Minnesota Department of Natural Resources
500 Lafayette Road • St. Paul, MN • 55155-40_

September 30, 2015

Jamie MacAlister, Environmental Review Manager
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul MN 55101

Re: In the Matter of the Applications of Enbridge Energy, Limited Partnership for a Certificate of Need and a Pipeline Routing Permit for the Line 3 Pipeline Replacement Project in Minnesota from the North Dakota Border to the Wisconsin Border Public Utilities Commission (PUC)

Docket Numbers: PL-9/CN-14-916 – Certificate of Need
PL-9/PPL-15-137 – Route Permit

Dear Ms. MacAlister:

The Minnesota Department of Natural Resources (DNR) has reviewed the Application for a Pipeline Routing Permit for the Line 3 Pipeline Replacement Project in Minnesota. The DNR has also reviewed the Application for a Routing Permit for the Sandpiper Pipeline Project and participated in the Comparative Environmental Analysis (CEA) scoping process for the Sandpiper Pipeline Project. The following comments are provided regarding scoping routes and topics for analysis in the Line 3 CEA. The DNR understands that the CEA (or CEAs) will address both the Sandpiper Pipeline and Line 3 replacement project due to considerable overlap in the proposed route for both projects. Therefore, DNR comments will also discuss the Sandpiper Pipeline and reference portions of the Sandpiper Routing record for addition to the Line 3 record. Comments will include four categories: previously submitted and applicable Sandpiper Scoping comments, additional alternative routes for CEA analysis, additional topics for CEA analysis, and natural resource review of specific locations.

If additional analysis of Sandpiper System Alternatives is conducted in accordance with the September 14, 2015 Court of Appeals ruling reversing and remanding the Certificate of Need issuance for the Sandpiper Pipeline, then the DNR may have additional comments related to the Sandpiper Certificate of Need process. That process and associated comments may affect Line 3 routing. Until further direction is provided, the DNR is currently addressing specifically CEA scoping for the Line 3 and Sandpiper Projects and intends the following route recommendations to be considered alternatives in the Line 3/Sandpiper CEA. We would provide comments appropriate to an Environmental Impact Statement for the Sandpiper or Line 3 Certificate of Need and/or Routing if one is prepared.

Sandpiper CEA Scoping Comments

The DNR previously submitted the two attached comment letters (with enclosures) dated April 4, 2014 and June 10, 2014 regarding scoping for the Sandpiper CEA. These comments should be entered into this record as scoping comments for the Line 3 and Sandpiper CEA(s). Please note

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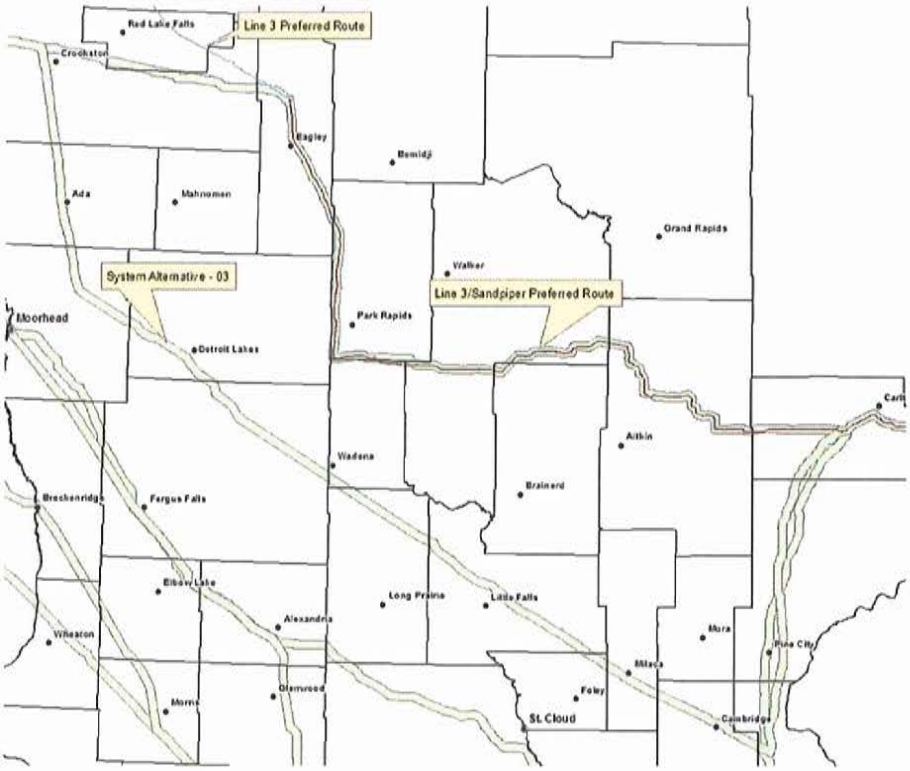
that routes recommended for Sandpiper scoping from the North Dakota border to Clearbrook, MN would apply only to the Sandpiper analysis and not to the Line 3 analysis as the routes are not proposed to be co-located for that segment.

Additional Alternative Routes for CEA Analysis

Until reviewing the CEA, the DNR *does not* advocate or support one route over another. After reviewing the CEA, the DNR *may* identify routing with less natural resource impacts to assist with the natural resource element of the routing criteria the PUC considers for a routing decision. The DNR carefully considered the proposed route and routing possibilities in the project vicinity and seeks additional information regarding the following alternatives. We encourage comparison of environmental impacts and other routing criteria between these alternatives and the Applicant Preferred Route. With an emphasis on natural resource concerns and topics of DNR jurisdiction, the following comments will focus on natural resource criteria included in Minnesota Rules, part 7852.1900. The DNR understands that minor adjustments or route width changes to address developing information as this process continues, or to address constructability issues, may be necessary.

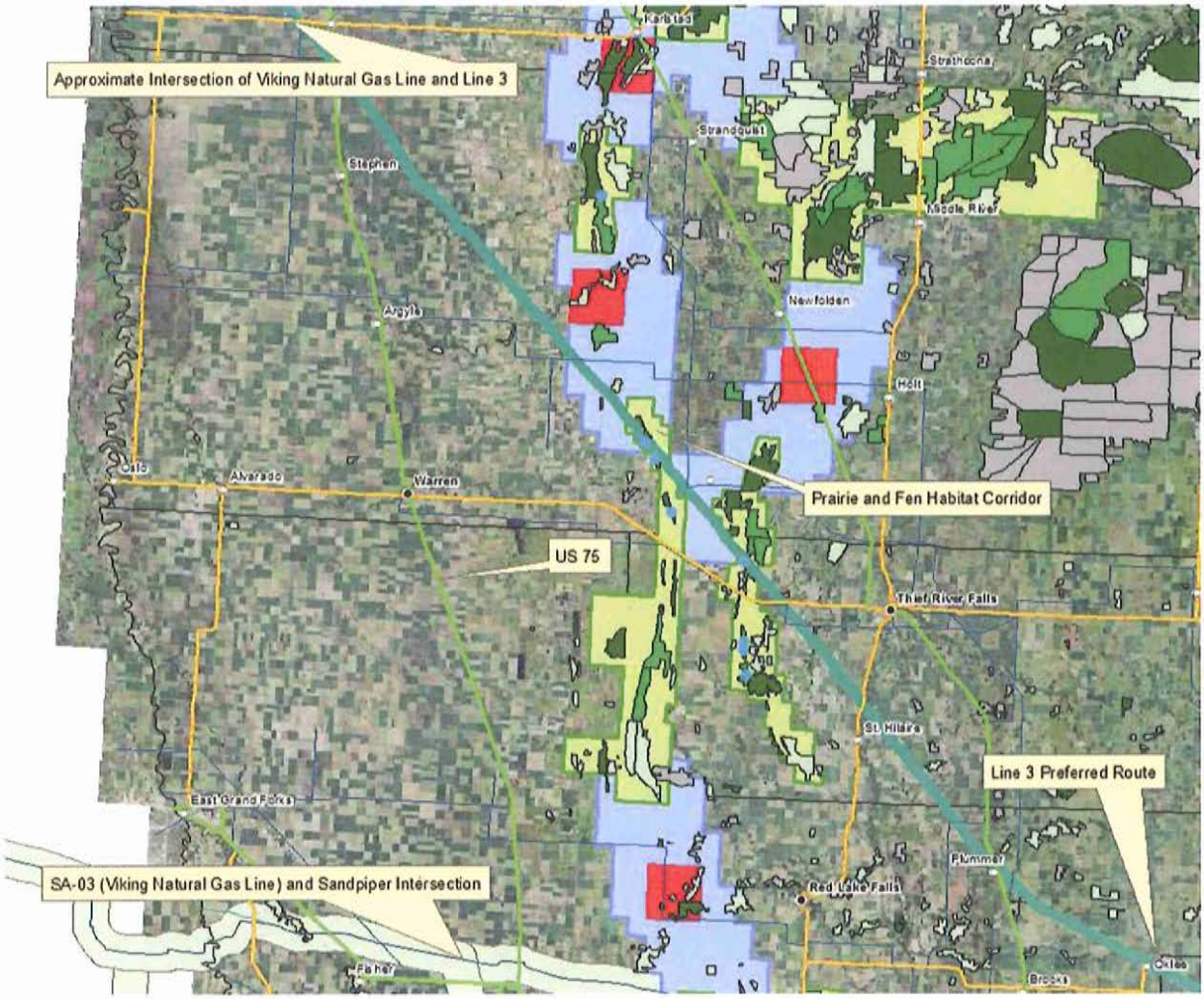
System Alternative 03 (SA-03)

The DNR recommends that the Line 3 CEA analyze System Alternative 03 (SA-03), as proposed during the Sandpiper CEA scoping comment period and subsequent Sandpiper Certificate of Need comment periods. We request that SA-03 be considered a "Route Alternative" in the Line 3 Routing Process. Please see the map below depicting SA-03. SA-03 veers off of the Sandpiper Preferred route near Crookston and follows the Viking Natural Gas Line south and southeast, then turns north on the Norther Natural Gas Line to reconnect with the Sandpiper Preferred Route. The DNR review during the Sandpiper Certificate of Need proceeding found that the SA-03 route provides an opportunity to avoid a region of the state with a higher concentration and quality of natural resources. Also, the Department of Commerce, Division of Energy Resources found that the SA-03 System Alternative was economically feasible. However, SA-03 is a challenging route in locations. The DNR requests that the following variations to SA-03 be analyzed in the CEA to determine if it is possible to further reduce natural resource impacts. Also, SA-03 would need to be extended north to connect to Line 3, as described below.



SA-03 Northern Extension Alternative

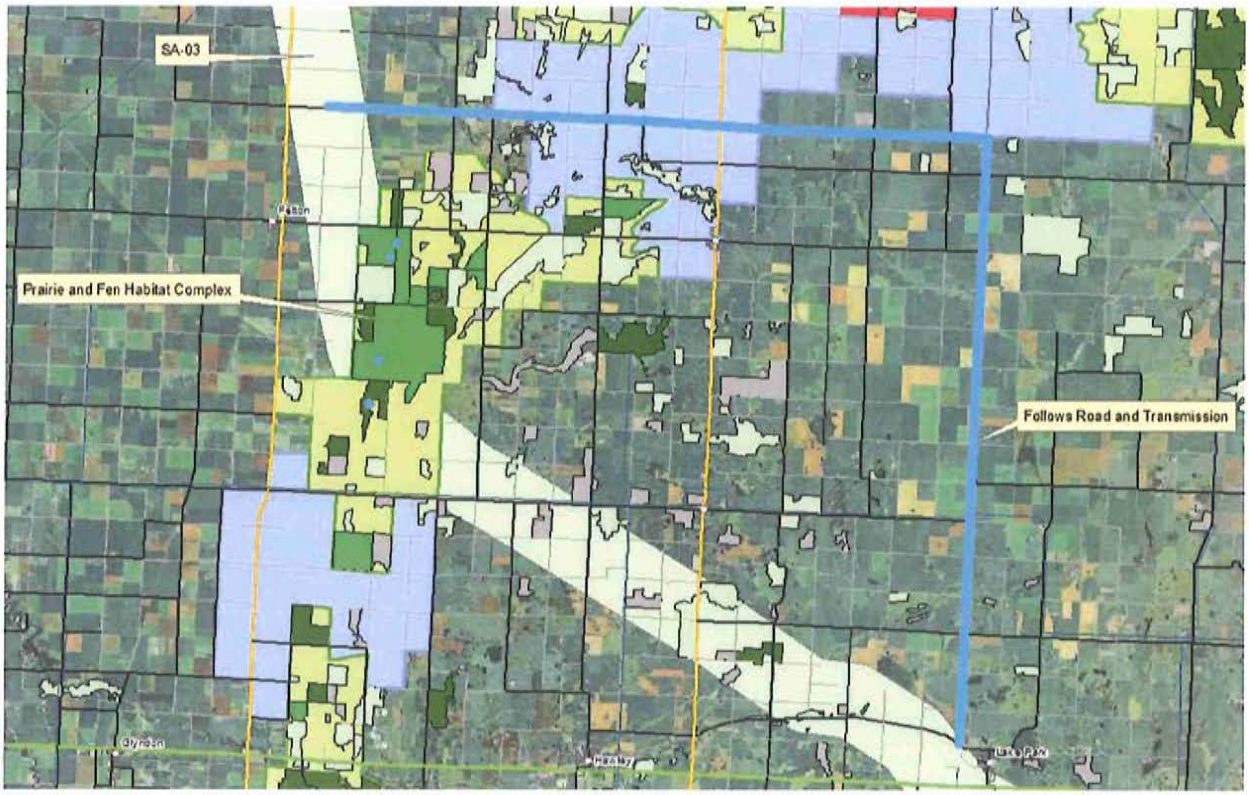
For SA-03 to meet up with Line 3, an extension of SA-03 to the north from the Sandpiper Preferred Route to the Line 3 Preferred Route in Polk and Marshall Counties would be necessary. Taking this extended SA-03 route would also reduce impacts to fens, Minnesota County Biological Survey Sites of Biodiversity Significance, and portions of the MN Prairie Conservation Plan core area in comparison to the Line 3 Preferred Route in that area of the state. Please see the following map depicting the proposed intersection points with Sandpiper and Line 3 Preferred Routes. The route would continue to follow the Viking Natural Gas Line north between the Sandpiper and Line 3 Preferred Routes. The DNR recommends that SA-03 be modified in the CEA analysis to connect to Line 3 when discussing Line 3 alternatives. Note that DNR shapefiles for this alternative are from a non-public United States Department of Transportation source. Therefore the actual line is not depicted in the following map in compliance with USDOT guidance regarding use of pipeline location data. The approximate location is between the North Dakota border and US 75. This data layer is available to state agencies by contacting the USDOT.



SA-03 Prairie Fen Avoidance Alternative

The DNR recommends that the Line 3 CEA consider a variation of SA-03 to near Felton, MN to avoid a habitat complex including fens, Minnesota Biological Survey sites of High and Outstanding Significance and a core area of the Minnesota Prairie Conservation Plan. The following map depicts a way to cross this sensitive Glacial Lake Agassiz beach ridge area with significantly less impacts to MBS sites, prairie, fens, and the MN Prairie Conservation Plan corridor than there would be along SA-03. Routing would proceed south along SA-03, then east along County State Aid Highway (CSAH) 40, continue on to Clay County T-367, then south along the Minnkota Power Cooperative 69 kV Transmission Line, and continue south on CSAH 7 to meet up with the SA-03 corridor.

This route (depicted in blue) would cross the MN Prairie Conservation Plan corridor in an area where the DNR hopes to increase grassland and restoration activities, but where conservation of existing prairie is the lowest priority out of the rankings. Where there are willing landowners, there may be the opportunity here to manage a pipeline right of way with native species and complement the goals of the MN Prairie Conservation Plan for the zone crossed (depicted as purple in image below).



SA-03 Detroit Lakes Alternative

The DNR recommends that the Line 3 CEA consider a variation of SA-03 to reduce impacts to the Detroit Lakes area. Detroit Lakes area is a population center with important public water and fisheries resources. The area is a popular fishing and recreational area. Reducing leak risk and avoiding challenging constraints in this area is important. The DNR recommends that the CEA analyze a route (depicted in blue) veering off of SA-03 near the town of Audubon by following the Otter Tail Power Company 230 kV Transmission Line Corridor east to the Xcel Energy Otter Tail Power Company Interconnection 230 kV Transmission Line Corridor. The alternative would then turn south along SA-03 Modified. We also wish to specify that the corridor should be wide enough in the vicinity of the intersection of the Line 3 Preferred Route, SA-03 Modified, and the Xcel Energy Transmission Line for the route to avoid the Lowe Wildlife Management Area (WMA) and associated imperiled native plant communities. The route may have to veer south to meet up with SA-03 Modified at Wadena County Township 260 to avoid the WMA.

SA-03 Modified Shortcut

The DNR recommends analysis of a variation to SA-03/SA-03 Modified intended to reduce the length of SA-03/SA-03 Modified, the number of public water crossings and improve the route by avoiding higher population areas. The route (depicted below in blue) would proceed from the west: southeast on SA-03 Modified, then northeast on US 169 to avoid Milaca, east on MN-23 to the intersection with MN-65, then straight cross country to CSAH 11 to avoid Mora, north on CSAH 11 to reconnect with MN-23, then east on MN-23 to connect with the SA-03 Modified corridor.

In-place Repair of Line 3

The CEA should thoroughly discuss the option of repairing the existing Line 3 in place and compare the environmental affects and risks to other new routing options.

Additional Topics for CEA Analysis

The DNR previously provided the attached scoping comments dated April 4, 2014, June 10, 2014 regarding topics that should be analyzed in the Sandpiper CEA. Those topics would all still apply to the Line 3 and Sandpiper CEA(s). Additional topics should be included to address the subsequent addition of SA-03 Modified to the routing review and the cumulative impacts of adding the Line 3 pipeline to the Sandpiper corridor. Please consider the attached Sandpiper CEA scoping comments and the following comments as part of the record for the Line 3 CEA scoping comment period.

SA-03 Modified

SA-03 Modified is located farther southeast in MN than routing alternatives in the vicinity of the Line 3/Sandpiper Preferred Routes. DNR reviewers further considered the scope of the CEA, emphasizing features that may be present in the vicinity of SA-03 Modified. The following features occur in central and southeast Minnesota and should be considered in the CEA. Some features may also be found along other Route or System Alternatives. Comments below also provide information that can be used in CEA development regarding SA-03 Modified.

Karst Features
Karst topography is a landscape formed from the dissolution of soluble rocks such as limestone and dolomite. Karst regions are predominantly found in the southeastern portion of Minnesota and have important implications with respect to geotechnical testing, infiltration, and ponding of runoff. Of particular concern in karst settings is the formation of sinkholes as a result of hydraulic head build up, dissolution of carbonate rock, and erosion of bedrock.

Native Prairies
Minnesota once had 18 million acres of prairie, but today only a little over 1% of native prairie remains. Habitat fragmentation, loss of plant and animal species, degradation of soil and water resources, and invasive species are a few of the immediate threats to this system. The preservation of native prairie habitat protects viable populations of native prairie plants and animals that were once numerous. The CEA should discuss avoidance of native prairie and the possibility of drilling underneath unavoidable native prairie. Also, existing pipeline corridors, and disturbance from new pipeline construction, have the potential to be revegetated with native prairie species. This could contribute to the creation of corridors that link isolated native prairie plant communities, prairie easements, and prairie conservation lands.

Trout Streams
Native trout are an important natural resource in the state of Minnesota. Every year, the DNR improves land management practices around trout streams to ensure successful management of trout populations and their habitat. Trout streams are protected under Minnesota law because of their economic, recreational, and ecological importance.

Blanding's Turtle Priority Area
The Blanding's turtle is a threatened species in Minnesota, whose habitat has mostly been lost due to habitat fragmentation. The Blanding's turtle Priority Protection Areas identify land that contains critical habitat for the Blanding's turtle, and can support large concentrations of individuals.

Rare Natural Wetland Communities under Minnesota Wetland Conservation Act (WCA)
The CEA should discuss Rare Natural Wetland Communities under the WCA (Minnesota Rules 8420.0515, Subpart 3). Under WCA, Rare Natural Wetland Communities have been identified as a) a native plant community with conservation status rank of S1, S2, or S3; or b) any native plant community that is within a Site of Biodiversity Significance of outstanding or high ranking. The CEA should discuss these native plant communities and requirements regarding them in the WCA.

Biodiversity Hotspots
These have been identified as areas where the following features are concentrated: Sites of Biodiversity Significance, Native Plant Communities, and Rare Species. When they occur together, these features represent highly sensitive ecological areas that contain unique and high quality natural resources that are vulnerable to development pressures.

- Sites of biodiversity significance (SBS) - are chosen due to the presence of native plant communities, rare species and populations, and the condition of the surrounding landscape. They represent ecologically sensitive lands within an intact, functional

landscape that is large enough to support long-term survival of rare species and communities. The SBS significance rank is based on the quality and condition of the features identified within the site.

- Native plant communities (NPC) - are groups of native plants that interact with each other and their surrounding environment in ways not greatly altered by modern human activity, or by introduced plant or animal species. NPCs provide habitat for native and rare species that may otherwise have been lost because of development. An NPC conservation status rank reflects the relative imperilment statewide of each type.
- The Natural Heritage Information System (NHIS)- provides information on the location and status of Minnesota's state-listed rare plants, animals, native plant communities, and geologic features. The presence of a rare feature is one indication of the ecological vitality of an area, where plant and animal diversity help the landscape to maintain important ecological functions. The DNR is charged with protection of state-threatened and endangered species.

Impacts to Relatively Undisturbed Lands

The amount of impacts to relatively undisturbed lands should be considered in comparing impacts among alternatives. Existing corridors and cultivated lands are already disturbed by the mixing and compaction of soils, application of pesticide treatments, removal of natural vegetation, and introduction of invasive species. Routes cleared through intact landscapes will introduce corridors of disturbance for hydrology, plant communities, and wildlife. Forests are especially susceptible to fragmentation, as transition zones caused by changes to light and wind patterns create a corridor wider than the initial disturbance. New construction corridors also create paths for the introduction of invasive species that reach far into formerly buffered forest and wetland interiors.

Public Lands

Where some existing pipelines cross WMA lands, access issues have arisen (example: Villard WMA).

In some cases, pipeline owners do not want logging trucks to drive across pipeline corridors. This can limit the DNR's access to state lands for habitat management and timber harvest. In some cases, there are alternative routes of access; however, maintaining access to our lands by crossing over pipelines is important to area managers.

The contiguous land base in state parks provides suitable habitat that attracts a wide variety of bird and animal species. Potential impacts to these species should be evaluated not only within those impact areas themselves, but also within the context of proximity to the park and the species diversity it harbors. Analysis should include the following:

- Conversion of forest or wetland cover types, increases in edge habitats, introductions of non-native species, and impacts to water resources.
- There are many seeps and springs in in some areas. A comprehensive evaluation of not only surface water impacts, but an in-depth analysis of ground water flow should be conducted to better understand how spills might affect water resources, including trout streams.
- Any emergency response planning needs to consider the potential impact on recreational

park users for a variety of recreational purposes.

Water Quality
The quality of waters crossed by pipelines is an important consideration when addressing potential impacts to humans and the environment. Pipelines have the potential to adversely affect human interests (water consumption, recreation, economics), fisheries benefits (species diversity, human consumption), and ecological functions (groundwater protection, aquatic biodiversity). We recommend a comparative analysis of water quality indicators for the water bodies to be crossed. Understanding the biotic and abiotic features that determine water quality is an important component of determining project impacts. Pollutants, turbidity, and biological indicators are recommended gauges of a water quality comparison.

Fisheries
The DNR requests information regarding parameters used in the Valve Placement Analysis and requests that the CEA explore the use of power generators at valve sites. Also our April 8, 2013 and April 4, 2014 letters recommended valves be placed at all trout stream crossings.

The CEA should include methods of minimizing impacts on state lands crossings where riparian trout stream corridors are permanently altered. Some lands, such as Aquatic Management Areas (AMA), were purchased to protect streams from development and other land use changes. Riparian zone cover is important for maintaining healthy trout populations by protecting water quality as well as maintaining desired water temperature, providing seasonal trout habitat and suitable conditions for aquatic insects and other prey.

Protecting areas by providing increased buffer zones consistent with pipeline integrity and management would be beneficial. If offsetting this impact with proper onsite mitigation cannot be achieved, the DNR may suggest crossing techniques such as Horizontal Directional Drilling (HDD).

GIS Layers
The following GIS Layers would be helpful in development of the CEA, particularly for the central to southeastern portion of the state. The DNR is also available to provide additional information to CEA writers regarding DNR data such as GIS layers.

City boundaries
State lands by Administrator
Trout Streams
Public waters / wetlands / basins
Calcareous fens
Karst features
MBS Sites of Biodiversity Significance
Scientific and Natural Areas
Wild Rice Lakes
Aquatic Management Areas
Wildlife Management Areas
State parks, rec areas, waysides

State forests
Forest Stand Inventory
High Conservation Value Forest
School Trust Fund Lands
MBS Railroad ROW Prairies
NWI wetlands
Topography-steep slopes
Groundwater susceptibility
DNR Native Plant Communities
MN Prairie Conservation Plan
Rare Features Data

Right-of-Way Widening Impacts

The cumulative impacts of Line 3 and Sandpiper and any future reasonably foreseeable future projects in the right-of-way (ROW) should be discussed. The total width of the ROW, increased habitat fragmentation effects to species, increased work areas needed, and vegetation impacts are examples of the types of impacts that should be discussed.

Existing Line 3 Closure

The CEA should discuss closure methods for the existing Line 3 location. Risks of any spills, leaks, or other natural resource impacts should be discussed along with mitigation measures for preventing impacts. For example flushing and plugging the line should be discussed. The possibility of land subsidence as the pipeline corrodes and weakens should also be discussed.

Access Roads

The CEA should discuss the impacts associated with any roads built for the purpose of accessing the line or shut off valves. Methods of mitigating those impacts, such as winter construction, should also be included.

Topsoil Segregation

The CEA should discuss segregation of topsoil as a mitigation measure in areas that are forested or have native plant communities as well as in agricultural areas.

Spill Prevention and Analysis

The CEA should discuss cathodic protection, pipeline integrity, spill response planning, and appropriate placement of shut-off valves. The DNR suggests shut off valves before major hydrology units and trout streams (example: Mud Lake, which feeds into the Long Prairie River in Todd County).

The CEA should discuss soils and groundwater conductivity in relation to routing. For example, land use changes in the sandy soils of the Anoka Sand Plain have a high potential to affect groundwater resources.

A spill analysis should be completed, addressing various leak scenarios and locations.

The record should discuss financial assurance to address pipeline restoration, closure, and/or spills if the project owner is unable to cover those costs.

Natural Resource Review of Specific Locations

In the course of providing scoping comments, DNR staff conducted reviews of specific areas along route alternatives to inform above comments. The DNR also previously reviewed System Alternatives during development of the Sandpiper Certificate of Need record. Portions of that review would be helpful for comparing the Preferred Route with SA-03 Modified (and SA-03 if accepted into this scope). This level of detail is not available for the entire project and the following review is not comprehensive. However, the DNR is providing the following data for inclusion in the CEA:

SA-03 Modified from Isanti/Mille Lacs county line to Pine/Carlton county line
The alternative would cross the Rum River, a Wild and Scenic River and water trail, west of and upstream from Cambridge. The Rum River has good populations of walleye, northern pike, and smallmouth bass as well as other game and non-game fish. The pipeline corridor would require two river crossings in a relatively short stretch of river.

SA-03 Modified would have to cross either Fannie Lake or Skogman Lake or cross a wetland/stream area between the two lakes along Highway 95. These lakes have recreational fisheries for northern pike, largemouth bass, crappies, and sunfish. Both are on the state's impaired waters list for excess nutrients. The CEA should include a discussion of this area and any possible mitigation measures for impacts.

The corridor includes the headwaters of a currently designated trout stream, Beaver Creek, northeast of North Branch. However, the stream has been proposed for removal from the designated trout stream list because it no longer has conditions that support trout.

The line would cross several warm water tributaries to the St. Croix River several miles from where they enter the St. Croix. The tributaries include the North Branch of the Sunrise River, Goose Creek, Rush Creek, and Rock Creek. Shutoff valves would need to be designed appropriately to minimize the potential for spills to reach the St. Croix River, a National Scenic Riverway and recreational fishery that includes lake sturgeon, a state threatened species.

The line would cross the Snake River east of Pine City. Fish species in the river include lake sturgeon, walleye, northern pike, muskellunge, and smallmouth bass.

SA-03 Modified fisheries impacts listed above would be avoided by routing the pipeline along the Highway 23 corridor.

HWY 23 Connector Milaca to Hinckley
The portion of Highway 23 from Ogilvie to the intersection with Interstate 35 is in the Hinckley area. Streams affected would include two branches of the Groundhouse River, Ann River, Snake River, Spring Brook, Mud Creek, and the two branches of Pokegama Creek. The Ann River would be crossed a short distance upstream from Fish Lake, a popular recreational fishery for

walleye, northern pike, largemouth bass, crappie, and sunfish. The Snake River is an important warm water fishery that includes lake sturgeon. Pokegama Creek flows into Pokegama Lake, a popular recreational and fishing lake. All of the streams are in the Snake River Watershed, which has an approved Total Maximum Daily Load (TMDL) for various impairments. There are seven warm water stream crossings along this route, including the Ann River and Snake River. This alternative would be less impacting than SA-03 Modified from a fisheries standpoint because stream crossings would not be in close proximity to the St. Croix River.

Near Hinckley SA-03 Modified Route
The corridor includes two designated trout streams: Mission Creek and Spring Creek. Crossings of both of these could be avoided and still stay within the corridor area.

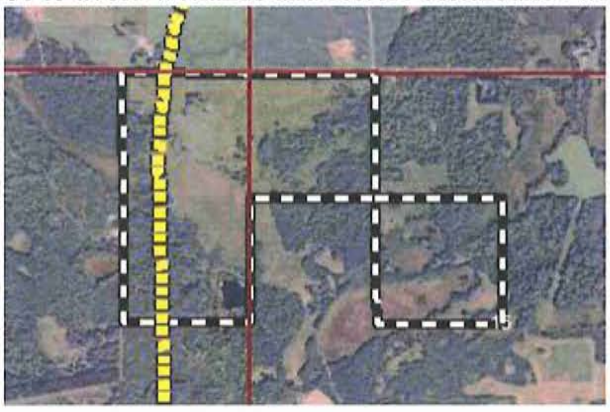
The line would have to cross the Grindstone River, a warm water tributary to the Kettle River. This stream has some recreational fishery value for northern pike and smallmouth bass. Several other warm water tributaries to the Kettle River lie within the corridor. One of these, Skunk Creek, is currently not on the designated trout stream list but has been proposed to be added.

Fox Lake (58-0102) lies within the corridor; this 200 acre lake is a popular recreational fishery for largemouth bass, northern pike, crappie, and sunfish. Crossing the lake, or work in proximity of the shoreline, should be avoided.

The line would have to cross the Kettle River near the town of Sturgeon Lake, and several tributaries to the Kettle River are within the corridor. The Kettle River is a state designated Wild and Scenic River and has a population of lake sturgeon, a state threatened species. Other game fish include walleye, northern pike, and smallmouth bass. The Kettle is one of the most important scenic and recreational rivers in the area.

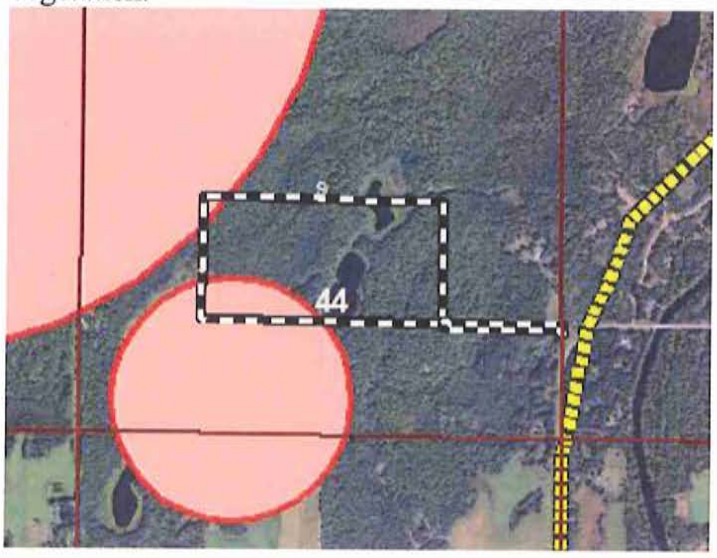
Sturgeon Lake and Mark Lake WMAs along SA-03 Modified Alternative

Sturgeon Lake WMA (West side of corridor T45. R20. NE16 & NW15) Land cover is forested, open and wetlands with wetlands in SE corner of WMA. Mitigation for possible impacts would be to avoid wetlands and restore disturbance with native vegetation.



Mark Lake WMA (East side of corridor T44. R20. S 1/2. S.9) Land cover is forested and wetlands with wetlands in the south east corner of the WMA. The rare plant Thread Like Naiad is present. Mitigation for possible impacts would be to avoid wetlands and conduct a rare

species survey prior to ground disturbance. Also, disturbance should be rehabilitated with native vegetation.



Public Resource, Recreational Lands and Land Cover and Forestry
Previous comparison of the Preferred Route and System Alternatives did not make a distinction between State Forests and State Lands Administered by DNR Forestry, other DNR Divisions or County tax forfeit and only named State Forests. Therefore the analysis did not appear to compare the total amount of public forest lands. The DNR is aware that there is a higher occurrence of state public owned lands in the Applicant's preferred route than any other System Alternatives.

Generally, there would be more potential impacts to forestry from the Applicant's Preferred Route than previously reviewed southern System Alternatives. Routes in the forested region of the state will permanently convert forested uplands and wetlands to open habitats. Impacts of a new or wider fragmented areas include; decreased habitat value for wildlife and fisheries, reduction of core habitat in adjacent forests due to edge effects, conversion of habitat (i.e., changes from forested wetlands to open or shrub wetlands), and increased risk of invasive species. The pipeline will result in the permanent loss of income from timber harvests or other income producing activities on the parcels. Compensation is required for impacts to both School Trust and Acquired lands.

There are also concerns regarding the potential for severing of access to state parcels for land management activities. This concern would apply to both legal access across licensed/leased (or purchased) lands and the ability to run fully loaded semi-trucks carrying logs across the pipeline. This is a concern even if the pipeline runs across private property. DNR works with private owners to gain the shortest and most efficient access to state land across private land. The main concerns are Forestry lands in several sections in the Applicant's preferred route. There is also a concern for fire suppression activities anywhere the pipeline might be constructed.

Water Resources

A trout stream layer may provide useful information regarding the quality of resources to be crossed by the pipeline. The northern routes pose potential significant spill resource impact, especially if additional emergency shut off valves were not installed near sensitive water resources, such as trout streams. The most sensitive locations for potential spills include those areas that are proximate to surface waters such as lakes wetlands or streams or where groundwater is near the surface. Because of the remoteness of the pipeline route in some areas in northern Minnesota this exacerbates the problem if a spill or leak were to occur.

Though more streams are crossed in southern areas, there should also be an analysis of the quality of the streams crossed as compared to the other alternatives. The Preferred Route crosses a large number of lakes, streams and wetlands within the northern lakes and forested ecoregions. These are generally the highest quality recreational water resources in the state. This can be observed within the Minnesota Pollution Control Agency's (PCA) ecoregion concept for evaluating nutrient and trophic condition criteria for surface waters as well as other aquatic habitats that have been evaluated by the PCA and DNR statewide for transparency, floristic quality, aquatic plant richness and fish (index of biological integrity) IBI scores.

The Enbridge Sandpiper and Line 3 proposed routes parallels and crosses significantly important habitat of the several important smaller streams, rivers, flowages, lakes and wetlands. Concerns exist in all alternatives in the Northeast Region (Preferred Route and SA-03). Impacts may be dependent on the actual pipeline alignment. Some details of these areas of concern are included below.

Specific water resources concerns

A spill in the vicinity of the Sandy River would be particularly damaging. The Preferred Route crosses numerous ditches that would provide direct surface route of crude oil to the Sandy River area. Besides the Sandy River crossings, there are numerous surface water connections immediately upstream of walleye spawning sites and wild rice areas. The CEA should assess line spills/leaks or long term seepage issues that could negatively affect the walleye spawning and wild rice beds of the Sandy River, Flowage Lake and Salo Marsh WMA. The Sandy River is crossed in two locations and the Preferred Route would be placed in floodplain areas of the Sandy River as well as the Salo Marsh WMA which is the headwaters of the Sandy River.

The reaches of the Sandy River just upstream from the first crossing above Steamboat Lake near proposed crossing at mile post 543.3 is near walleye spawning habitat important to sustaining the walleye population in the Sandy River system, including Big Sandy Lake. DNR is concerned about the risk of chronic and acute perturbation from seeps and ruptures to this naturally reproducing population of walleye, especially at the crossings, ditches and floodplain that flow into the Sandy River east of County Rd 62 and extending to the Salo Marsh WMA. The proposed crossing and parallel route may also impact the Sandy River Flowage a large and significant natural wild rice area just upstream of Big Sandy Lake. If a spill were to occur in this stretch of pipeline, there is little to prevent it from quickly moving downstream to the walleye spawning area, wild rice beds as well as Big Sandy Lake.

In addition, Big Sandy Lake is currently listed as impaired due to excessive nutrients (phosphorus), which further demonstrates the need for conservative measures for projects to minimize impacts in this watershed. Lakes in the Northern Lakes and Forests Ecoregion are given lower thresholds for impairment since these waters are expected to be higher quality as compared to water resources in more agricultural or urban watersheds in in more southern and western ecoregions.

There are concerns with routing in the trout stream designated portion of the Moose Horn River, depending on the exact pipeline alignment. This stream segment contains naturally reproducing Brook Trout. Non-trout stream portions of the Moose Horn River will have to be crossed, regardless of the pipeline placement within these corridors, and these segments of the stream support populations of Walleye, Northern Pike, Burbot and Sunfish. In addition, and of most concern, is the potential presence of Lake Sturgeon, which is a species of special concern within Minnesota. Lake Sturgeon have been documented in the Moose Horn River system as far upstream as Moosehead Lake, but may also be present further upstream as there are no known migration barriers above Moosehead Lake. Lake Sturgeon are present in Moosehead Lake during the spawning season, and therefore impacts to potential spawning areas of this species from an accidental release would be a serious concern.

The following lakes could be significantly impacted by an unintended release into the Moose Horn River, as the river flows through these water bodies: Hanging Horn Lake and Moosehead Lake. Hanging Horn Lake is managed for Lake Trout, Tullibee, Walleye, Northern Pike, Black Crappie, Largemouth Bass, Bluegill and Yellow Perch. Moosehead Lake is managed for Walleye, Black Crappie, Bluegill, Lake Sturgeon, Northern Pike and Yellow Perch. These are both high quality gamefish lakes.

The uppermost reaches of the Blackhoof River would be crossed by northern routes, with potential for the need to cross several additional tributaries within this system, depending on alignment choice. These areas of the Blackhoof are designated trout stream, although these upper reaches do not typically contain trout and support a warm/coolwater fish community including Northern Pike, Bullhead, Perch, and Pumpkinseed Sunfish.

While the area of potential crossing may be a lower quality trout stream segment, the Blackhoof River is unquestionably the highest quality tributary within the entire Nemadji Watershed system, with abundant wild trout populations in the lower 25 miles of stream. The Blackhoof not only supports resident Brook and Brown Trout, it also provides the majority of quality spawning and rearing habitat accessible to anadromous trout from Lake Superior including Rainbow Trout, Brown Trout and Coaster Brook Trout. An accidental release into this stream system could create a serious impairment to not only this stream, but could also impact important fisheries within Lake Superior.

Ellstrom Lake could be significantly impacted by an unintended release into the Blackhoof River, as the river flows through this waterbody downstream of the potential crossing area. Ellstrom Lake is managed for Walleye, Northern Pike, Black Crappie, Largemouth Bass, and Yellow Perch.

On the eastern portion of the Preferred Route, the pipeline will likely have to cross one or more designated trout streams or designated trout tributaries of either Clear Creek or the Red River. Both of these stream systems support naturally reproducing Brook Trout. King Creek is a designated trout stream flowing within both of these corridors, and may be impacted depending on the exact pipeline alignment. King Creek is on a management list for future brook trout reintroduction.

The Preferred Route would have to cross both the main and west branches of the Kettle River. The Kettle supports a very significant population of Lake Sturgeon, a species of special concern within Minnesota. Other important game and non-game species present in this river system include Chestnut Lamprey, American Brook Lamprey, Bowfin, Northern Pike, Channel Catfish, Burbot, Bluegill, Smallmouth Bass, Largemouth Bass, Black Crappie, Yellow Perch and Walleye. The Kettle River Lake Sturgeon population is in a more advanced state of recovery than many other populations around the state, therefore increasing the seriousness of impact in the situation of an accidental oil release.

Contaminated Sites
Caution should be used when considering contaminated sites as a comparison feature between routes. It may be matter of opinion about what is better for a pipeline, a contaminated or non-contaminated area. Impacts may be lessened or avoided based on construction design or if they are able to entirely avoid the area within the corridor.

Minerals
In the Tamarack area, near the Aitkin-Carlton County border, several Route Alternatives are being carried forward by PUC in the Sandpiper Routing docket for comparative analysis that could alleviate risk associated with metallic mineral resource/pipeline conflict. Over the rest of the Preferred route and previously reviewed System Alternatives, presence of metallic mineral resources is highly uncertain and mineral resource information is insufficiently detailed to suggest that one of the System Alternatives has more or less merit from a metallic mineral resource perspective. For aggregate, crushed stone and peat resources, compensation would be required for any encumbrance that precludes extraction activities due to the presence of the pipeline.

The Preferred Route remains a concern in the Tamarack area. For comparative purposes the value of metallic minerals in this area is potentially order(s) of magnitude greater than nonmetallic resources.

In accordance with MN Rules 6125.07, the state and county may grant surface leases, permits and licensed to any portion of the surface under state metallic mineral lease, after consultation with the lessee. However, the surface leases, permits, or licenses shall not unduly interfere with exploration or mining operations conducted on the mining unit.

In addition, in selecting a route for the pipeline, the commission is guided by the criteria specified in Minnesota Rules, part 7852.1900, Subp. 3. The principal relevant criteria in this situation include: existing and planned future land use, economies within the route, including industrial and mining operations, natural resources, and relevant policies and rules of other state

agencies. The state mineral lease was in effect prior to this Project application and must be considered in any route determination.

The DNR also has safety concerns with the possibility of having both future crude oil pipeline and mining operations on the same state-owned lands.

CEA Development Coordination
In addition to the above detailed information, the DNR will work with the Department of Commerce to submit additional work the DNR completed during the Sandpiper Certificate of Need environmental analysis comparing System Alternatives. Some of that review, though not always directly applicable, would provide information for writing the CEA and would inform the various topics we have suggested be scoped into the CEA during this comment period.

Thank you for the opportunity to provide comments regarding scoping for the proposed Line 3 and Sandpiper Pipeline Comparative Environmental Analyses. Please contact me with any questions.

Sincerely,

Jamie Schrenzel
Principal Planner
Environmental Review Unit
(651) 259-5115

Enclosures: 2

cc: Scott Ek, Minnesota Public Utilities Commission
Lorraine Little, Enbridge

Minnesota Department of Natural Resources
500 Lafayette Road • St. Paul, MN • 55155-40_

May 30, 2014 (Replacement Letter June 10, 2014)

Larry Hartman
Environmental Review Manager
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul MN 55101

Re: Extended Comment Period - Application of North Dakota Pipeline Company, LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project in Minnesota
PUC Docket Number: PL-6668/PPL-13-474
ERDB: 20130269

Dear Mr. Hartman:

The Minnesota Department of Natural Resources (DNR) appreciates the extension of the review period regarding the Pipeline Routing Permit Application for the Sandpiper Pipeline Project. The DNR previously submitted comments dated April 4, 2014. Please consider the following supplemental comments in addition to those submitted April 4, 2014 regarding the Pipeline Routing Permit Application.

Spire Valley AMA and Hatchery

Page 18 of the April 4, 2014 DNR comment letter explains the substantial construction and leak risk concerns regarding crossing Spring Brook in or near the Spire Valley Aquatic Management Area (AMA). As explained in more detail in the April 4, 2014 letter, this area includes a trout stream and a uniquely located, highly valuable, and sensitive fish hatchery. Due to a shallow artesian aquifer, the DNR is concerned that construction in this area may intercept the aquifer, causing a possible loss of flow to the hatchery. As previously described, it is not acceptable for a loss of flow to occur, even for a few hours.

The Spire Valley Aquatic Management Area (AMA) is also federally funded by Dingell-Johnson Sport Fish Restoration funding administered by the United States Fish and Wildlife Service (USFWS). The DNR must receive federal approval prior to issuing a License to Cross Public Lands and Waters for this area and any other state administered land crossing with federal funding. Obtaining a DNR License to Cross Public Lands and Waters in areas requiring federal approval requires a considerably longer review period, as previously described on page 28 of DNR's April 4, 2014 letter. Due to the sensitive nature of this crossing, additional review information may be required compared to other federal approvals, including possibly the need for an Environmental Assessment and the associated process time.

To address concerns regarding the Spire Valley AMA, the DNR met with representatives from the North Dakota Pipeline Company, LLC (NDPC) and discussed information needs and possible solutions. The DNR appreciates the thorough coordination occurring with the project proposer regarding this topic. In order to assess the depth to the aquifer, potential project

impacts, and necessary mitigation measures (including alternative routes) near the Spire Valley AMA; the DNR is working with NDPC to carefully plan geotechnical borings in a manner that will not impact the aquifer. The DNR issues temporary leases for this type of data collection.

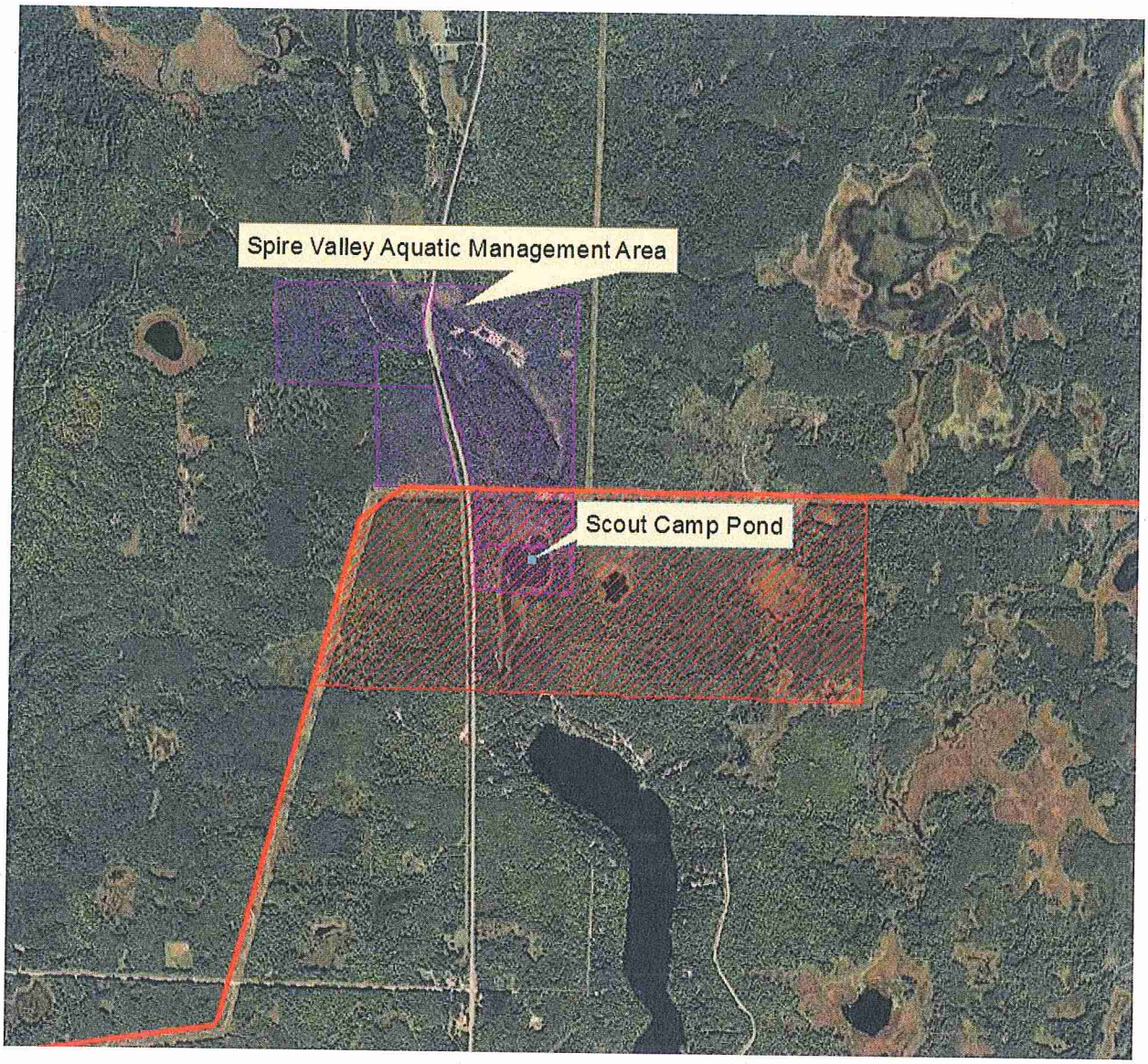
Until more investigation is completed and more engineering options are considered, there is uncertainty about the feasibility of constructing through this area. Therefore, the DNR recommends including the additional routing options described below in the CEA. Routing through this Lake Country region of the state is challenging and many options were considered before recommending route ideas for further analysis. It is important to also thoroughly explore creative engineering solutions through the AMA. For example, the CEA should clarify whether the pipeline could be buried above ground with a tunnel for the trout stream to avoid trenching the trout stream or puncturing the artesian aquifer with horizontal directional drilling.

Additional Routing Alternatives

Until reviewing the CEA, the DNR *does not* advocate or support one route over another. After reviewing the CEA, the DNR may identify routing with less natural resource impacts to assist with the natural resource element of the routing criteria the PUC considers for a routing decision. We encourage, and look forward to learning from, a comparison of these routing alternatives with a variety of proposed routing alternatives from NDPC, public commenters, organizations, and government agencies to best inform the Pipeline Routing Permit decision.

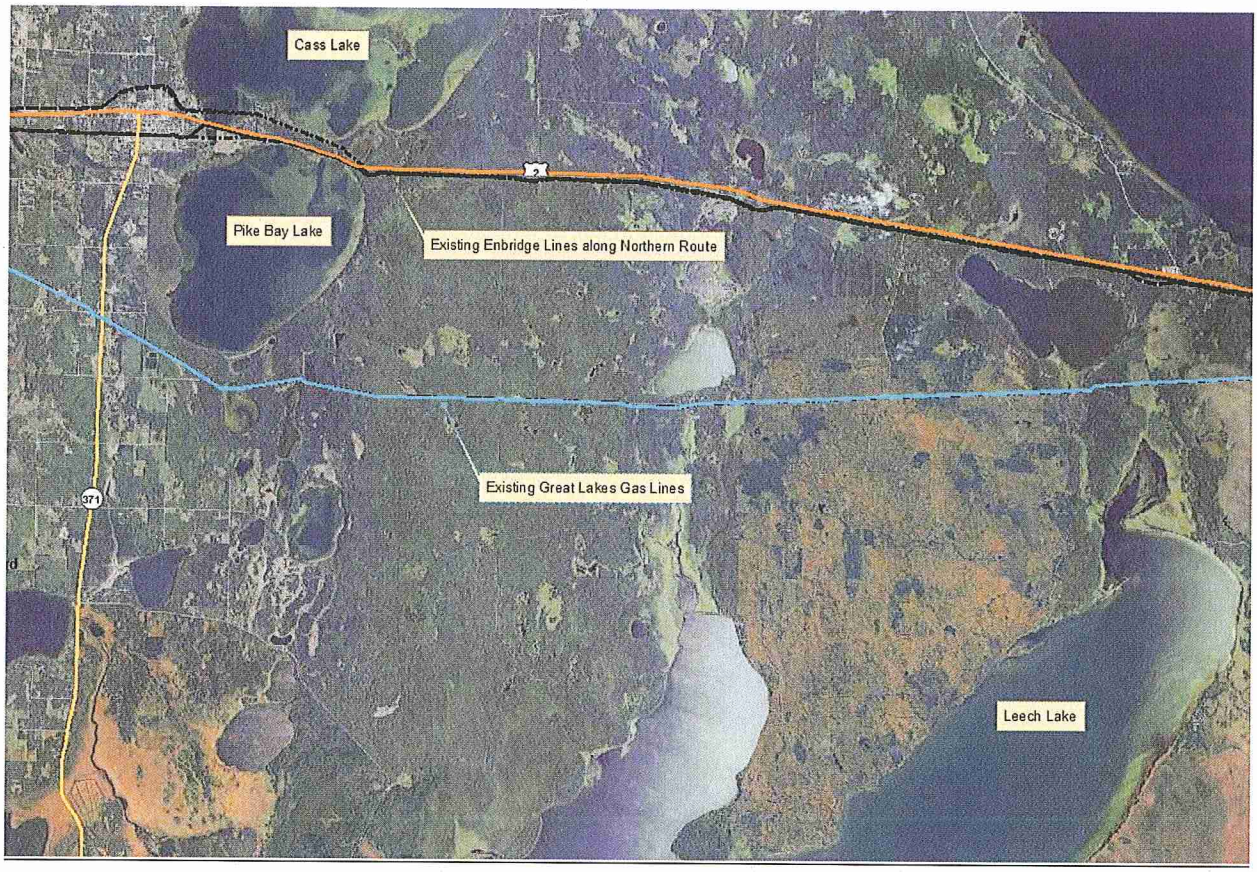
Spire Valley Route Widening Alternative

The DNR recommends widening the route width to be analyzed in the CEA approximately one half mile to the south along the Preferred Route at the crossing of Spring Brook at the Spire Valley AMA. Routing just south of Scout Camp Pond may help buffer possible hydrologic impacts to the Spire Valley hatchery due to construction activities. Though this would increase greenfield routing and forestry impacts, added flexibility is needed in this area to address substantial fisheries concerns. Note that there is limited geotechnical data currently available in the vicinity of the AMA. It is possible this route width increase may not fully address concerns regarding impacts to the hatchery. More investigation is needed.


Spire Valley Aquatic Management Area
Scout Camp Pond

Great Lakes Gas Lines Alternative

Page 3 of the April 4, 2014 DNR comment letter recommended analysis of the "Northern Route Alternative" in the CEA. The Northern Route and would avoid the Spire Valley hatchery. A nearby corridor of existing Great Lakes Gas pipelines is located in the vicinity of the Northern Route and would also avoid the hatchery and reduce greenfield routing in comparison to the Preferred Route. This corridor would also add flexibility to the project routing process due to its periodic interconnection with the Northern Route corridor, creating various crossover segments for the Public Utilities Commission to consider. The Great Lakes Gas Lines Alternative may avoid some challenges of the Northern Route such as more populated areas and a Superfund site. The DNR recommends analyzing the Great Lakes Gas Lines Alternative corridor in the CEA as depicted in the map below or using other combinations of nearby interconnections.



Third Party Monitoring

Third party environmental construction monitors have been required for previous pipeline and transmission projects. The DNR supports a Pipeline Routing Permit requirement for on-site third party monitors to review construction and restoration activities, considering various overlapping regulations. It has also been helpful when monitors keep agencies regularly updated. For the Sandpiper project the DNR recommends continuing this approach, with the exception of changing the method of hiring and administration of monitors' contracts.

Third party monitor(s) should not be hired by NDPC or Enbridge, but rather by a state agency such as the Public Utilities Commission (PUC) or Department of Commerce (DOC) or as a state contractor for the PUC or DOC. The position may still need to be funded by the project developer. This recommended separation in oversight is intended to increase the reporting and accountability to state agencies. Also, the DNR is concerned that environmental monitoring for a previous pipeline project ended earlier than all restoration activities. We recommend permitting language that would increase state agency direct control of environmental monitors' work assignments, reporting, and duration of monitoring. Note the distinction between PUC required monitors and various agency monitoring efforts related to permits and licenses other than the Pipeline Routing Permit (e.g. License to Cross Public Lands and Waters). This comment applies to PUC required monitors for the line as a whole.

Federally Funded Areas

As discussed above and in the April 4, 2014 DNR letter, when state lands that are federally funded are crossed, additional approval and process time is needed. For additional detail, please see the list below of locations of federally funded parcels associated with the Sandpiper Preferred Route. There may be more locations associated with alternative routes proposed during review of the Pipeline Routine Permit Application.

Crow Wing Chain WMA (9 parcels)

T139 R33 S32 SENW
T 139 R33 S 32 SWNE -also The Nature Conservancy (TNC) easement
T 139 R33 S32 SENE - also TNC easement
T139 R33 S33 SWNW
T139 R33 S33 SENW
T139 R33 S33 SWNE - also TNC easement
T139 R33 S33 SENE - also TNC easement
T139 R33 S33 NWSE - also TNC easement
T139 R33 S33 NESE - also TNC easement

Spire Valley Hatchery (3 parcels)

T139 R26 S10 NESE
T139 R26 S11 NWSW
T139 R26 S33 SWSW
Lawler WMA

T47 R22 S6 NENW (GL03)
T47 R22 S6 NWNE (GL02)
T47 R22 S6 SWNE

Salo WMA (1 parcel)

T47 R22 S2 NESE

Cumulative Impacts

The DNR previously recommended a robust analysis of cumulative impacts in the Comparative Environmental Analysis (CEA). Since the end of the previous comment period, Enbridge has announced a proposal for an additional pipeline, Line 3, along the Sandpiper Preferred Route. This development increases the importance of assessing cumulative impacts of possible future development such as increased corridor usage and work areas along the Preferred Route.

Resource Agency Coordination

Representatives from the Minnesota Pollution Control Agency, United States Army Corps of Engineers and DNR have met during the review periods for the Sandpiper Application for a Pipeline Routing Permit. The DNR has also met with the Department of Commerce and the United States Fish and Wildlife Service. The DNR appreciates this coordination and supports the efforts of state and federal resource agencies to encourage analysis of topics including accessing various routes in the event of a leak, leak risk analysis, and reducing impacts to wetlands, lakes and streams.

Thank you for the opportunity to provide comments regarding the Sandpiper Pipeline Project. Please contact me with any questions or to set up meetings regarding DNR application input during the preparation of the CEA.

Sincerely,

Jamie Schrenzel
Principal Planner
Environmental Review Unit
(651) 259-5115

cc: Scott Ek, Minnesota Public Utilities Commission
Patrice Jensen, Minnesota Pollution Control Agency
Bill Baer, US Army Corps of Engineers
Jeff Gosse, US Fish and Wildlife Service
Sara Ploetz, Enbridge