been incorporated into the Project's Preferred

Route, and Enbridge is providing these updates on the Project's centerline in these comments so that the Commission, agencies, and parties may move forward working from the same Preferred Route centerline.

III. SCOPE OF ENVIRONMENTAL ANALYSIS.

Enbridge supports the scope of environmental analysis proposed in DOC-EERA's Draft Comparative Environmental Assessment Scoping Document because it adequately addresses the requirements set forth in the applicable statutes and rules. A copy of DOC-EERA's proposed scope, which was circulated at the public information meetings, is available at http://mn.gov/commerce/energyfacilities/resource.html?Id=34266.

In addition, consistent with Enbridge's Petition for Referral of Route Permit Proceedings to the Office of Administrative Hearings ("OAH") and Request for Comments, efiled on September 25, 2015 in these dockets, Enbridge requests that DOC-EERA recommend the Commission refer the route permit matter to the OAH for joint proceedings and clarify that DOC-EERA's environmental review, including the Comparative Environmental Analysis, be completed for both the certificate of need and route permit proceedings prior to the Commission's final decisions in these matters.

Sincerely,

/s/ *Christina K. Brusven*

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Appendix A

Route Alternatives and Associated Route Maps

I. Highway 75 Route Alternative

A. Description.

As shown on Figure 1, the Highway 75 Route Alternative deviates from the April 2015 Route at milepost ("MP") 27.4-W in Kittson County, Minnesota and rejoins the route at MP 27.9-W, in Marshall County, Minnesota. This alternative would modify the centerline of the April 2015 Route where it crosses mostly agricultural land.

B. Purpose.

Enbridge proposes this alternative to improve the constructability at Highway 75 by changing the crossing angle alignment at the highway. The new alignment crosses at a more perpendicular angle which will minimize the length of the road bore needed for crossing under the highway.

C. Analysis of Potential Impacts.

Table 1 below compares the impacts of the Route Alternative to the corresponding segment of the April 2015 Route. The Route Alternative is 0.1 mile longer than the April 2015 Route. The Route Alternative is greenfield along its entire length, while the April 2015 Route is co-located with existing pipeline right-of-way along its entire length. No residences are within 500 feet of the Route Alternative; no residences are within 50 feet of the Route Alternative. No residences are within 500 feet of the April 2015 Route, and no residences are within 50 feet of the route. Both routes cross prime farmland soil along their entire length; neither route crosses highly wind erodible soils. Both routes cross the same number of roads and the same number of perennial waterbodies. Both routes cross the Burlington Northern Santa Fe Railway ("BNSF"). Both routes avoid National Wetland Inventory ("NWI")-mapped wetlands, state trails, national forest, tribal and state land, trout streams, active mineral leases, and bedrock outcrops.

Enbridge proposes to adopt the Highway 75 Route Alternative as part of Line 3's April 2015 Route, as it does not introduce any significant impacts to environmental features as outlined in Table 1 and achieves a better crossing design to improve constructability. Enbridge respectfully requests that the Minnesota Public Utilities Commission ("MPUC") accept the proposed Highway 75 Route Alternative as part of its April 2015 Route for further environmental analysis.

Table 1
Features Comparison of Highway 75 Route Alternative

Project Features	Unit	Highway 75 Route Alternative	April 24, 2015 Route [a]
Route Description			
Length of Alternative for Comparison [b]	Miles	0.6	0.5
Adjacent to Existing ROW	Miles	0.0	0.5
Greenfield Route [c]	Miles	0.6	0.0

Table 1
Features Comparison of Highway 75 Route Alternative

Project Features	Unit	Highway 75 Route Alternative	April 24, 2015 Route [a]
Socio-economic Constraints			
Residences within 50 Feet	Number	0	0
Residences within 500 Feet	Number	0	0
Construction Constraints having Environmental Impacts			
NWI-mapped Wetlands	Miles	0.0	0.0
NWI-mapped Wetlands	Number	0	0
Prime Farmland	Miles	0.6	0.5
Highly Wind Erodible Soils	Miles	0.0	0.0
Perennial Waterbodies	Number	1	1
State Trails	Number	0	0
Construction Constraints in Crossing Federal, State and County Resources/Jurisdictions			
National Forest Land	Miles	0.0	0.0
Tribal Land	Miles	0.0	0.0
State Forest Land	Miles	0.0	0.0
State WMA Land	Miles	0.0	0.0
State AMA Land	Miles	0.0	0.0
Technical Constraints Having Associated Environmental Impact			
Trout Streams	Number	0	0
Active Mineral Leases	Number	0	0
Bedrock Outcrops	Miles	0.0	0.0
Railroads Crossed	Number	1	1
Roads Crossed	Number	2	2
Other Major Issues	Number	0	0

a The comparison analysis is based solely on publicly available desktop data.
b The comparison analysis begins at MP 27.4-W in Kittson County, MN and ends at MP 27.9-W in Marshall County, MN.
c Greenfield locations are defined for purposes of this Project as any portion of the route that is greater than 250-feet from the centerline of a known utility.

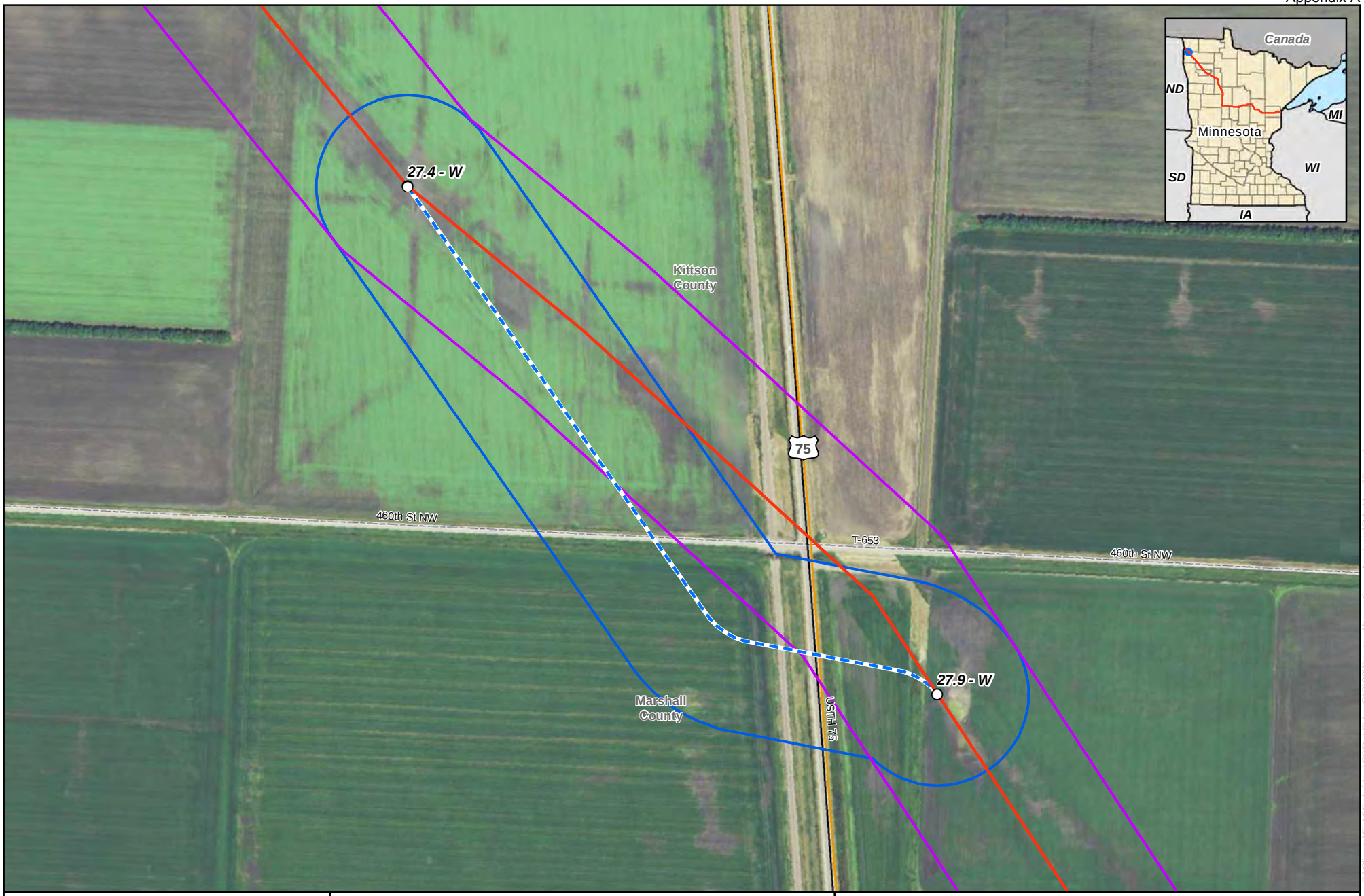

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Figure 1
Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Route Alternative - Highway 75

- Milepost
- April 2015 Centerline
- Highway 75 Route Alternative
- April 2015 700-foot Route Width
- Proposed 700-foot Route Width
- State Forest
- State Park and Recreation Area
- Aquatic Management Area
- Wildlife Management Area
- Indian Reservation
- Mineral Lease

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\RA_Hwy75.mxd
Date: (9/28/2015)

II. Viking 1 Route Alternative

A. Description.

As shown on Figure 2, the Viking 1 Route Alternative deviates from the April 2015 Route at MP 49.6-W and rejoins the route at MP 51.2-W, all being located in Marshall County, Minnesota. This alternative would modify the centerline of the April 2015 Route where it crosses mostly agricultural land.

B. Purpose.

Enbridge proposes this alternative to accommodate a landowner request to move a portion of the April 2015 Route crossing their property.

C. Analysis of Potential Impacts.

Table 2 below compares the impacts of the Route Alternative to the corresponding segment of the April 2015 Route. The Route Alternative is 0.6 mile longer than the April 2015 Route. The Route Alternative follows existing right-of-way for about one half of its length (1.0 mile), and is greenfield route for the other half of its length (1.0 mile). The corresponding segment of the April 2015 Route is co-located within the existing pipeline right-of-way of Line 67 along its entire length. No residential structures are located within 50 or 500 feet of either route. The Route Alternative crosses 0.3 miles less of prime farmland soil. Both routes cross highly wind erodible soils across their entire length; and both routes cross the same number of roads. Both routes avoid NWI-mapped wetlands, perennial waterbodies, state trails, national forest, tribal and state land, trout streams, active mineral leases, bedrock outcrops, and railroads.

Enbridge proposes that the MPUC accept the proposed Viking 1 Route Alternative for further environmental analysis as it does not introduce any significant impacts to environmental features as outlined in Table 2 and accommodates a landowner request.

Table 2
Features Comparison of Viking 1 Route Alternative

Project Features	Unit	Viking 1 Route Alternative	April 24, 2015 Route [a]
Route Description			
Length of Alternative for Comparison [b]	Miles	2.1	1.5
Adjacent to Existing ROW	Miles	1.0	1.5
Greenfield Route [c]	Miles	1.1	0.0
Socio-economic Constraints			
Residences within 50 Feet	Number	0	0
Residences within 500 Feet	Number	0	0

Table 2
Features Comparison of Viking 1 Route Alternative

Project Features	Unit	Viking 1 Route Alternative	April 24, 2015 Route [a]
Construction Constraints having Environmental Impacts			
NWI-mapped Wetlands	Miles	0.0	0.0
NWI-mapped Wetlands	Number	0	0
Prime Farmland	Miles	0.2	0.5
Highly Wind Erodible Soils	Miles	2.1	1.5
Perennial Waterbodies	Number	0	0
State Trails	Number	0	0
Construction Constraints in Crossing Federal, State and County Resources/Jurisdictions			
National Forest Land	Miles	0.0	0.0
Tribal Land	Miles	0.0	0.0
State Forest Land	Miles	0.0	0.0
State WMA Land	Miles	0.0	0.0
State AMA Land	Miles	0.0	0.0
Technical Constraints Having Associated Environmental Impact			
Trout Streams	Number	0	0
Active Mineral Leases	Number	0	0
Bedrock Outcrops	Miles	0.0	0.0
Railroads Crossed	Number	0	0
Roads Crossed	Number	3	3
Other Major Issues	Number	0	0

a The comparison analysis is based solely on publicly available desktop data.
b The comparison analysis begins at MP 49.6-W and ends at MP 51.2-W, all being located in Marshall County, MN.
c Greenfield locations are defined for purposes of this Project as any portion of the route that is greater than 250-feet from the centerline of a known utility.

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Figure 2
Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Route Alternative - Viking 1

- Milepost
- April 2015 Centerline
- Viking 1 Route Alternative
- April 2015 700-foot Route Width
- Proposed 700-foot Route Width
- State Forest
- State Park and Recreation Area
- Aquatic Management Area
- Wildlife Management Area
- Indian Reservation
- Mineral Lease

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\RA_Peterson2.mxd
Date: (9/28/2015)

III. Viking 2 Route Alternative

A. Description.

As shown on Figure 3, the Viking 2 Route Alternative deviates from the April 2015 Route at MP 63.2-W and rejoins the route at MP 68.7-W, all being located in Pennington County, Minnesota. This alternative would modify the centerline of the April 2015 Route where it crosses mostly agricultural land.

B. Purpose.

Enbridge proposes this alternative to accommodate a landowner request to move a portion of the April 2015 Route crossing their property.

C. Analysis of Potential Impacts.

Table 3 below compares the impacts of the Route Alternative to the corresponding segment of the April 2015 Route. The Route Alternative is 1.7 miles longer than the April 2015 Route. The Route Alternative follows existing pipeline and county road right-of-ways for 5.1 miles and contains 2.2 miles of greenfield route. The corresponding segment of the April 2015 Route is co-located within the existing pipeline right-of-way of Line 67 along its entire length and does not contain any greenfield component. Four residences are within 500 feet of the Route Alternative; no residences are within 50 feet of the Route Alternative. Four residences are within 500 feet of the April 2015 Route, and no residences are within 50 feet of the route. The Route Alternative crosses fewer NWI-mapped wetlands than the April 2015 Route: 0.2 miles versus 0.4 miles respectively, and 4 versus 10 individual wetlands respectively. The Route Alternative crosses 1.1 miles more of prime farmland soil, and 0.5 miles more of highly wind erodible soils. The Route Alternative crosses two more roads than the current route. Both routes avoid perennial waterbodies, state trails, national forest, tribal and state land, trout streams, active mineral leases, bedrock outcrops, and railroads.

Enbridge proposes that the MPUC accept the proposed Viking 2 Route Alternative for further environmental analysis as it does not introduce any significant impacts to environmental features as outlined in Table 3 and accommodates a landowner request.

Table 3
Features Comparison of Viking 2 Route Alternative

Project Features	Unit	Viking 2 Route Alternative	April 24, 2015 Route [a]
Route Description			
Length of Alternative for Comparison [b]	Miles	7.2	5.5
Adjacent to Existing ROW	Miles	5.1	5.5
Greenfield Route [c]	Miles	2.2	0.0

Table 3
Features Comparison of Viking 2 Route Alternative

Project Features	Unit	Viking 2 Route Alternative	April 24, 2015 Route [a]
Socio-economic Constraints			
Residences within 50 Feet	Number	0	0
Residences within 500 Feet	Number	4	4
Construction Constraints having Environmental Impacts			
NWI-mapped Wetlands	Miles	0.2	0.4
NWI-mapped Wetlands	Number	4	10
Prime Farmland	Miles	3.8	2.7
Highly Wind Erodible Soils	Miles	5.1	4.6
Perennial Waterbodies	Number	0	0
State Trails	Number	0	0
Construction Constraints in Crossing Federal, State and County Resources/Jurisdictions			
National Forest Land	Miles	0.0	0.0
Tribal Land	Miles	0.0	0.0
State Forest Land	Miles	0.0	0.0
State WMA Land	Miles	0.0	0.0
State AMA Land	Miles	0.0	0.0
Technical Constraints Having Associated Environmental Impact			
Trout Streams	Number	0	0
Active Mineral Leases	Number	0	0
Bedrock Outcrops	Miles	0.0	0.0
Railroads Crossed	Number	0	0
Roads Crossed	Number	9	7
Other Major Issues	Number	0	0

a The comparison analysis is based solely on publicly available desktop data.
b The comparison analysis begins at MP 63.2-W and ends at MP 68.7-W, all being located in Pennington County, MN.
c Greenfield locations are defined for purposes of this Project as any portion of the route that is greater than 250-feet from the centerline of a known utility.

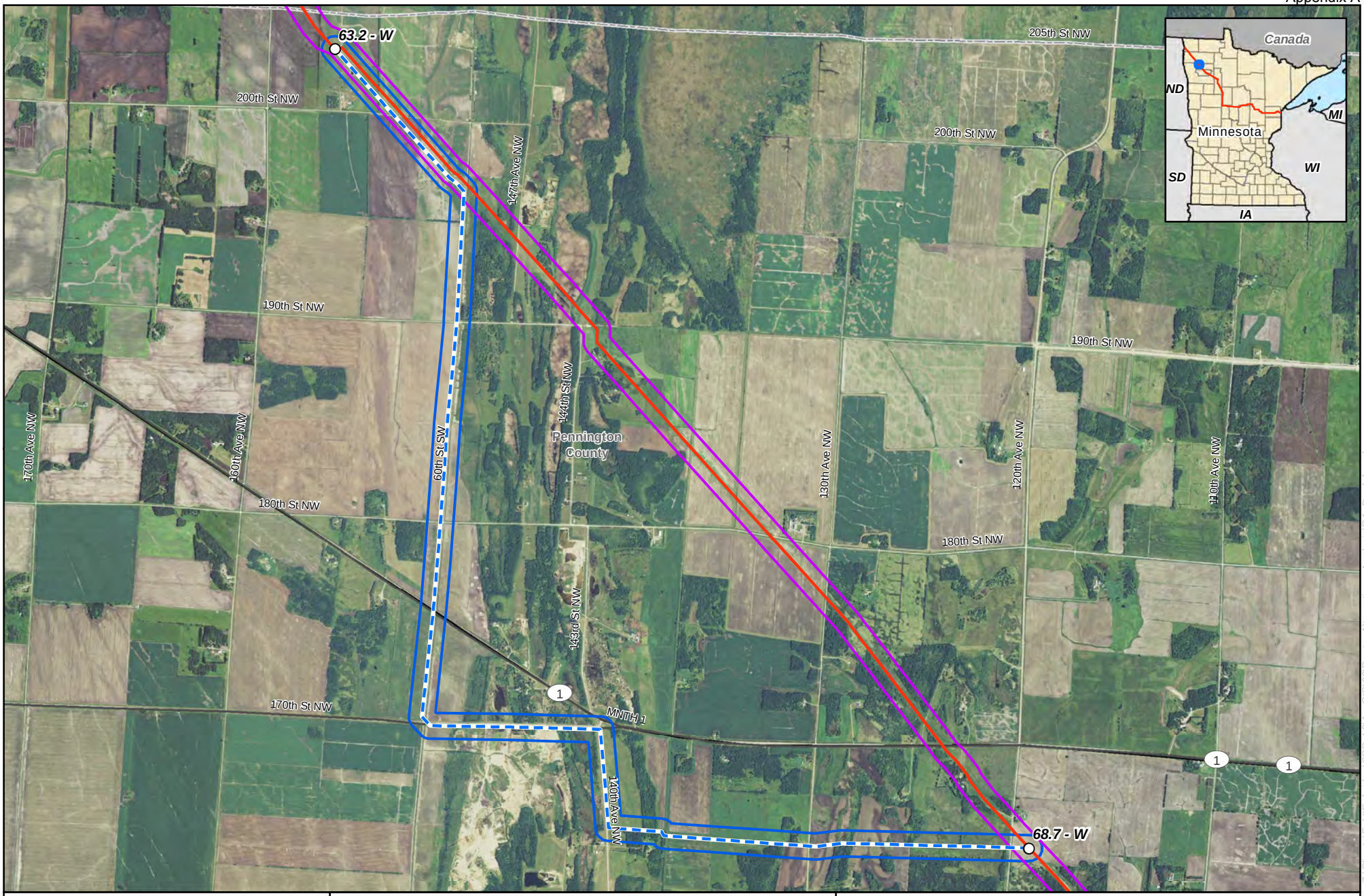

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Figure 3
Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Route Alternative - Viking 2

- Milepost
- April 2015 Centerline
- Viking 2 Route Alternative
- April 2015 700-foot Route Width
- Proposed 700-foot Route Width
- State Forest
- State Park and Recreation Area
- Aquatic Management Area
- Wildlife Management Area
- Indian Reservation
- Mineral Lease

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\RA_Dyrdal.mxd
Date: (9/28/2015)

IV. Clearbrook Route Alternative

A. Description.

As shown on Figure 4, the Clearbrook Route Alternative deviates from the April 2015 Route at MP 121.6-W and rejoins the route at MP 1.5-E, all being located in Clearwater County, Minnesota. The Route Alternative begins at such point where the April 2015 Route exits the Clearbrook Terminal on the north side of the facility. From that point, the Route Alternative turns west as it back tracks to follow and run parallel to the April 2015 Route in a westerly direction for approximately 0.8 miles. Next, the Route Alternative turns south as it deviates from the April 2015 Route and runs south for approximately 1.7 miles, where it rejoins the April 2015 Route south of the Terminal and Deep Lake. This alternative would modify the centerline of the April 2015 Route where it crosses a mix of agricultural and forested land.

B. Purpose.

Enbridge proposes this Route Alternative in direct response to comments received from landowners located on the existing Enbridge Mainline System right-of-way near Clearbrook, Minnesota.

C. Analysis of Potential Impacts.

Table 4 below compares the impacts of the Route Alternative to the corresponding segment of the April 2015 Route. The Route Alternative is 0.3 mile shorter than the April 2015 Route. The Route Alternative is co-located with existing pipeline right-of-way for 0.8 mile less than the April 2015 Route, and contains 0.5 miles more of greenfield route. Ten residences are located within 500 feet of the Route Alternative; no residences are within 50 feet of the Route Alternative. Ten residences are within 500 feet of the April 2015 Route and no residences are within 50 feet of the route. Both routes cross the same length and number of NWI-mapped wetlands. The Route Alternative crosses 0.5 miles less of prime farmland soil, but crosses 0.9 miles more of highly wind erodible soils. The Route Alternative crosses one less road than the April 2015 Route. Both routes avoid perennial waterbodies, state trails, national forest, tribal and state land, trout streams, active mineral leases, bedrock outcrops, and railroads.

Enbridge proposes to adopt the proposed Clearbrook Route Alternative as part of its April 2015 Route, as it does not introduce any significant impacts to environmental features as outlined in Table 4 and accommodates landowner requests. Enbridge respectfully request that the MPUC accept the proposed Clearbrook Route Alternative as part of Line 3's April 2015 Route for further environmental analysis.

Table 4
Features Comparison of Clearbrook Route Alternative

Project Features	Unit	Clearbrook Route Alternative	April 24, 2015 Route [a]
Route Description			
Length of Alternative for Comparison [b]	Miles	2.5	2.8
Adjacent to Existing ROW	Miles	0.8	1.6
Greenfield Route [c]	Miles	1.7	1.2
Socio-economic Constraints			
Residences within 50 Feet	Number	0	0
Residences within 500 Feet	Number	10	10
Construction Constraints having Environmental Impacts			
NWI-mapped Wetlands	Miles	0.2	0.2
NWI-mapped Wetlands	Number	6	6
Prime Farmland	Miles	1.2	1.7
Highly Wind Erodible Soils	Miles	2.0	1.1
Perennial Waterbodies	Number	0	0
State Trails	Number	0	0
Construction Constraints in Crossing Federal, State and County Resources/Jurisdictions			
National Forest Land	Miles	0.0	0.0
Tribal Land	Miles	0.0	0.0
State Forest Land	Miles	0.0	0.0
State WMA Land	Miles	0.0	0.0
State AMA Land	Miles	0.0	0.0
Technical Constraints Having Associated Environmental Impact			
Trout Streams	Number	0	0
Active Mineral Leases	Number	0	0
Bedrock Outcrops	Miles	0.0	0.0
Railroads Crossed	Number	0	0
Roads Crossed	Number	1	2
Other Major Issues	Number	0	0

a The comparison analysis is based solely on publicly available desktop data.
b The comparison analysis begins at MP 121.6-W and ends at MP 1.5-E, all being located in Clearwater County, MN.
c Greenfield locations are defined for purposes of this Project as any portion of the route that is greater than 250-feet from the centerline of a known utility.

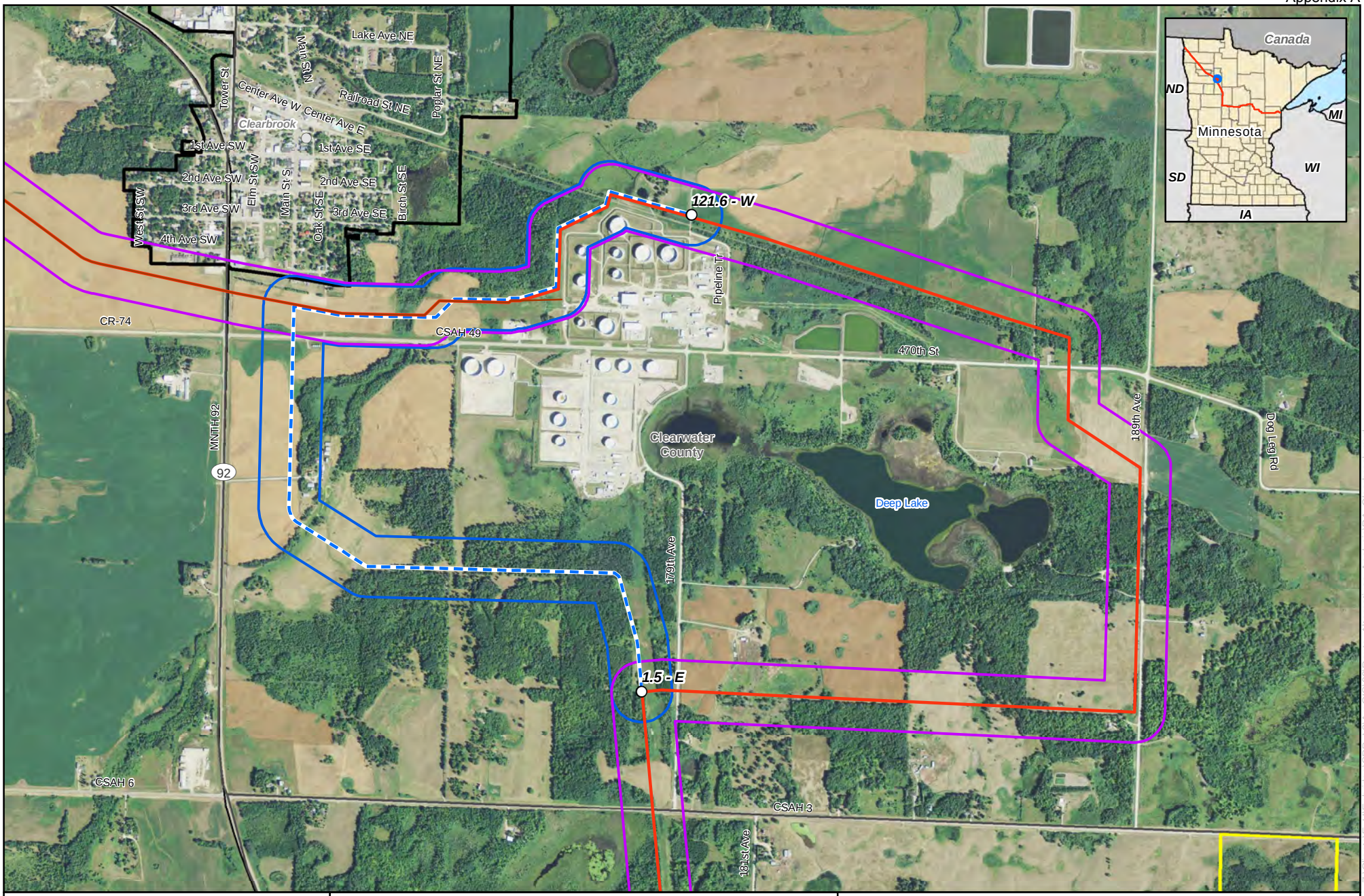

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Figure 4
Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Route Alternative - Clearbrook

- Milepost
- April 2015 Centerline
- Clearbrook Route Alternative
- April 2015 700-foot Route Width
- Proposed 700-foot Route Width
- State Forest
- State Park and Recreation Area
- Aquatic Management Area
- Wildlife Management Area
- Indian Reservation
- Mineral Lease

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\RA_Clearbrook.mxd
Date: (9/28/2015)

V. Eastern Wild Rice Watershed Route Alternative

A. Description.

As shown on Figure 5, the Eastern Wild Rice Watershed Route Alternative deviates from the April 2015 Route at MP 16.6-E and rejoins the route at MP 26.5-E, all being located in Clearwater County, Minnesota. This alternative would modify the centerline of the April 2015 Route where it crosses mostly forested with some agricultural land.

B. Purpose.

Enbridge proposes this alternative in response to comments made in MPUC Docket Number PL-6668/PPL-13-473 by the White Earth Band of Ojibwe concerning the proposed Sandpiper Pipeline Project's crossing of the Eastern Wild Rice Watershed. Specifically, representatives of the White Earth Band of Ojibwe stated that Lower Rice Lake is the most abundant, regularly producing wild rice lake for tribal members. [1] This alternative avoids the Eastern Wild Rice Watershed and removes any hydrologic connection to Lower Rice Lake.

C. Analysis of Potential Impacts.

Table 5 below compares the impacts of the Eastern Wild Rice Watershed Route Alternative to the corresponding segment of the April 2015 Route. The Route Alternative is 3.1 miles longer than the April 2015 Route, and contains 6.8 miles more greenfield land. The Route Alternative follows existing right-of-way for 5.6 miles while the April 2015 Route follows existing right-of-way for 9.3 miles. Six residences are within 500 feet of the Route Alternative; no residences are within 50 feet of the Route Alternative. Six residences are within 500 feet of the April 2015 Route and no residences are within 50 feet of the route. The Route Alternative crosses fewer NWI-mapped wetlands than the April 2015 Route, 0.9 miles versus 2.0 miles respectively, and 22 versus 39 individual wetlands respectively. The Route Alternative crosses 0.8 miles more prime farmland soil, and 3.5 miles more of highly wind erodible soils than the April 2015 Route. The Route Alternative crosses one more perennial waterbody, and one more road than the April 2015 Route. Both routes avoid state trails, national forest, tribal and state land, trout streams, active mineral leases, bedrock outcrops, and railroads.

Enbridge proposes that the MPUC accept the proposed Eastern Wild Rice Watershed Route Alternative for further environmental analysis as it does not introduce any significant impacts to

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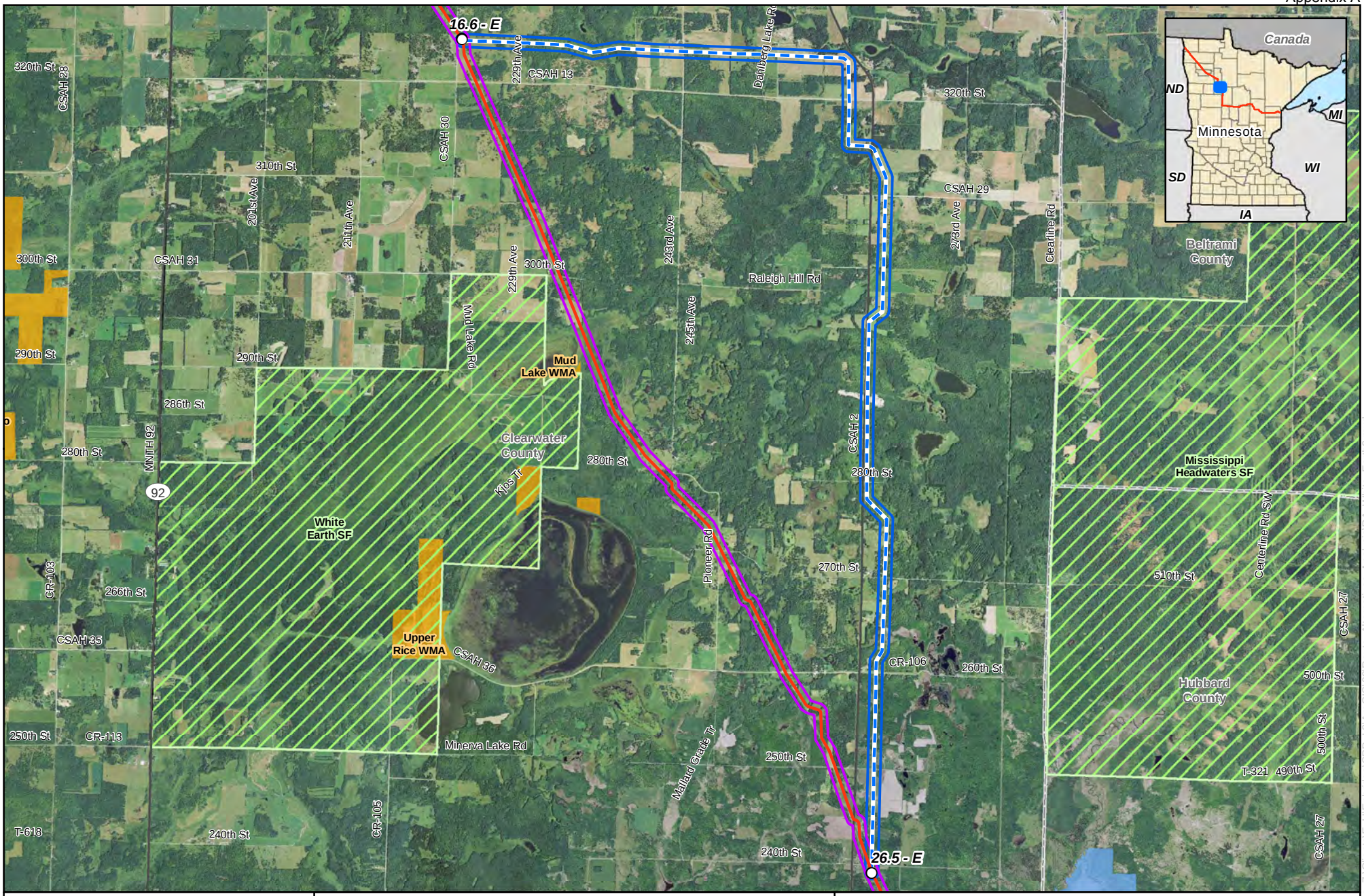
[1] *See* Transcripts—of June 3, 2015 MPUC Proceeding, filed by the Court Reporter on June 9, 2015 (MPUC Doc. ID 20156-111285-01), *In the Matter of the Application of North Dakota Pipeline Company LLC for a Certificate of Need for the Sandpiper Pipeline Project,* MPUC Docket No. PL6668/CN-13-473 (Attorney Joe Plumer remarks at pages 176:8 – 177:2 that "The White Earth Band doesn't regularly get involved in proceedings like this. But we were spurred into action because of the proposed route… Most importantly, the wild rice lake that this proposed route goes in very close proximity of is the most abundant, regularly producing wild rice lake at White Earth and it's known as Lower Rice Lake. It's over five miles long and it's over a mile and a half wide. It's a huge rice bed. And the proposed route is going to go right in between upper and lower Rice Lake. And we believe that we can't take the chance as to whether or not a spill is going to occur, because if there was one, it's going to be catastrophic...").

environmental features as outlined in Table 5 and addresses the concerns raised by the White Earth Band of Ojibwe.

Table 5
Features Comparison of Eastern Wild Rice Watershed Route Alternative

Project Features	Unit	Eastern Wild Rice Watershed Route Alternative	April 24, 2015 Route [a]
Route Description			
Length of Alternative for Comparison [b]	Miles	13.0	9.9
Adjacent to Existing ROW	Miles	5.6	9.3
Greenfield Route [c]	Miles	7.4	0.6
Socio-economic Constraints			
Residences within 50 Feet	Number	0	0
Residences within 500 Feet	Number	6	6
Construction Constraints having Environmental Impacts			
NWI-mapped Wetlands	Miles	0.9	2.0
NWI-mapped Wetlands	Number	22	39
Prime Farmland	Miles	4.8	4.0
Highly Wind Erodible Soils	Miles	10.2	6.7
Perennial Waterbodies	Number	1	0
State Trails	Number	0	0
Construction Constraints in Crossing Federal, State and County Resources/Jurisdictions			
National Forest Land	Miles	0.0	0.0
Tribal Land	Miles	0.0	0.0
State Forest Land	Miles	0.0	0.0
State WMA Land	Miles	0.0	0.0
State AMA Land	Miles	0.0	0.0
Technical Constraints Having Associated Environmental Impact			
Trout Streams	Number	0	0
Active Mineral Leases	Number	0	0
Bedrock Outcrops	Miles	0.0	0.0
Railroads Crossed	Number	0	0
Roads Crossed	Number	11	10
Other Major Issues	Number	0	0

a The comparison analysis is based solely on publicly available desktop data.
b The comparison analysis begins at MP 16.6-E and ends at MP 26.5-E, all being located in Clearwater County, MN.
c Greenfield locations are defined for purposes of this Project as any portion of the route that is greater than 250-feet from the centerline of a known utility.



ENBRIDGE

0 3,600 7,200 Feet

N

Figure 5
Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Route Alternative - Eastern Wild Rice Watershed

- Milepost
- April 2015 Centerline
- Eastern Wild Rice Watershed Route Alternative
- April 2015 700-foot Route Width
- Proposed 700-foot Route Width
- State Forest
- State Park and Recreation Area
- Aquatic Management Area
- Wildlife Management Area
- Indian Reservation
- Mineral Lease

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\RA_White_Earth2.mxd
Date: (9/28/2015)

VI. Future Gravel Pit Route Alternative

A. Description.

As shown on Figure 6, the Future Gravel Pit Route Alternative deviates from the April 2015 Route at MP 156.1-E and rejoins the route at MP 156.5-E, all being located in Aitkin County, Minnesota. This alternative would modify the centerline of the April 2015 Route where it crosses mostly agricultural land.

B. Purpose.

Enbridge proposes this alternative to accommodate a landowner request to move a portion of the April 2015 Route crossing their property that may be mined in the future for gravel.

C. Analysis of Potential Impacts.

Table 6 below compares the impacts of the Route Alternative to the corresponding segment of the April 2015 Route. The Route Alternative is 0.1 mile longer than the April 2015 Route. Both routes are greenfield along their entire length. No residences are located within 50 or 500 feet of either route. The Route Alternative crosses 0.1 mile more of prime farmland soil, and >0.1 mile more of highly wind erodible soils. Both routes avoid NWI-mapped wetlands, perennial waterbodies, state trails, national forest, tribal and state land, trout streams, active mineral leases, bedrock outcrops, roads, and railroads.

Enbridge proposes to adopt the proposed Future Gravel Pit Route Alternative as part of its April 2015 Route as it does not introduce any significant impacts to environmental features as outlined in Table 6 and accommodates a landowner request. Enbridge respectfully requests that the MPUC accept the proposed Future Gravel Pit Route Alternative as part of Line 3's April 2015 Route for further environmental analysis.

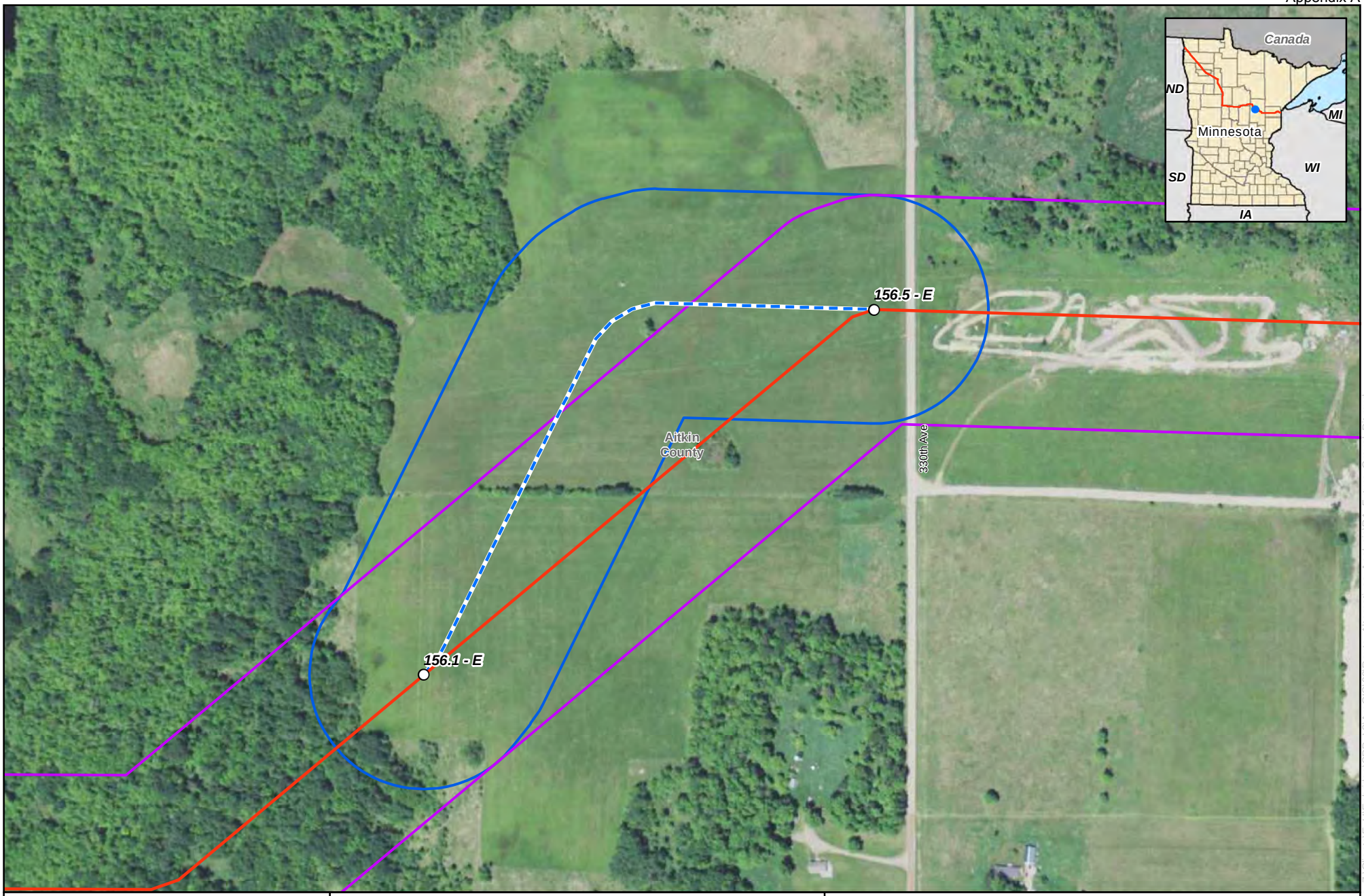
Table 6
Features Comparison of Future Gravel Pit Route Alternative

Project Features	Unit	Future Gravel Pit Route Alternative	April 24, 2015 Route [a]
Route Description			
Length of Alternative for Comparison [b]	Miles	0.4	0.3
Adjacent to Existing ROW	Miles	0.0	0.0
Greenfield Route [c]	Miles	0.4	0.3
Socio-economic Constraints			
Residences within 50 Feet	Number	0	0
Residences within 500 Feet	Number	0	0
Construction Constraints having Environmental Impacts			
NWI-mapped Wetlands	Miles	0.0	0.0

Table 6
Features Comparison of Future Gravel Pit Route Alternative

Project Features	Unit	Future Gravel Pit Route Alternative	April 24, 2015 Route [a]
NWI-mapped Wetlands	Number	0	0
Prime Farmland	Miles	0.4	0.3
Highly Wind Erodible Soils	Miles	0.2	<0.1
Perennial Waterbodies	Number	0	0
State Trails	Number	0	0
Construction Constraints in Crossing Federal, State and County Resources/Jurisdictions			
National Forest Land	Miles	0.0	0.0
Tribal Land	Miles	0.0	0.0
State Forest Land	Miles	0.0	0.0
State WMA Land	Miles	0.0	0.0
State AMA Land	Miles	0.0	0.0
Technical Constraints Having Associated Environmental Impact			
Trout Streams	Number	0	0
Active Mineral Leases	Number	0	0
Bedrock Outcrops	Miles	0.0	0.0
Railroads Crossed	Number	0	0
Roads Crossed	Number	0	0
Other Major Issues	Number	0	0

a The comparison analysis is based solely on publicly available desktop data.
b The comparison analysis begins at MP 156.1-E and ends at MP 156.5-E, all being located in Aitkin County, MN.
c Greenfield locations are defined for purposes of this Project as any portion of the route that is greater than 250-feet from the centerline of a known utility.



ENBRIDGE

0 200 400 Feet

N

Figure 6
Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Route Alternative - Future Gravel Pit

- Milepost
- April 2015 Centerline
- Future Gravel Pit Route Alternative
- April 2015 700-foot Route Width
- Proposed 700-foot Route Width
- State Forest
- State Park and Recreation Area
- Aquatic Management Area
- Wildlife Management Area
- Indian Reservation
- Mineral Lease

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\RA_Future_Gravel_Pit.mxd
Date: (9/28/2015)

VII. Kennecott 1 Route Alternative

A. Description.

As shown on Figure 7, the Kennecott 1 Route Alternative deviates from the April 2015 Route at MP 171.4-E and rejoins the route at MP 172.9-E, all being located in Aitkin County, Minnesota. This alternative would modify the centerline of the April 2015 Route where it crosses a mix of forested, open, and agricultural land.

B. Purpose.

Enbridge proposes this alternative as a result of communications with the landowner, Kennecott Exploration Company ("Kennecott"), in which the owner indicated opposition to the location of the April 2015 Route crossing its property and a preference that the route not cross its land.

C. Analysis of Potential Impacts.

Table 7 below compares the impacts of the Route Alternative to the corresponding segment of the April 2015 Route. The Route Alternative and the April 2015 Route are the same in length and both are greenfield along their entire routes. One residence is located within 500 feet of the Route Alternative; no residences are located within 50 feet of the Route Alternative. Two residences are located within 500 feet of the April 2015 Route, and no residences are located within 50 feet of the route. The Route Alternative crosses 0.5 miles more of NWI-mapped wetlands than the April 2015 Route, but both routes cross the same number of wetlands. The Route Alternative crosses 0.7 miles less of highly wind erodible soils. The Route Alternative crosses 0.5 miles of Savanah State Forest land, while the April 2015 Route does not cross any state land. Both routes avoid prime farmland soil, perennial waterbodies, state trails, national forest and tribal land, trout streams, active mineral leases, bedrock outcrops, railroads, and roads.

Enbridge proposes that the MPUC accept the proposed Kennecott 1 Route Alternative for further environmental analysis.

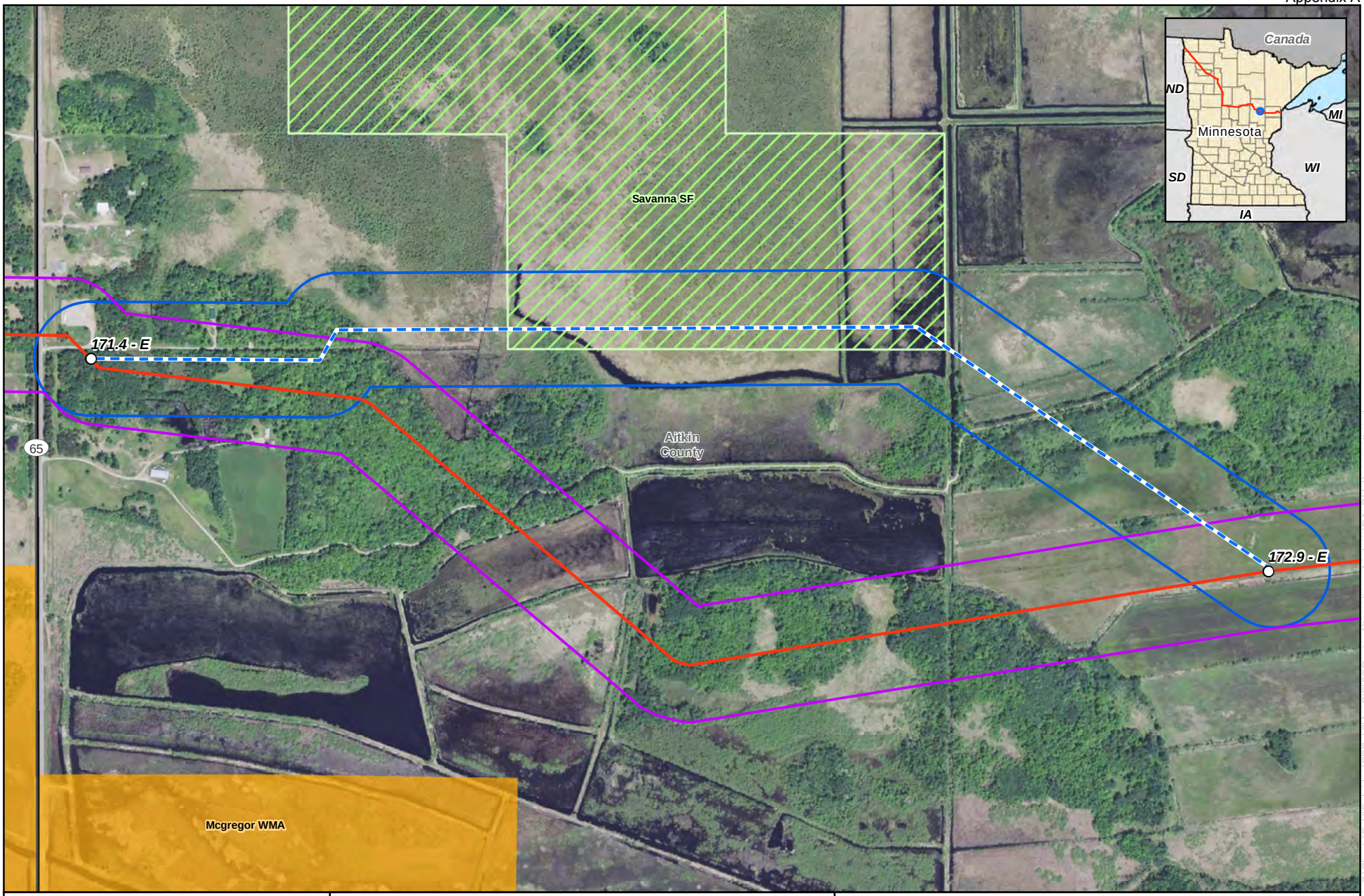
Table 7
Features Comparison of Kennecott 1 Route Alternative

Project Features	Unit	Kennecott 1 Route Alternative	April 24, 2015 Route [a]
Route Description			
Length of Alternative for Comparison [b]	Miles	1.5	1.5
Adjacent to Existing ROW	Miles	0.0	0.0
Greenfield Route [c]	Miles	1.5	1.5
Socio-economic Constraints			
Residences within 50 Feet	Number	0	0
Residences within 500 Feet	Number	1	2

Table 7
Features Comparison of Kennecott 1 Route Alternative

Project Features	Unit	Kennecott 1 Route Alternative	April 24, 2015 Route [a]
Construction Constraints having Environmental Impacts			
NWI-mapped Wetlands	Miles	0.7	0.2
NWI-mapped Wetlands	Number	3	3
Prime Farmland	Miles	0.0	0.0
Highly Wind Erodible Soils	Miles	0.8	1.5
Perennial Waterbodies	Number	0	0
State Trails	Number	0	0
Construction Constraints in Crossing Federal, State and County Resources/Jurisdictions			
National Forest Land	Miles	0.0	0.0
Tribal Land	Miles	0.0	0.0
State Forest Land	Miles	0.5	0.0
State WMA Land	Miles	0.0	0.0
State AMA Land	Miles	0.0	0.0
Technical Constraints Having Associated Environmental Impact			
Trout Streams	Number	0	0
Active Mineral Leases	Number	0	0
Bedrock Outcrops	Miles	0.0	0.0
Railroads Crossed	Number	0	0
Roads Crossed	Number	0	0
Other Major Issues	Number	0	0

a The comparison analysis is based solely on publicly available desktop data.
b The comparison analysis begins at MP 171.4-E and ends at MP 172.9-E, all being located in Aitkin County, MN.
c Greenfield locations are defined for purposes of this Project as any portion of the route that is greater than 250-feet from the centerline of a known utility.



ENBRIDGE

0 400 800 Feet

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Figure 7
Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Route Alternative - Kennecott 1

- Milepost
- April 2015 Centerline
- Kennecott 1 Route Alternative
- April 2015 700-foot Route Width
- Proposed 700-foot Route Width
- State Forest
- State Park and Recreation Area
- Aquatic Management Area
- Wildlife Management Area
- Indian Reservation
- Mineral Lease

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\RA_Old_Kennecott.mxd
Date: (9/28/2015)

VIII. Kennecott 2 Route Alternative

A. Description.

As shown on Figure 8, the Kennecott 2 Route Alternative deviates from the April 2015 Route at MP 184.9-E E in Aitkin County, Minnesota and rejoins the route at MP 190.0-E, in Carlton County, Minnesota. This alternative would modify the centerline of the April 2015 Route where it crosses a mix of forested, open, and agricultural land.

B. Purpose.

Enbridge proposes this alternative to address concerns raised by the Minnesota Department of Natural Resources ("MN DNR") and Kennecott. In its April 4, 2014 public comment letter on PUC Docket Number PL-6668/PPL-13-474,[2] MN DNR raised concerns regarding potential impacts of the route on state mineral leases held by Kennecott Exploration Company ("Kennecott") in Carlton County. The mineral leases are located on county tax-forfeit lands. Kennecott also submitted a proposed route alternative in PUC Docket Number PL-6668/PPL-13-474[3] for the Sandpiper Pipeline Project in April 2014 that avoided mineral leases; this route alternative was accepted by the Commission and advanced to Sandpiper's routing proceeding as "RA-39."[4]

NDPC conducted an environmental and constructability review of RA-39 and determined that further centerline alignment was necessary from an environmental and constructability perspective. As proposed by Kennecott, RA-39 would cross the Salo Marsh WMA, which NDPC had sought to avoid with a route alternative it submitted in April 2014 (RA-38). Through discussions with Kennecott, Enbridge learned that, in addition to the lands Kennecott holds a mineral lease interest in, Kennecott is also interested in other property in the area (together with the mineral leased lands, the "KEX Areas of Interest"). This Route Alternative addresses

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[2] Comments- Part 1 of 4, filed by the Minnesota Department of Natural Resources on April 4, 2014 (MPUC Doc. ID 20144-98005-01), *In the Matter of the Application of North Dakota Pipeline Company LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project*, MPUC Docket No. PL6668/CN-13-474. Also available at: Initial Filing- Appendix K- Response to Sandpiper Comment Letters, filed by Enbridge Energy, Limited Partnership on April 24, 2015 (MPUC Doc. ID 20154-109663-01), *In the Matter of the Application of Enbridge Energy, Limited Partnership for a Pipeline Routing Permit for the Line 3 Replacement Project*, MPUC Docket No. PL-9/PPL-15-137.

[3] Proposed Alternative Route Segment, filed by Kennecott Exploration Company on April 4, 2014 (MPUC Doc. ID 20144-98003-01), *In the Matter of the Application of North Dakota Pipeline Company LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project*, MPUC Docket No. PL6668/CN-13-474.

[4] Order Accepting Alternative Route and System Alternatives for Evidentiary Development, filed by PUC on August 25, 2014 (MPUC Doc. ID 20148-102500-02), *In the Matter of the Application of North Dakota Pipeline Company LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project*, MPUC Docket No. PL6668/CN-13-474; Comments and Recommendations of Minnesota Department of Commerce Energy Environmental Review and Analysis Staff, filed by DOC EERA on July 17, 2014 (MPUC Doc. ID 20147-101573-01), *In the Matter of the Application of North Dakota Pipeline Company LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project*, MPUC Docket No. PL6668/CN-13-474.

Kennecott and MN DNR concerns by avoiding crossings of the KEX Areas of Interest, while ensuring that Enbridge's environmental and constructability concerns are met.

C. Analysis of Potential Impacts.

Table 8 below compares the impacts of the Route Alternative to the corresponding segment of the April 2015 Route. The Route Alternative is 2.1 miles longer than the April 2105 Route. The Route Alternative is greenfield along its entire length of 7.2 miles, while the April 2015 Route contains 3.9 miles of greenfield crossing and follows existing right-of-way for 1.2 miles. Two residences are within 500 feet of the Route Alternative; no residences are within 50 feet of the Route Alternative. No residences are within 500 feet of the April 2015 Route, and no residences are within 50 feet of the route. The Route Alternative crosses fewer miles of NWI-mapped wetlands than the April 2015 Route, 1.0 miles versus 1.8 miles, respectively, but crosses one more wetland than the April 2015 Route. The Route Alternative crosses 1.3 miles more of prime farmland soils, and 0.6 miles more of highly wind erodible soils than the April 2015 Route. Both routes cross one perennial waterbody. The April 2015 Route crosses 7 active mineral leases, while the Route Alternative crosses no active mineral leases. The April 2015 Route crosses one more road than the alternative. Both routes avoid state trails, national forest, tribal and state land, trout streams, bedrock outcrops, and railroads.

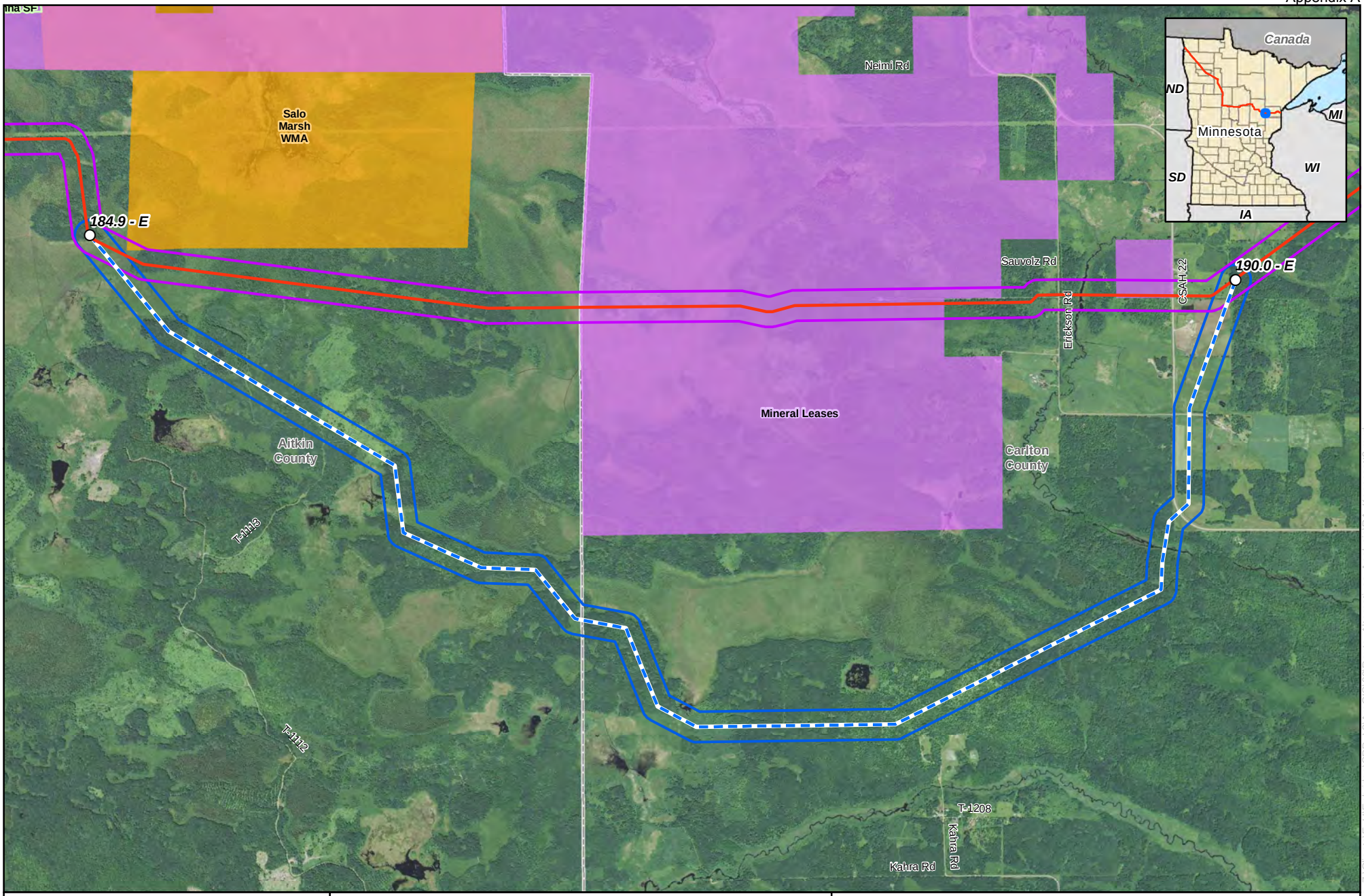
Enbridge proposes to adopt the proposed Kennecott 2 Route Alternative as part of its April 2015 Route as it does not introduce any significant impacts to environmental features as outlined in Table 8 and addresses private and state concerns with pipeline development across active mineral leases. Enbridge respectfully requests that MPUC accept the proposed Kennecott 2 Route Alternative as part of Line 3's April 2015 Route for further environmental analysis.

Table 8
Features Comparison of Kennecott 2 Route Alternative

Project Features	Unit	Kennecott 2 Route Alternative	April 24, 2015 Route [a]
Route Description			
Length of Alternative for Comparison [b]	Miles	7.2	5.1
Adjacent to Existing ROW	Miles	0.0	1.2
Greenfield Route [c]	Miles	7.2	3.9
Socio-economic Constraints			
Residences within 50 Feet	Number	0	0
Residences within 500 Feet	Number	2	0
Construction Constraints having Environmental Impacts			
NWI-mapped Wetlands	Miles	1.0	1.8
NWI-mapped Wetlands	Number	16	15
Prime Farmland	Miles	2.6	1.3
Highly Wind Erodible Soils	Miles	2.8	2.2

Table 8 Features Comparison of Kennecott 2 Route Alternative			
Project Features	**Unit**	**Kennecott 2 Route Alternative**	**April 24, 2015 Route [a]**
Perennial Waterbodies	Number	1	1
State Trails	Number	0	0
Construction Constraints in Crossing Federal, State and County Resources/Jurisdictions			
National Forest Land	Miles	0.0	0.0
Tribal Land	Miles	0.0	0.0
State Forest Land	Miles	0.0	0.0
State WMA Land	Miles	0.0	0.0
State AMA Land	Miles	0.0	0.0
Technical Constraints Having Associated Environmental Impact			
Trout Streams	Number	0	0
Active Mineral Leases	Number	0	7
Bedrock Outcrops	Miles	0.0	0.0
Railroads Crossed	Number	0	0
Roads Crossed	Number	1	2
Other Major Issues	Number	0	0

a The comparison analysis is based solely on publicly available desktop data.
b The comparison analysis begins at MP 184.9-E and ends at MP 190.0-E in Aitkin and Carlton counties, MN.
c Greenfield locations are defined for purposes of this Project as any portion of the route that is greater than 250-feet from the centerline of a known utility.



ENBRIDGE

0 1,500 3,000 Feet

N

Figure 8
Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Route Alternative - Kennecott 2

- Milepost
- April 2015 Centerline
- Kennecott 2 Route Alternative
- April 2015 700-foot Route Width
- Proposed 700-foot Route Width
- State Forest
- State Park and Recreation Area
- Aquatic Management Area
- Wildlife Management Area
- Indian Reservation
- Mineral Lease

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\RA_Kennecott2.mxd
Date: (9/28/2015)

IX. I-35 Route Alternative

A. Description.

As shown on Figure 9, the I-35 Route Alternative deviates from the April 2015 Route at MP 210.8-E and rejoins the route at MP 211.4-E, all being located in Carlton County, Minnesota. This alternative would modify the centerline of the April 2015 Route where it crosses mostly forested land. It would also expand the route width in this area to accommodate the HDD crossing of I-35.

B. Purpose.

A landowner near the Project crossing location of I-35 submitted a proposed route alternative in PUC Docket Number PL-6668/PPL-13-474[5] for the Sandpiper Pipeline Project in April 2014 to move a portion of the Sandpiper Route crossing their property. This route alternative was accepted by the Commission and advanced to Sandpiper's routing proceeding as "RA-48."[6] Enbridge proposes this alternative as a modification to the Sandpiper RA-48 to accommodate an expected similar request from the landowner for the April 2015 Route.

C. Analysis of Potential Impacts.

Table 9 below compares the impacts of the Route Alternative to the corresponding segment of the April 2015 Route. The Route Alternative is 0.1 mile longer than the April 2015 Route. The Route Alternative is greenfield along its entire route, while the April 2015 Route is greenfield along 0.2 mile of its length and co-located with existing right-of-way along the remaining 0.3 mile of its length. One residence is located within 500 feet of the Route Alternative; no residences are located within 50 feet of the Route Alternative. No residences are located within 500 feet of the April 2015 Route; no residences are located within 50 feet of the route. Both routes cross the same amount of NWI-mapped wetlands and the same number of individual wetlands. The Route Alternative crosses slightly more miles of prime farmland, 0.2 mile versus 0.1 mile, respectively, and both routes cross the same amount of highly wind erodible soils. Both routes cross the same number of roads. Both routes avoid perennial waterbodies, state trails, national forest, tribal and state land, trout streams, active mineral leases, bedrock outcrops, and railroads.

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[5] Forland Public Comment, filed by PUC on May 5, 2014 (MPUC Doc. ID 20145-99328-01), *In the Matter of the Application of North Dakota Pipeline Company LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project,* MPUC Docket No. PL-6668/PPL-13-474.

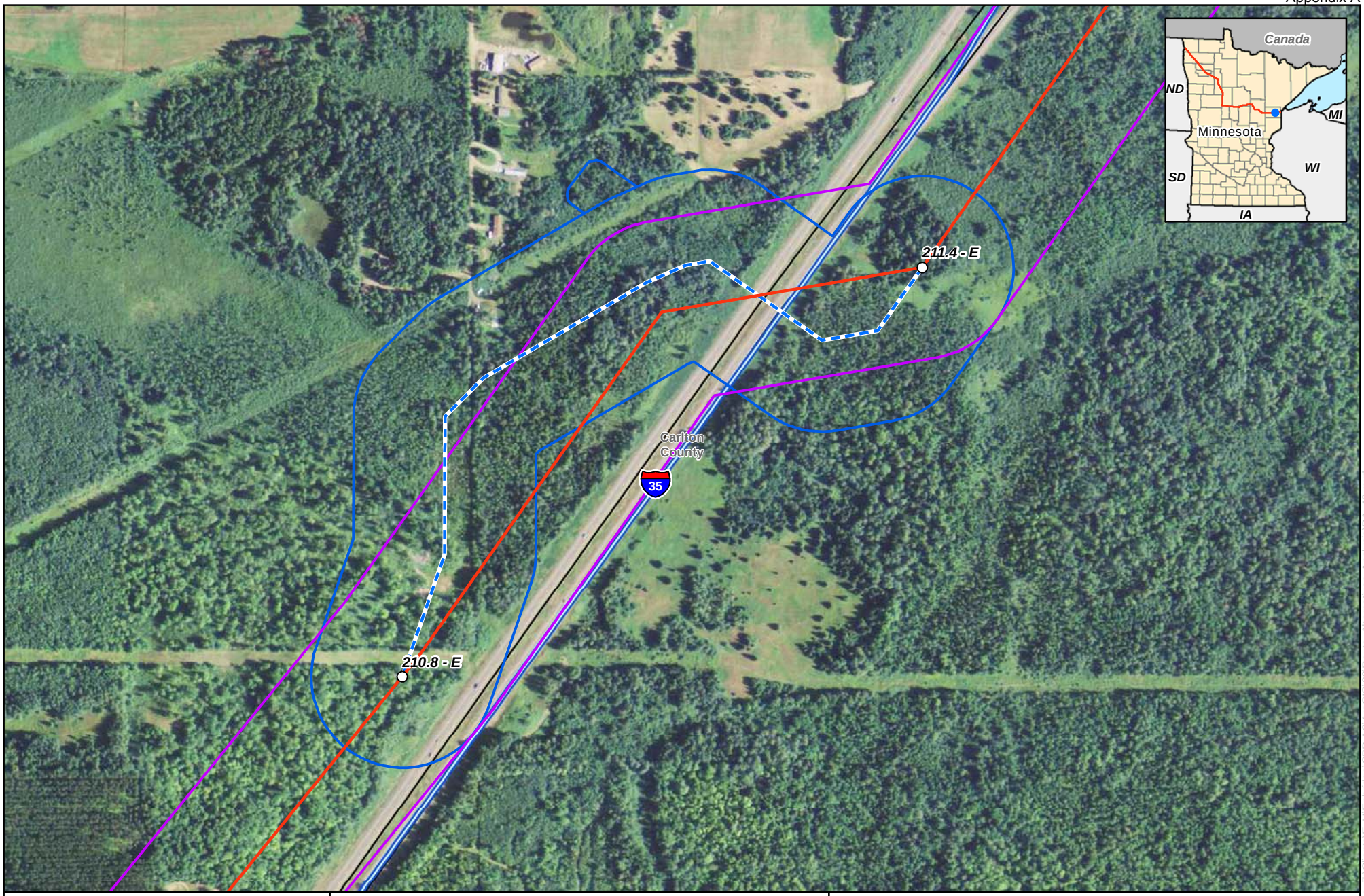
[6] Order Accepting Alternative Route and System Alternatives for Evidentiary Development, filed by PUC on August 25, 2014 (MPUC Doc. ID 20148-102500-02), *In the Matter of the Application of North Dakota Pipeline Company LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project*, MPUC Docket No. PL6668/CN-13-474; Comments and Recommendations of Minnesota Department of Commerce Energy Environmental Review and Analysis Staff, filed by DOC EERA on July 17, 2014 (MPUC Doc. ID 20147-101573-01), *In the Matter of the Application of North Dakota Pipeline Company LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project*, MPUC Docket No. PL6668/CN-13-474.

Enbridge proposes to adopt the proposed I-35 Route Alternative as part of its April 2015 Route, as it does not introduce any significant impacts to environmental features as outlined in Table 9 and accommodates a landowner request. Enbridge respectfully requests that the MPUC accept the proposed I-35 Route Alternative as part of Line 3's April 2015 Route for further environmental analysis.

Table 9
Features Comparison of I-35 Route Alternative

Project Features	Unit	I-35 Route Alternative	April 24, 2015 Route [a]
Route Description			
Length of Alternative for Comparison [b]	Miles	0.6	0.5
Adjacent to Existing ROW	Miles	0.0	0.3
Greenfield Route [c]	Miles	0.6	0.2
Socio-economic Constraints			
Residences within 50 Feet	Number	0	0
Residences within 500 Feet	Number	1	0
Construction Constraints having Environmental Impacts			
NWI-mapped Wetlands	Miles	0.3	0.3
NWI-mapped Wetlands	Number	4	4
Prime Farmland	Miles	0.2	0.1
Highly Wind Erodible Soils	Miles	0.2	0.2
Perennial Waterbodies	Number	0	0
State Trails	Number	0	0
Construction Constraints in Crossing Federal, State and County Resources/Jurisdictions			
National Forest Land	Miles	0.0	0.0
Tribal Land	Miles	0.0	0.0
State Forest Land	Miles	0.0	0.0
State WMA Land	Miles	0.0	0.0
State AMA Land	Miles	0.0	0.0
Technical Constraints Having Associated Environmental Impact			
Trout Streams	Number	0	0
Active Mineral Leases	Number	0	0
Bedrock Outcrops	Miles	0.0	0.0
Railroads Crossed	Number	0	0
Roads Crossed	Number	2	2
Other Major Issues	Number	0	0

a The comparison analysis is based solely on publicly available desktop data.
b The comparison analysis begins at MP 210.8-E and ends at MP 211.4-E, all being located in Carlton County, MN.
c Greenfield locations are defined for purposes of this Project as any portion of the route that is greater than 250-feet from the centerline of a known utility.



ENBRIDGE

0 300 600 Feet

N

Figure 9
Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Route Alternative - I-35

- Milepost
- April 2015 Centerline
- I-35 Route Alternative
- April 2015 700-foot Route Width
- Proposed 700-foot Route Width
- State Forest
- State Park and Recreation Area
- Aquatic Management Area
- Wildlife Management Area
- Indian Reservation
- Mineral Lease

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\RA_48.mxd
Date: (9/30/2015)

Expanded Route Width to Accommodate Additional Temporary Workspace Areas			
MP	**Request to Expand Route Width**	**Justification**	**Map Reference**
12.7-W	1130’ x 200’	Constructability – space needed to fabricate a pull string section of pipeline for an HDD crossing	B-1
39.6-W	2340’ x 200	Constructability – space needed to fabricate a pull string section of pipeline for an HDD crossing	B-2
87.3-W	2010’ x 200’	Constructability – space needed to fabricate a pull string section of pipeline for an HDD crossing	B-3
106.4-W	240’ x 200’	Constructability – space needed to fabricate a pull string section of pipeline for an HDD crossing	B-4
28.3-E	280’ x 150	Constructability – space needed to fabricate a pull string section of pipeline for an HDD crossing	B-5
158.8-E	2010’ x 200’	Constructability – space needed to fabricate a pull string section of pipeline for an HDD crossing	B-6

ENBRIDGE

0 150 300 Feet

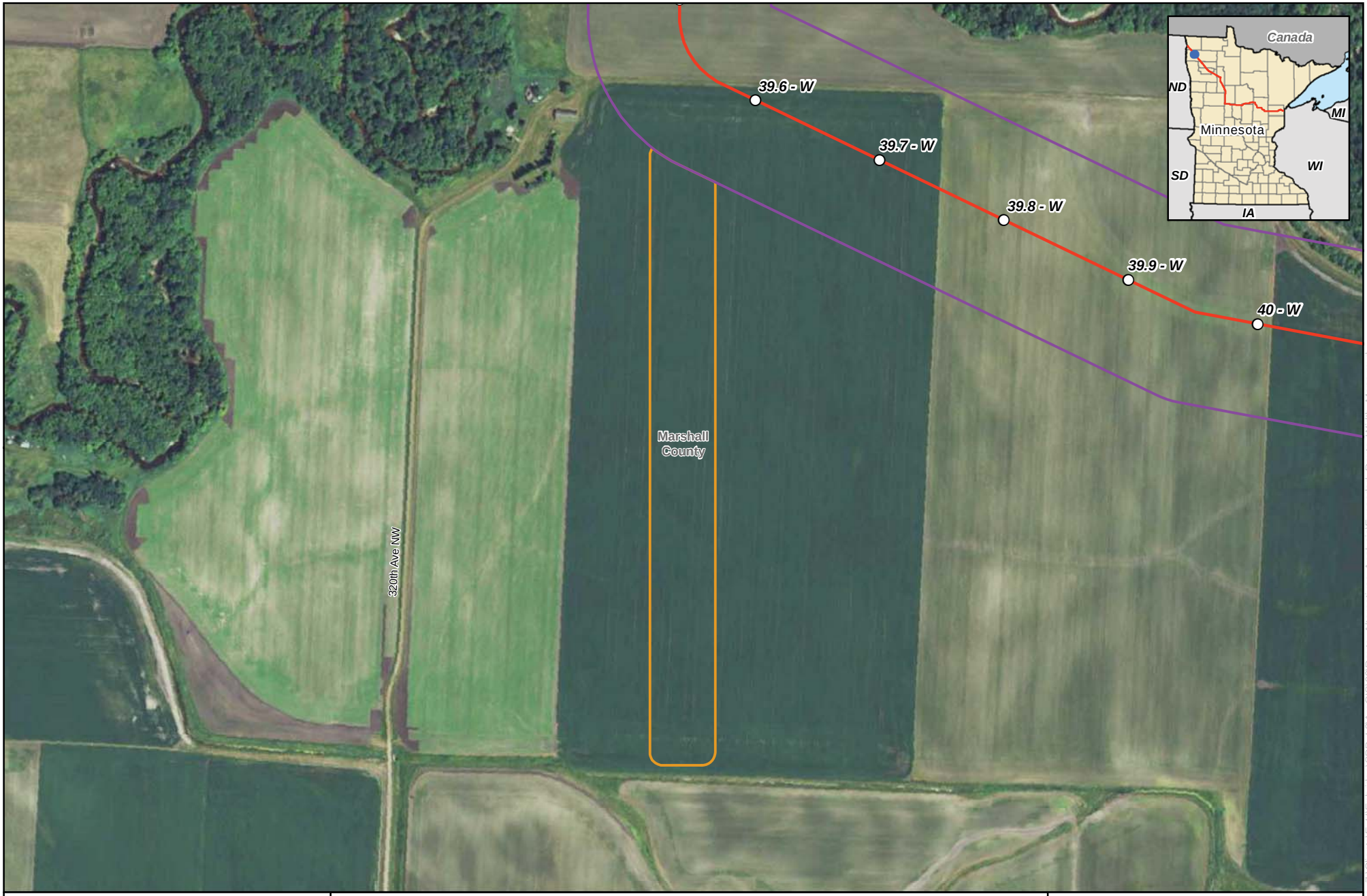
N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Expanded Route Width - MP 12.7 - W
B-1

- Milepost
- April 2015 Centerline
- April 2015 700-foot Route Width
- Expanded Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Expanded_Route_Width_Maps.mxd

Date: (9/29/2015)



ENBRIDGE

0 250 500 Feet

N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Expanded Route Width - MP 39.6 - W
B-2

- Milepost
- April 2015 Centerline
- April 2015 700-foot Route Width
- Expanded Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Expanded_Route_Width_Maps.mxd

Date: (9/29/2015)

ENBRIDGE

0 150 300 Feet

N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Expanded Route Width - MP 87.3 - W
B-3

- Milepost
- April 2015 Centerline
- April 2015 700-foot Route Width
- Expanded Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Expanded_Route_Width_Maps.mxd

Date: (9/29/2015)

ENBRIDGE

0 150 300 Feet

N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Expanded Route Width - MP 106.4 - W
B-4

- Milepost
- April 2015 Centerline
- April 2015 700-foot Route Width
- Expanded Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Expanded_Route_Width_Maps.mxd

Date: (9/29/2015)

ENBRIDGE

0 150 300 Feet

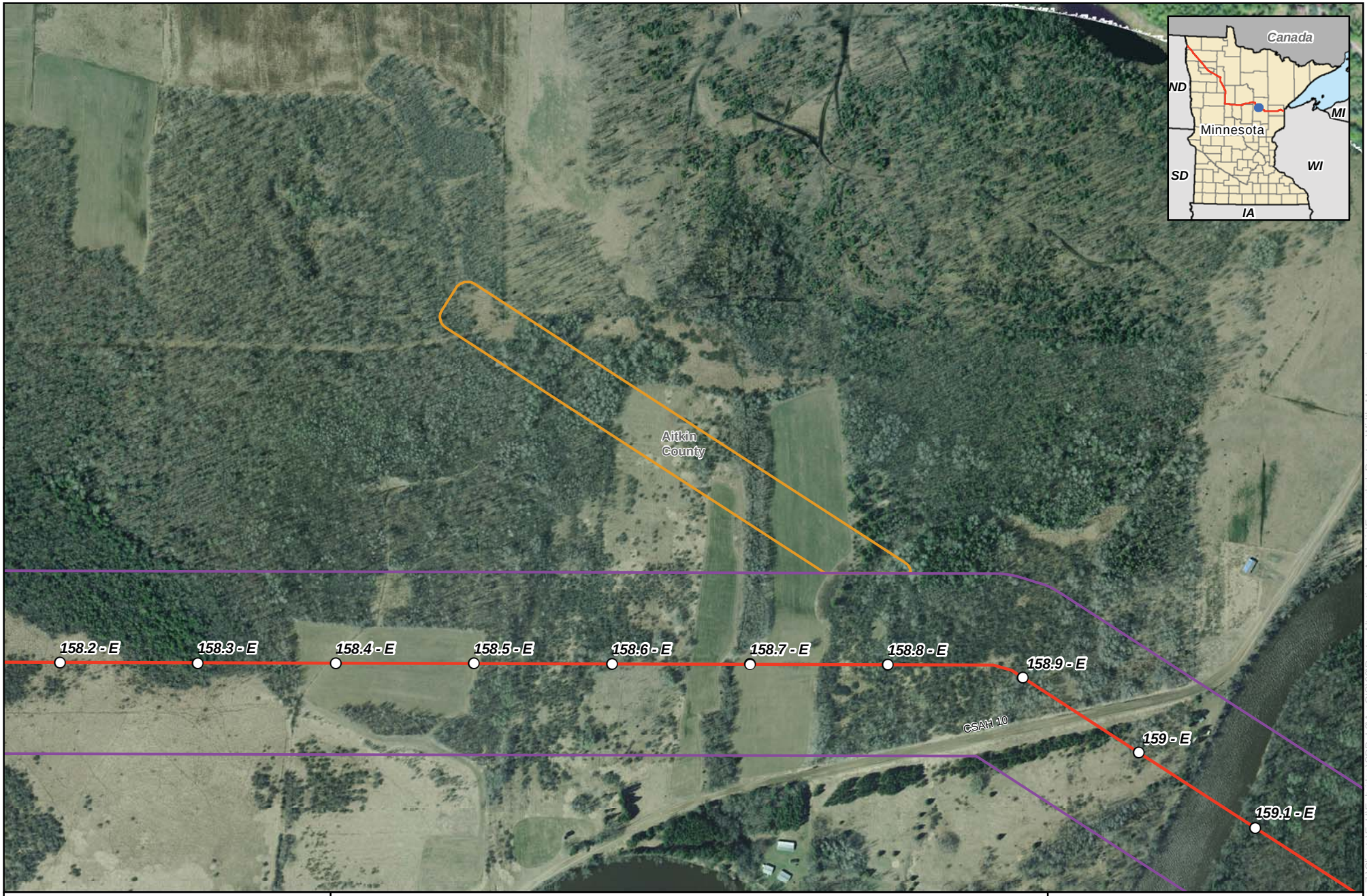
N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Expanded Route Width - MP 28.3 - E
B-5

- Milepost
- April 2015 Centerline
- April 2015 700-foot Route Width
- Expanded Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Expanded_Route_Width_Maps.mxd

Date: (9/29/2015)



ENBRIDGE

0 250 500 Feet

N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Expanded Route Width - MP 158.8 - E
B-6

- Milepost
- April 2015 Centerline
- April 2015 700-foot Route Width
- Expanded Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Expanded_Route_Width_Maps.mxd

Date: (9/29/2015)

Table C-1 Centerline Adjustments Due to Environmental Reasons				
Beginning Milepost	**Ending Milepost**	**Length (miles)**	**Justification**	**Map Reference**
14.12-W	14.19-W	0.07	Avoid wetland.	C-1.1
80.94-W	81.07-W	0.13	Avoid wetland.	C-1.2
97.07-W	97.30-W	0.23	Avoid wetland.	C-1.3
106.36-W	107.45-W	1.09	Avoid wetland.	C-1.4
117.85-W	118.59-W	0.74	Avoid wetland.	C-1.5
119.38-E	119.90-E	0.52	Avoid potential impacts on an area containing special status species identified during field survey in the vicinity of the Land O' Lakes State Forest.	C-1.6
180.90-E	181.83-E	0.93	Reduce the impacts to the Lawler WMA by crossing the WMA at a narrower point.	C-1.7

ENBRIDGE

0 100 200 Feet

N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Centerline Adjustment - MP 14.12 - W
C-1.1

- Milepost
- April 2015 Centerline
- Centerline Adjustment
- April 2015 700-foot Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Route_Adjustment_Maps.mxd

Date: (9/29/2015)

ENBRIDGE

0 100 200 Feet

N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Centerline Adjustment - MP 80.94 - W
C-1.2

- Milepost
- April 2015 Centerline
- Centerline Adjustment
- April 2015 700-foot Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Route_Adjustment_Maps.mxd

Date: (9/29/2015)

ENBRIDGE

0 100 200 Feet

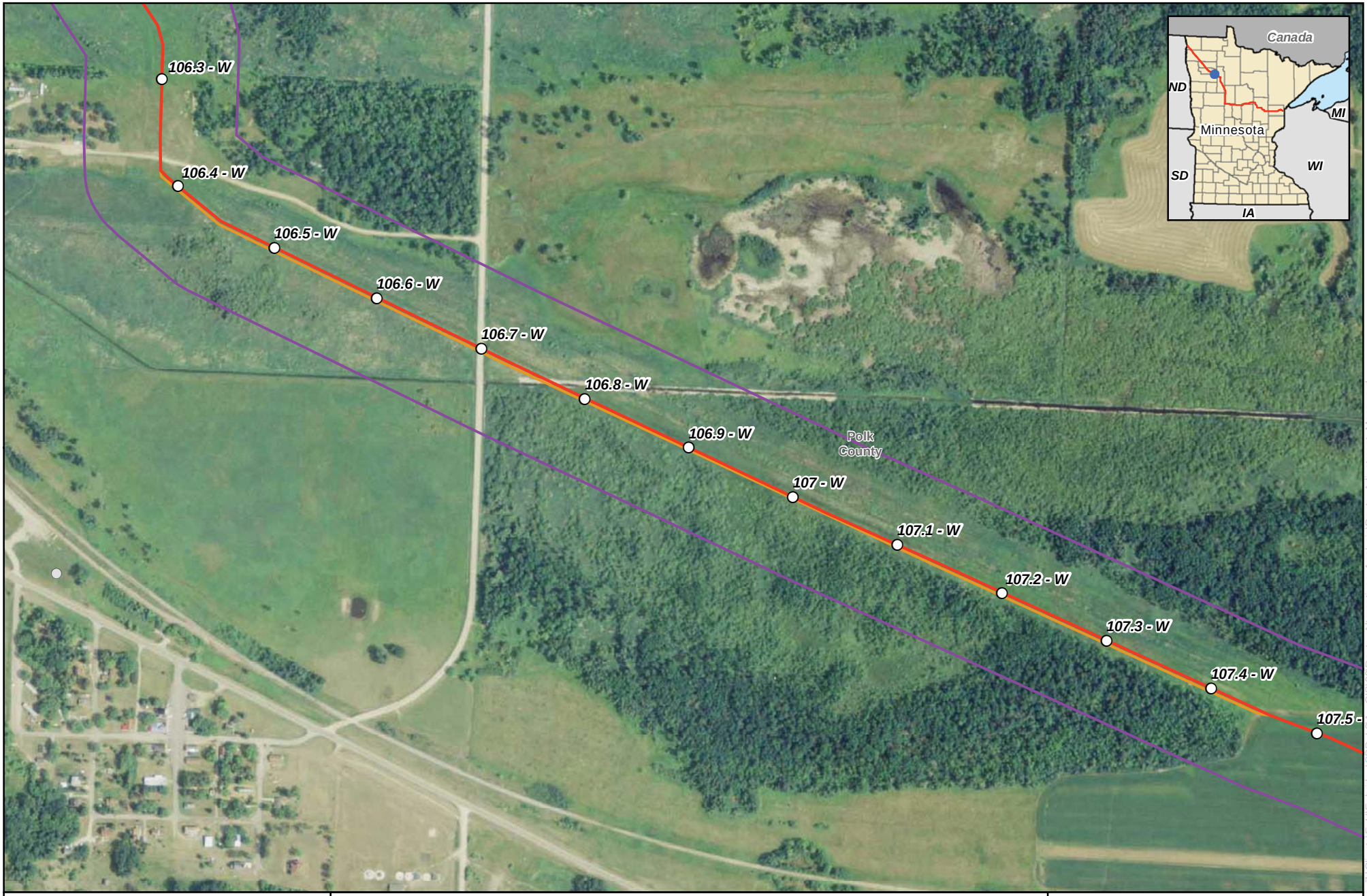
N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Centerline Adjustment - MP 97.07 - W
C-1.3

- Milepost
- April 2015 Centerline
- Centerline Adjustment
- April 2015 700-foot Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Route_Adjustment_Maps.mxd

Date: (9/29/2015)



ENBRIDGE

0 300 600 Feet

N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Centerline Adjustment - MP 106.36 - W
C-1.4

- Milepost
- April 2015 Centerline
- Centerline Adjustment
- April 2015 700-foot Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Route_Adjustment_Maps.mxd

Date: (9/29/2015)

ENBRIDGE

0 200 400 Feet

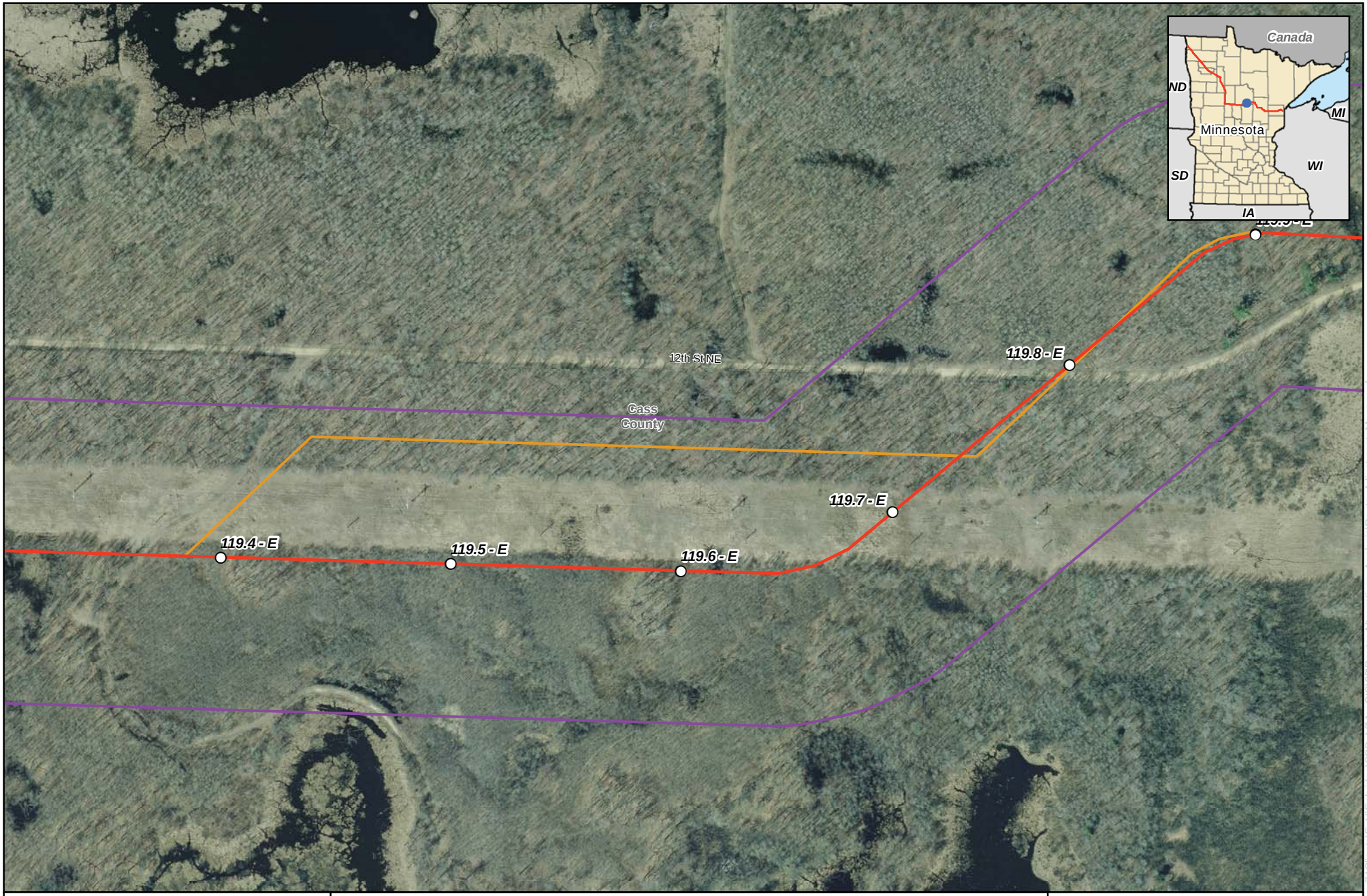
N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Centerline Adjustment - MP - 117.85 - E
C-1.5

- Milepost
- April 2015 Centerline
- Centerline Adjustment
- April 2015 700-foot Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Route_Adjustment_Maps.mxd

Date: (9/29/2015)



ENBRIDGE

0 150 300 Feet

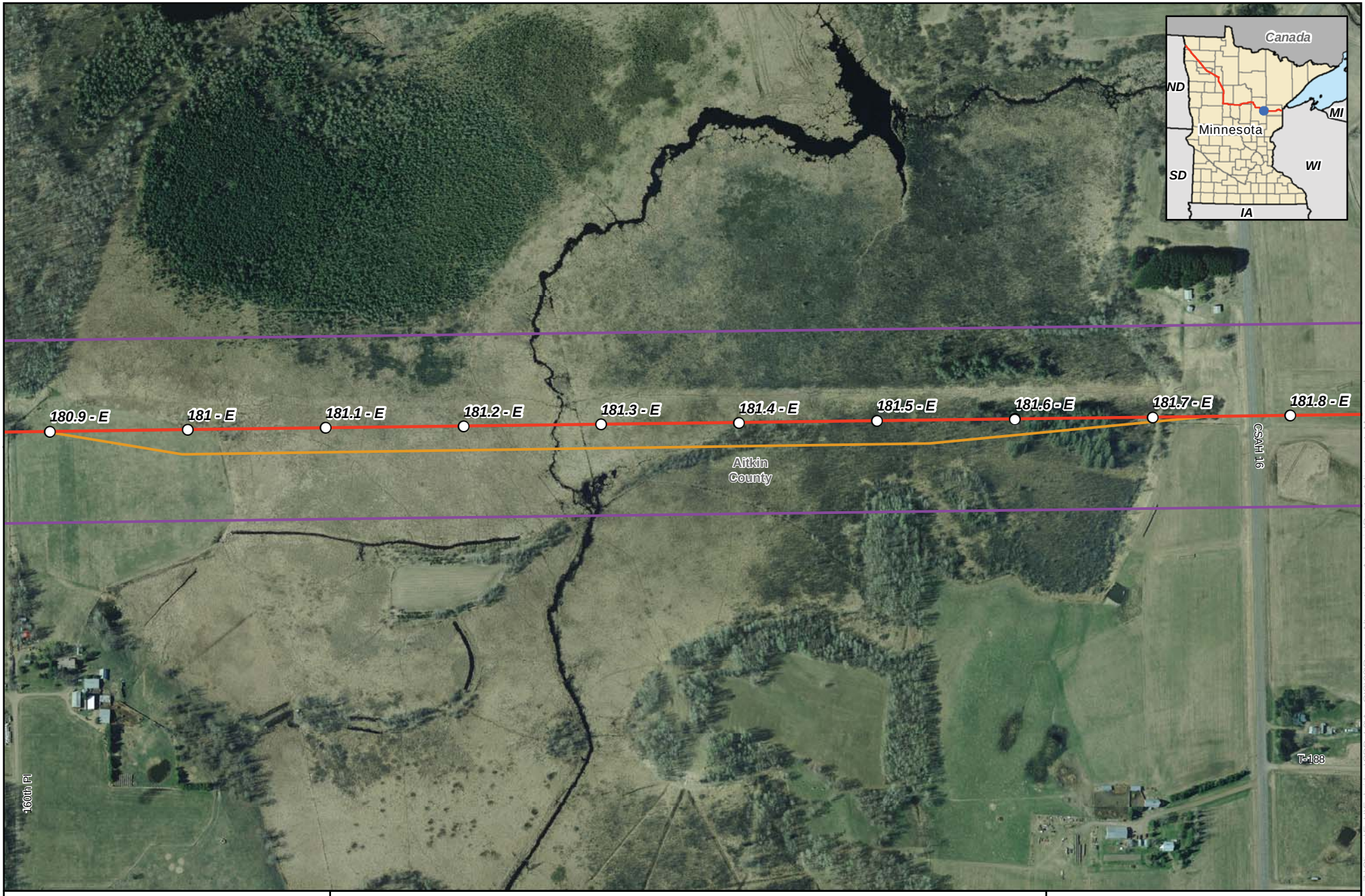
N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Centerline Adjustment - MP 119.38 - E
C-1.6

- Milepost
- April 2015 Centerline
- Centerline Adjustment
- April 2015 700-foot Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Route_Adjustment_Maps.mxd

Date: (9/29/2015)



ENBRIDGE

0 250 500 Feet

N

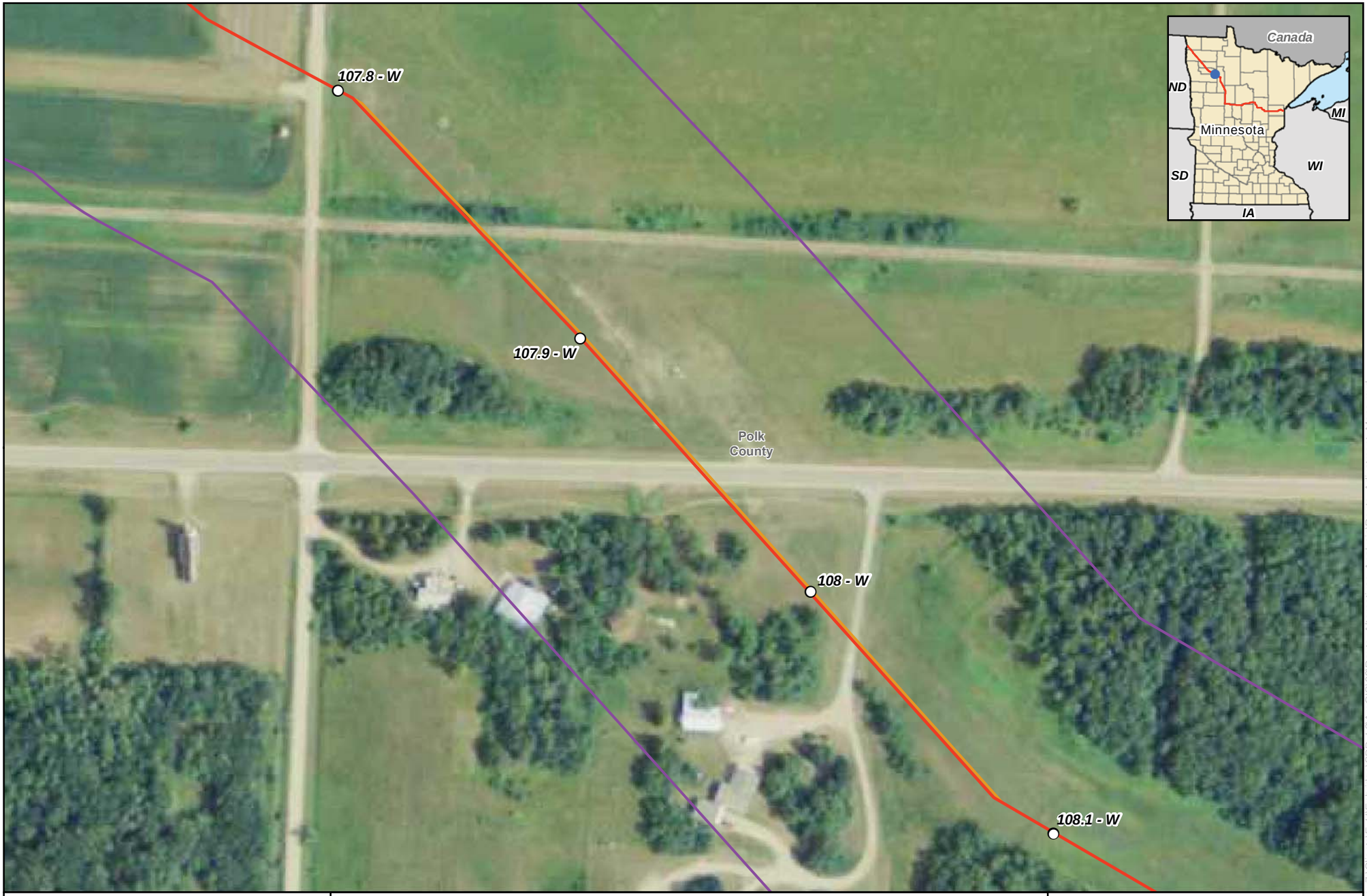
Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Centerline Adjustment - MP 180.90 - E
C-1.7

- Milepost
- April 2015 Centerline
- Centerline Adjustment
- April 2015 700-foot Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Route_Adjustment_Maps.mxd

Date: (9/29/2015)

Table C-2 **Centerline Adjustments Due to Landowner Reasons**				
Beginning Milepost	**Ending Milepost**	**Length (miles)**	**Justification**	**Map Reference**
107.80-W	108.08-W	0.28	Landowner requests pipeline be moved to avoid tree line.	C-2.1
2.34-E	2.70-E	0.36	Landowner requests pipeline be moved off property.	C-2.2
207.48-E	208.23-E	0.75	Landowner requests pipeline be moved off property.	C-2.3



ENBRIDGE

0 100 200 Feet

N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Centerline Adjustment - MP 107.80 - W
C-2.1

- Milepost
- April 2015 Centerline
- Centerline Adjustment
- April 2015 700-foot Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Route_Adjustment_Maps.mxd

Date: (9/29/2015)

ENBRIDGE

0 150 300 Feet

N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Centerline Adjustment - MP 2.34 - E
C-2.2

- Milepost
- April 2015 Centerline
- Centerline Adjustment
- April 2015 700-foot Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Route_Adjustment_Maps.mxd

Date: (9/29/2015)

ENBRIDGE

0 200 400 Feet

N

Enbridge Energy, Limited Partnership
Line 3 Replacement Project
Centerline Adjustment - MP 207.48 - E
C-2.3

- Milepost
- April 2015 Centerline
- Centerline Adjustment
- April 2015 700-foot Route Width

Source: Z:\Clients\E_H\Enbridge\SPP_L3\ArcGIS\09\Route_Alternatives_Analysis\Route_Adjustment_Maps.mxd

Date: (9/29/2015)