McGRANN SHEA ANDERSON CARNIVAL STRAUGHN & LAMB, CHARTERED

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MICHAEL P. ELDRIDGE
HEIDI L. PETERSON
JASON H. THOMAS
TIMOTHY J. NOLAN

October 15, 2007

VIA E-MAIL & U.S. MAIL

William Storm
Department of Commerce
Energy Facility Permitting
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

Re: In the Matter of the Application of the Nashwauk Public Utilities Commission for a Gas Pipeline Routing Permit
MPUC No. E280,GP-06-1481
Our File No.: 60732-0007

Dear Mr. Storm:

On behalf of the Nashwauk Public Utilities Commission ("Nashwauk"), the applicant in the above-referenced matter, I enclose Nashwauk's responses to the Information Requests of the Department of Commerce 1-5. Hard copies of the pdf materials will be sent by U.S. mail.

Please contact me if you have any questions.

Sincerely,

Kathleen M. Brennan

Enclosures

Responses to Minnesota Department of Commerce Information Requests 1-5

Docket Number: PL E280/GP-06-1481
Requester: William Storm

Information Request No. 1
Date of Request: September 11, 2007
Response Due: October 15, 2007
Reference: Abandoned Gas Pipeline

The Department is requesting that the applicant provide, at a minimum, the following information regarding this abandoned pipeline [regarding underground utility marker and map from figure D-25 and photograph provided to Department]:

- Past and Current ownership of the ROW;
- Previous function and usage (i.e. product, product supplier, end user);
- Pipeline specifications and map illustrating the full ROW (i.e. diameter, construction material , ROW width and length, beginning and termination points, depth , etc.;
- An evaluation of this "existing" ROW and its ability to serve as a corridor to supply natural gas to the NPUC

Response:

- Past and present ownership of the ROW.

  As indicated in the attached correspondence dated October 12, 2007 (IR-1(1)), from Denise Matthews, Right of Way Analyst for Northern Natural Gas Company (NNG), NNG originally owned the abandoned pipeline and associated ROW.

  NNG noted that in approximately 1972 or 1973, as part of the expansion of state highway 169, NNG replaced and abandoned the pipeline that was within the highway ROW. According to NNG, the approximately 8,572 feet of the pipeline abandoned in place was purged of gas, is not currently in use, and is marked with signs as abandoned.

- Previous function and usage (i.e., product, product supplier, end user)

  The product was natural gas, supplied by NNG to its customers.

- Pipeline specifications and map illustrating the full ROW (i.e., diameter, construction material, ROW width and length, beginning and termination points, depth, etc.)

  NNG has described the pipeline as 10" diameter. If the ROW has reverted to the private landowner there is neither width nor length. Upon information and belief,

the ROW, if it exists, would be approximately 8,000 feet long and approximately 50 feet wide. The depth of the pipe would be 36" or greater.

NNG has provided a map of its current operating pipeline. Based on our best information, including the abandoned pipeline signs, we have shown the approximate location of the abandoned/removed pipeline (IR-1(2)).

- An evaluation of this "existing" ROW and its ability to serve as a corridor to supply natural gas to the NPUC.

As noted by NNG, this line was abandoned in 1972 or 1973 to accommodate relocation of Highway 169. Some of the "existing" ROW now runs under and along the Highway 169 ROW. If it could not serve an existing pipeline it seems unlikely to serve a new one even if it does exist. It also appears that the abandoned pipeline that was not in the Highway 169 ROW was removed. If so, that portion would not be available either as a pipeline or as ROW. Furthermore, the size of the abandoned pipeline was approximately 10 inches in diameter. Any ROW (to the extent it exists) would be unlikely to allow the proposed 24-inch diameter pipeline in the Nashwauk application.

In addition, the abandoned pipeline ROW (assuming that one still exists) has little ability to serve as a corridor to supply natural gas -- regardless of the alignment -- due to the ore reserves locations. Using any corridor based upon the abandoned pipeline (again, to the extent on exists), would require crossing ore reserves. Furthermore, it would require an alignment that places the pipeline through some parts of Nashwauk, raising the same fatal flaws described in the response to Information Request 2.

Response By: Phillip McLean
Company: Natural Gas Consulting, Omaha, Nebraska
Telephone: (402) 505-8835

Northern Natural Gas Company
1111 South 103rd Street
Omaha, NE 68124

October 12, 2007

Ms. Kaela Brennan
McGrann Shea
800 Nicollet Mall, Suite 2600
Minneapolis, MN 55402-7035

RE: Gas Pipeline Routing Permit MPUC No. E280, GP-06-1481

Dear Ms. Brennan:

Northern Natural Gas Company ("Northern") owns and operates a 10-inch, high pressure natural gas pipeline that runs southwest from the City of Nashwauk, Minnesota and roughly parallels Highway 169. This pipeline is used to provide natural gas transportation services to several communities and industrial customers, including the local distribution company that serves the City of Nashwauk. To the best of our knowledge and belief, a majority of this pipeline is in private right-of-way.

As part of the expansion of state highway 169 in approximately 1972 or 1973, Northern replaced and abandoned a portion of the line that was within the highway right-of-way. The portion of the pipe abandoned in place, approximately 8,572 feet, was purged of gas, is not currently in use, and is marked with signs as abandoned.

Please contact me if you have any question or need any additional information.

Sincerely,

Denise Matthews

Denise Matthews
Right of Way Analyst
(402) 398-7395

IR-1(1)

OCT 15 2007

MNB 66801

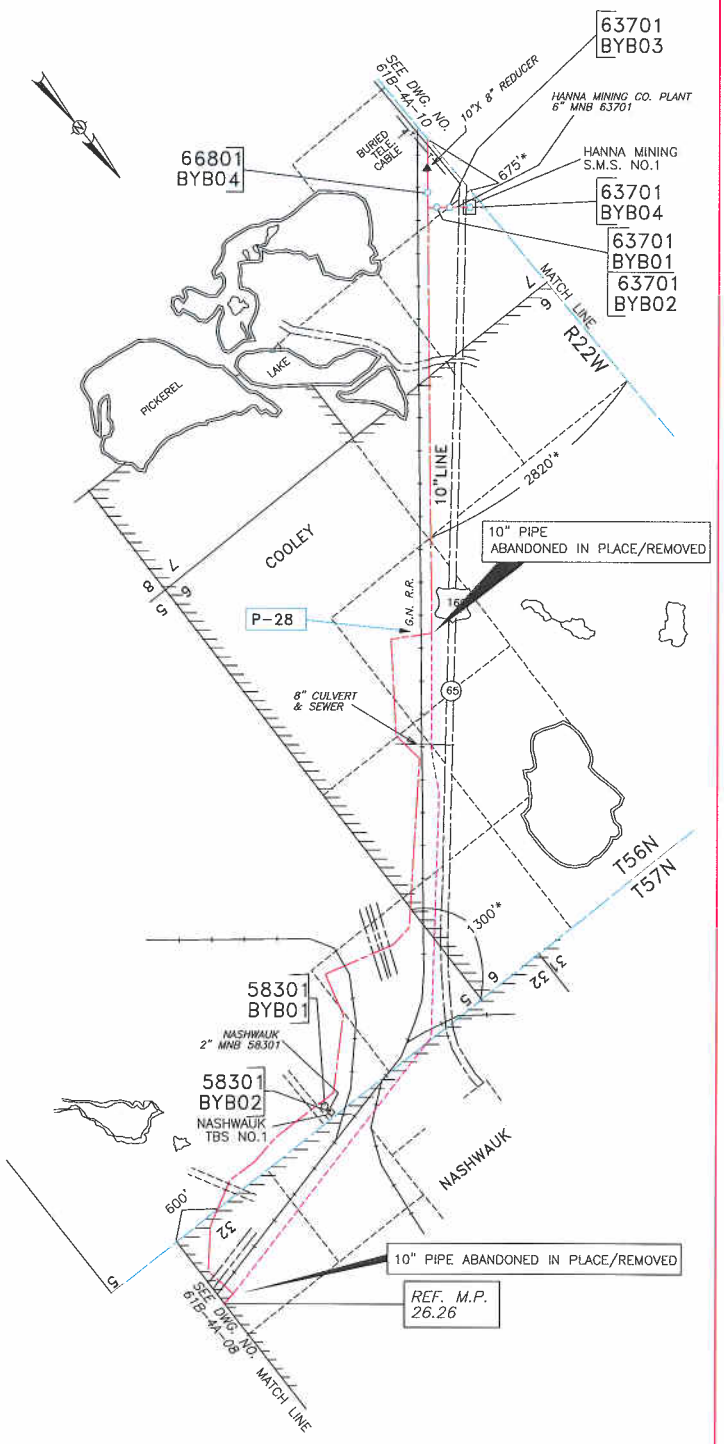
151+00	RGE. & SEC. LINE & GRVL. GRVL.	SEC. 7
150+86	BURIED TELE. CABLE	
150+48	R/W & PROP. LINE	
143+30	TEE HANNA COOLEY T. O. BYB02	
143+26	TEE TOP RISER	
143+21	BLK. VALVE-66801 BYB04	
143+18	TEE TOP RISER	
143+14	TEE HANNA COOLEY B. L. T. O.	
143+07	90° ELL BTM RISER	
143+06	90° ELL BTM. RISER	
143+05	10" X 8" REDUCER	
125+63	R/W	
125+12	MINING ROAD GRVL.	
124+76	R/W	
123+10	SEC. LINE	
100+10.5	90° 00' LT.	SEC. 6
99+65	R/W	
99+35	B. N. SPUR	
99+21	B. N. R. R.	
99+07	B. N. SPUR	
98+78	R/W	
96+86	85° 07' RT.	
94+31	2° 27' RT.	
85+71	45° 00' RT.	
82+80	42° 40' LT.	
60+00	SEC. LINE (APPROX.)	SEC. 5
57+91	47° 15' LT.	
55+75	14° 33' LT.	
55+72	R/W	
55+57	HAUL ROAD GRVL.	
54+97	HAUL ROAD GRVL.	
54+82	R/W	
49+26	0° 27' LT.	
48+09.5	R/W	
47+84.5	R. R. (ABAND.)	
47+52.5	R/W	
47+34.5	90° 00' RT.	
42+70	6° 05' LT.	
42+43	16° 05' LT.	
34+40	43° 23' LT.	
33+03	2" NASHWAUK T. B. S. T. O.	
32+12	R/W	
31+90	SERVICE ROAD (DIRT)	
31+67	R/W	SEC. 32
25+68	5° 28' RT.	
22+93	5° 39' LT.	
19+41	26° 18' RT.	
18+67	R/W	
18+44	SERVICE ROAD (DIRT)	
18+21	R/W	
15+00	SEC. LINE (APPROX.)	
13+53	22° 31' RT.	
8+37	50° 24' RT.	
7+39	BURIED TELE. CABLE	
7+16	R/W	
7+00	SERVICE ROAD GRVL.	
6+53	R/W	
5+95	B. N. R. R. SPUR	
5+80	B. N. R. R. SPUR	
5+66	B. N. R. R. SPUR	
5+51	B. N. R. R. SPUR	
5+36	B. N. R. R. SPUR	
5+22	B. N. R. R. SPUR	
3+94	86° 10' LT.	
0+00	SEC. LINE	

MNB 63701

5+47	INLET VALVE-63701-BYB04	SEC. 7
5+45	TOP RISER	
5+44	STATION BY-PASS	
5+40	90° ELL-INLET RISER	
5+10	N. N. G. LOT LINE	
4+88	R/W LINE	
4+12	U. S. HWY. #169 B. O. M.	
3+36	R/W LINE	
0+15	90° ELL-BTM RISER 9° 21' LT.	
0+08	TEE TOP RISER	
0+06	VALVE 63701-BYB03	
0+03	TEE-63701-BYB02	
0+01	VALVE 66801-BYB01	
0+00	10" GRAND RAPIDS B. L.	

MNB 58301

3+16	INLET VALVE-58301-BYB02	SEC. 5
3+14.9	90° ELL-TOP RISER	
3+14.5	STATION BY-PASS	
3+08.6	90° ELL-INLET RISER	
2+93	90° ELL-90° 00' LT.	
2+41	N. N. G. LOT LINE	
2+31	23° 58' RT.	
1+44	R/W (APPROX.)	
0+94	ABANDONED R. R.	
0+44	R/W (APPROX.)	
0+15.2	90° ELL-BTM RISER	
0+09.3	TEE TOP RISER	
0+08.6	VALVE-58301-BYB01	
0+07.9	90° ELL-TOP RISER	
0+00	10" GRAND RAPIDS B. L.	



LEGEND		REFERENCE DRAWINGS AND/OR REVISIONS			
*	SCALED DIMENSION	ITEM	BY	DATE	CHK'D
P-2	PATROL LOCATION	3900,5322,4059			
	VALVE	PATROL LOCATION	GLB	11-26-85	
	DRIP	REVISED STATIONING	RM	08-14-91	
	PAVED ROAD	INDEX UPDATE	BLS	9/28/04	LJA
	ASPHALT ROAD	CHANGED STA. 5+56 TO 5+47	BLS	11/19/04	LJA
	GRAVEL ROAD				
	OIL ROAD				
	DIRT ROAD				

Northern Natural Gas Company
Omaha, Nebraska

MINNESOTA
ITASCA COUNTY
GRAND RAPIDS BRANCH LINE
FROM MNM 86501 TO TBS NO. 1

TWP. 56 & 57 N RGE. 22 W

SCALE 0 500 1000 2000 DATE 5-25-78

DRAWN BY LEC | CHECKED | APPROVED

Northern Natural Gas Company

DWG. NO. 61B-4A 09

D19A

CADDS: P034.61B.4A.09

01 | 02

IR-1(2)

Information Request No. 2
Date of Request: September 17, 2007
Response Due: October 15, 2007
Reference: Karna Alternative Route

Provide a cursory review/evaluation of this potential route alternative for fatal flaws that would eliminate this route from further, detailed consideration (i.e., comparative environmental analysis and public hearing). . . . Please include an illustrated series (i.e. Figures D-19 through D-29 along with your text based analysis for the "Karna Alternative Route."

Response: This basic route alternative was examined during the initial consideration of routes as part of the Itasca County Infrastructure project. This route was eliminated from further consideration primarily because it would require a gas pipeline to be installed through large wetland complexes found in the southern 2/3 of the route length. Revised map figures D-19-K through D-29-K, depicting the Karna Alternative Route in a dashed pink line, are enclosed.

As presented, the Karna Alternative Route includes 90-degree angle turns, which are difficult to accommodate the pipeline construction radius requirements.

This Karna Alternative Route would greatly increase the number of wetland crossings. And the water, bog, and wetland areas depicted on map figure D-28-K are deeper than the burial depth of the pipeline and present up to three feet of standing water when examined. Although in principle it may be technically possible to build through small wetland areas, gas pipeline construction through large wetland areas is more difficult and expensive than seeking higher and drier construction corridors. Future maintenance and access to the pipeline will not be practical. There are existing HVTL lines going through these areas. These lines are overhead and have the transmission structures located on islands of high ground 600 to 800 feet apart.

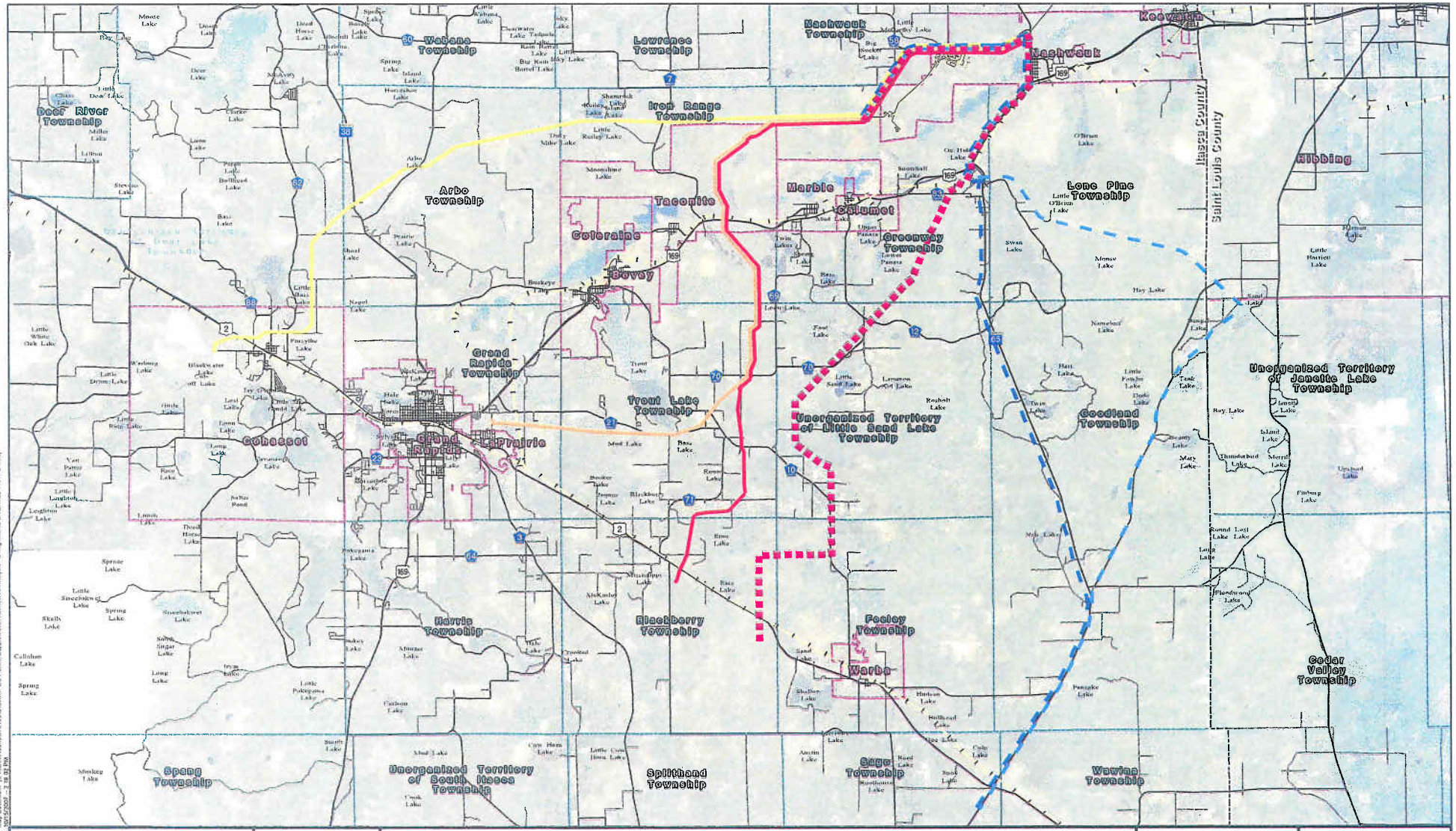
In addition, near the middle part of the Karna Alternative Route there are large concentrations of existing homes near the areas where the proposed route intersects highways 10, 70, 12 and 169 . Please note that it is difficult to see on the map figure D-20-K and other figures the residential homes for the Karna Alternative Route because the pink line overlaps the red dots. Please see response number four for specific house count information.

Finally, another extreme engineering problem with this route is the technical issue of bringing the pipeline where Highway 65 passes through downtown Nashwauk because of the high density of residential units. At a point just north of Nashwauk, there is a narrow isthmus of land between the current active and future mining ore reserves. A blast buffer zone of 2,000 feet from a high pressure natural gas pipeline is required by mining practices. Blast safety for iron ore mining would be compromised. Also, an existing 300 foot deep Hawkins mine pit on the western edge is not passable to the west of the City.

As a practical matter, the blast zone restriction, coupled with the narrow passage by the Hawkins mine pit, present a fatal flaw.

Response By: Clarence Kadrmas*
Company: Utilities Management Company
Telephone: (952) 797-6455

* Maps/aerial photos provided by SEH.



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www.sehinc.com

City of Nashwauk Public Utilities Commission

July 2007

Legend

- 2005 Itasca County/MSI - Alternative 1 (05-ICMSI-1)
- 2005 Itasca County/MSI - Alternative 2 (05-ICMSI-2)
- 2005 Itasca County/MSI - Alternative 3 (05-ICMSI-3)
- 2007 NPUC/MNPUC Citizen's Route - Alternative P1 (07-MNPUC-P1)
- 2007 NPUC/MNPUC Citizen's Route - Alternative P2 (07-MNPUC-P2)
- KARNA Proposed Route Alternative (27.62 Mi.)
- MN Steel Plant Layout
- Existing Roads
- Existing Rail Lines
- Municipal Boundaries
- Civil Township Boundaries
- County Boundaries

Source: NAIP 2003 & 2005, Itasca County, USGS, MnDOT, Barr, MN Steel, and SEH.
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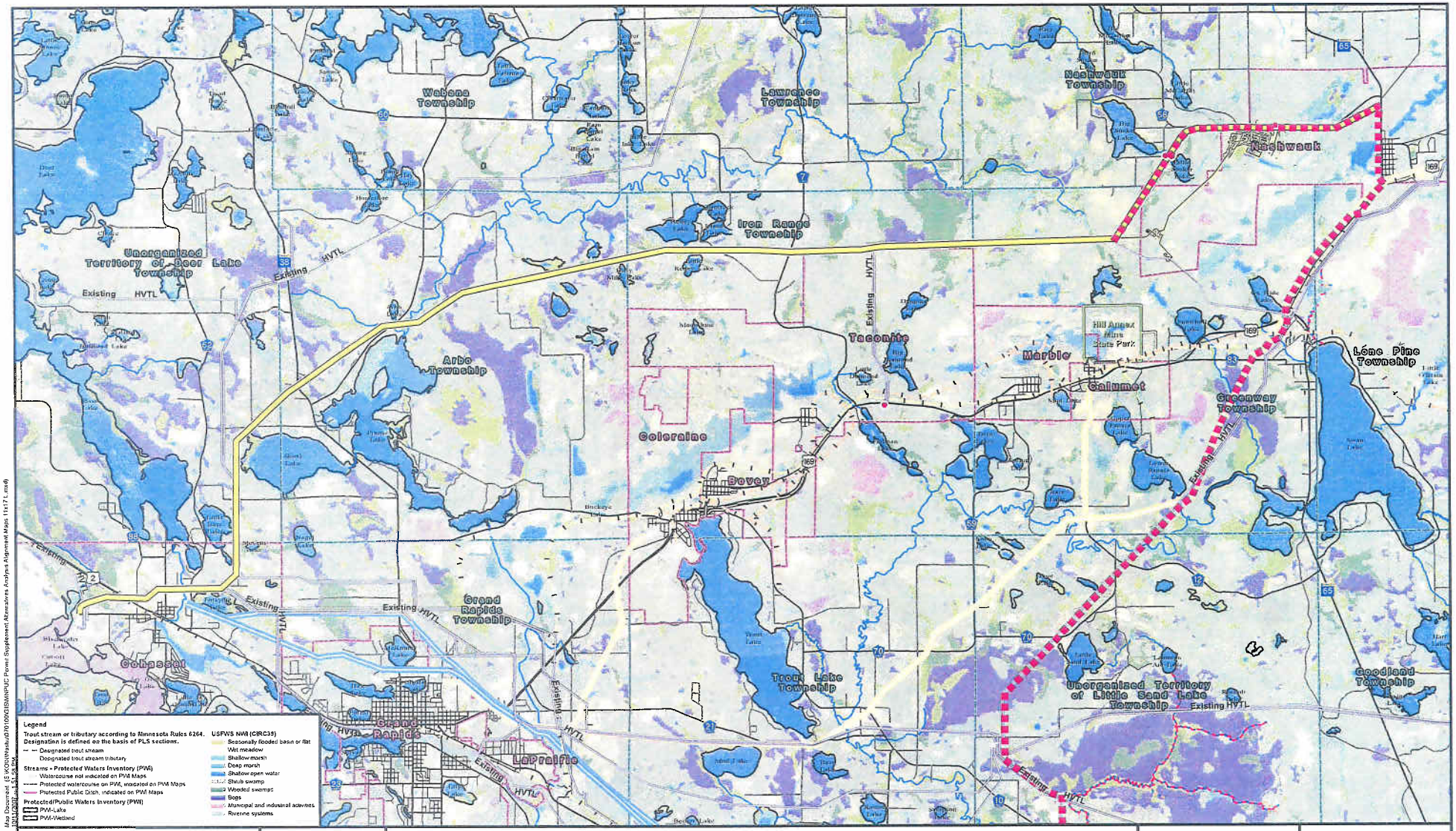
Nashwauk-Blackberry Pipeline Project

Itasca County/MSI & Citizen's Alignment Alternatives

Itasca County - South Coordinate System

0 2.5 Miles

D-19-K



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City of Nashwauk Public Utilities Commission

October 2007

Legend

KARNA Proposed Route Alternative (
2005 Itasca County/MSI - Alternative 1 (05-ICMSI-1)
Residential Homes (05-ICMSI-3)
MN Steel Plant Layout

Existing Gas Lines
Great Lakes
Northern Natural Gas

USGS 100k DLG Pipelines (SEH Adjusted Centerline)
SEH Interpreted from (7.5' Topo & 2003 Orthos)
Existing HVTL Lines

Mn/DOT Abandoned Rails Database (2004)
SEH Improved (2007)
Abandoned Rail Lines
Existing Rail Lines

Mn/DOT Basemap Roads Jurisdiction
02, U. S. Trunk Highway
03, Minnesota Trunk Highway
04, County State-aid Highway
05, Municipal State-aid Street
07, County Road
08, Township Road
09, Unorganized Township Road
10, Municipal Street
12, National Forest Development Road
13, Indian Reservation Road
14, State Forest Road
15, State Park Road
22, Ramp
U.S. 169 Bovey Bypass

Municipal Boundaries
Civil Township Boundaries
County Boundaries
State Park Statutory Boundary
Additional Lease Area

Source: NAIP 2003 & 2005, USGS, USFWS, MnDOT, MNDNR, Barr, MN Steel, URS, NNG, NPUC, and SEH.
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Nashwauk-Blackberry Pipeline Project

Itasca County/MSI Alternative
05-ICMSI-1

Itasca County - South Coordinate System
N W E S
0 1 Miles

D-20-K

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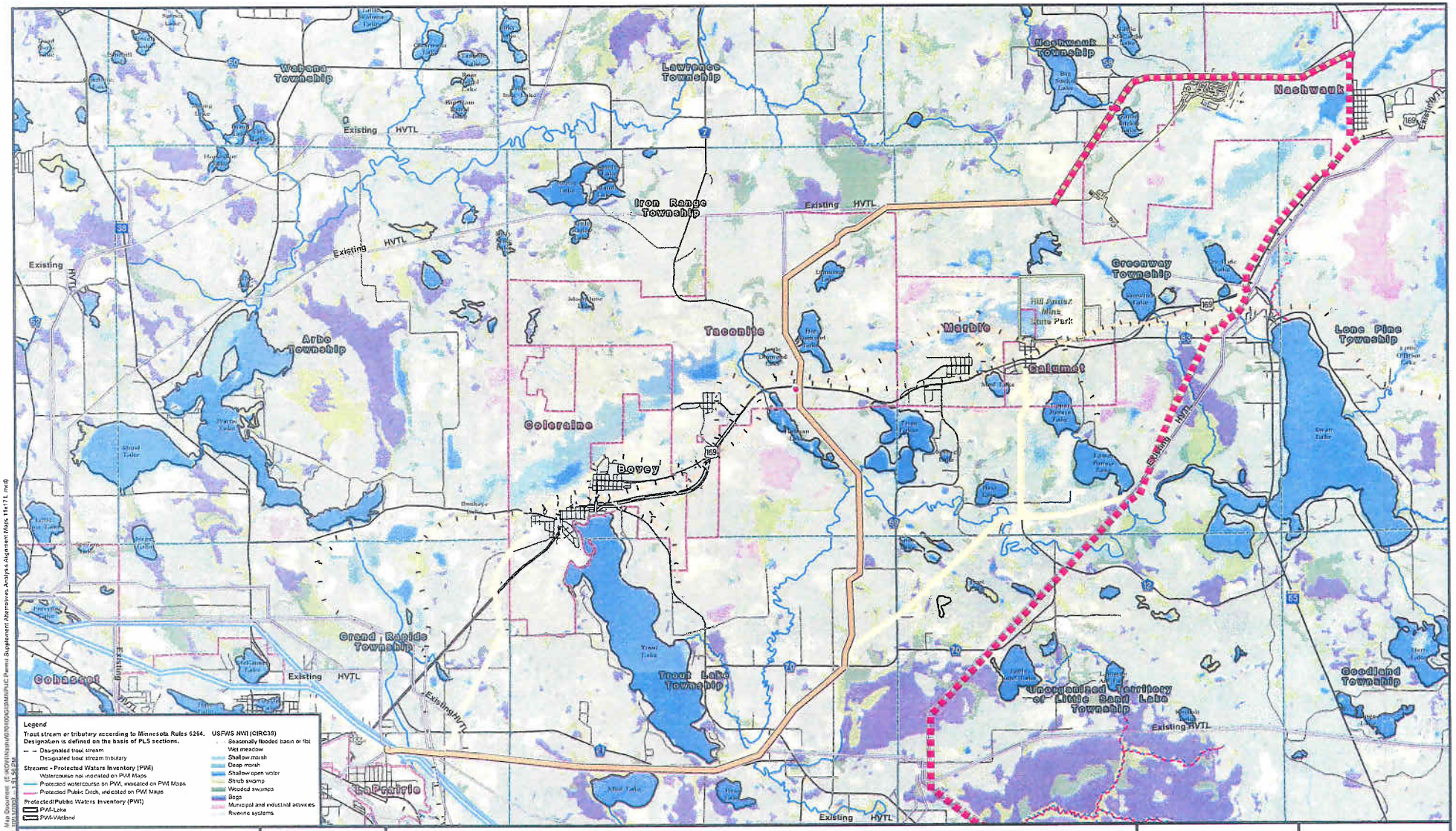

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City of Nashwauk Public Utilities Commission

October 2007

Legend
KARNA Proposed Route Alternative
2005 Itasca County/MSI - Alternative 2 (05-ICMSI-2)
Residential Homes (05-ICMSI-3)
MN Steel Plant Layout
Existing Gas Lines
Great Lakes
Northern Natural Gas
USGS 100k DLG Pipelines (SEH Adjusted Centerline)
SEH Interpreted from (7.5' Topo & 2003 Orthos)
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Source: NAIP 2003 & 2006, USGS, USFWS, MnDOT, MNDNR, Barr, MN Steel, URS, NNG, NPUC, and SEH.
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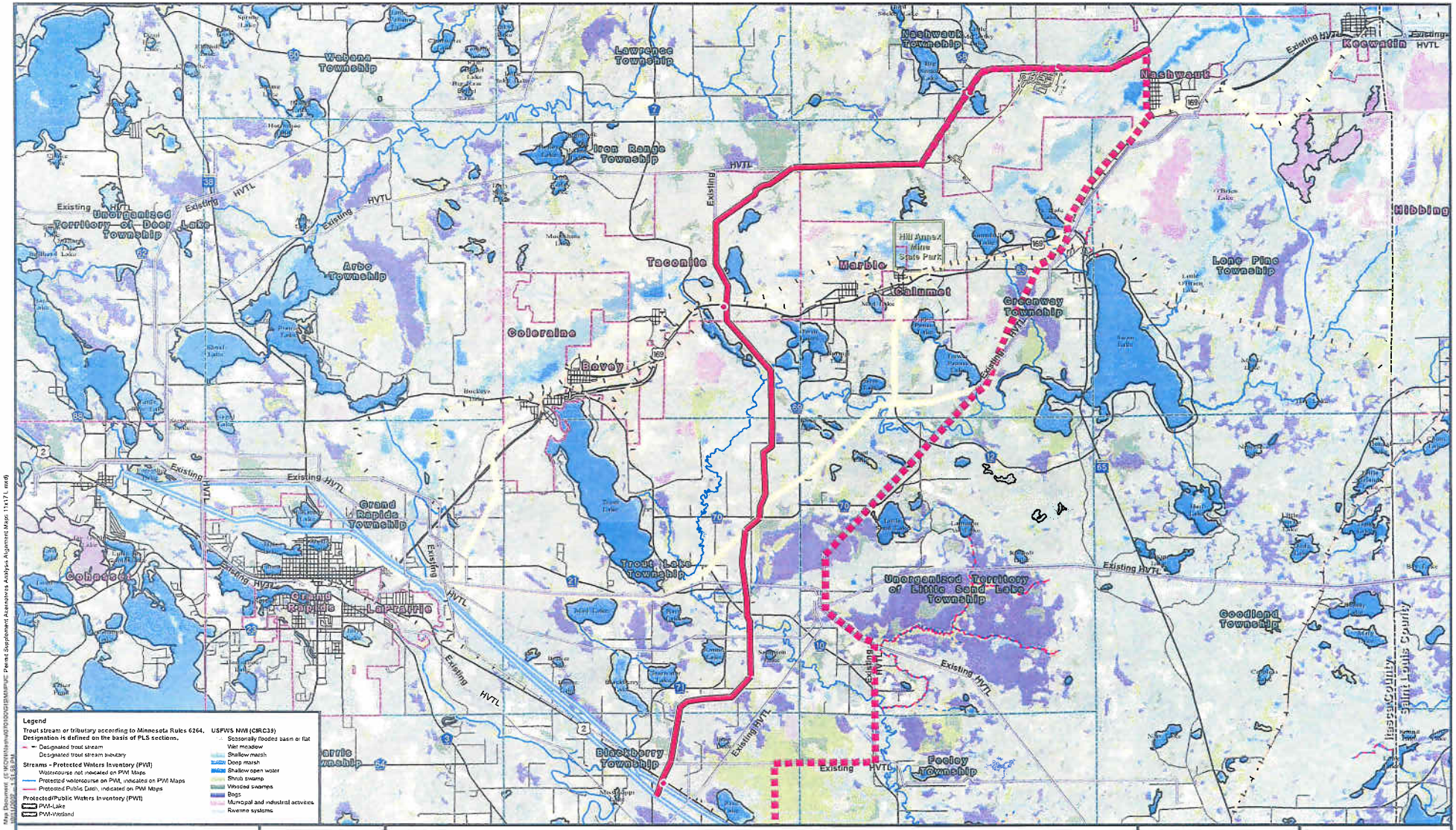
Nashwauk-Blackberry Pipeline Project

Itasca County/MSI Alternative
05-ICMSI-2

Itasca County - South Coordinate System
N W E S
0 8.8 Miles

D-21-K



Legend

Trout stream or tributary according to Minnesota Rules 6264. Designation is defined on the basis of PLS sections.
- Designated trout stream
- Designated trout stream tributary

Streams - Protected Waters Inventory (PWI)
- Watercourse not indicated on PWI Maps
- Protected watercourse on PWI, indicated on PWI Maps
- Protected Public Ditch, indicated on PWI Maps

Protected Public Waters Inventory (PWI)
- PWI-Lake
- PWI-Wetland

USFWS NWI (CIRC39)
- Seasonally flooded basin or flat
- Wet meadow
- Shallow marsh
- Deep marsh
- Shallow open water
- Shrub swamp
- Wooded swamps
- Bogs
- Municipal and industrial activities
- Ravine systems

SEH

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City of Nashwauk Public Utilities Commission

October 2007

Legend

- KARNA Proposed Route Alternative
- 2005 Itasca County/MSI - Alternative 3 (05-ICMSI-3)
- Residential Homes (05-ICMSI-3)
- MN Steel Plant Layout

Existing Gas Lines
- Great Lakes
- Northern Natural Gas

USGS 100k DLG Pipelines (SEH Adjusted Centerline)
SEH Interpreted from (7.5' Topo & 2003 Orthos)
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- 22, Ramp
- U.S. 169 Bovey Bypass

- Municipal Boundaries
- Civil Township Boundaries
- County Boundaries
- State Park Statutory Boundary
- Additional Lease Area

Source: MAP 2003 & 2006, USGS, USFWS, MnDOT, MNDNR, Barr, MN Steel, LRS, NNG, NPUC, and SEH.
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Nashwauk-Blackberry Pipeline Project

Itasca County/MSI Alternative 05-ICMSI-3

Itasca County - South Coordinate System

N W E S

0 1 Miles

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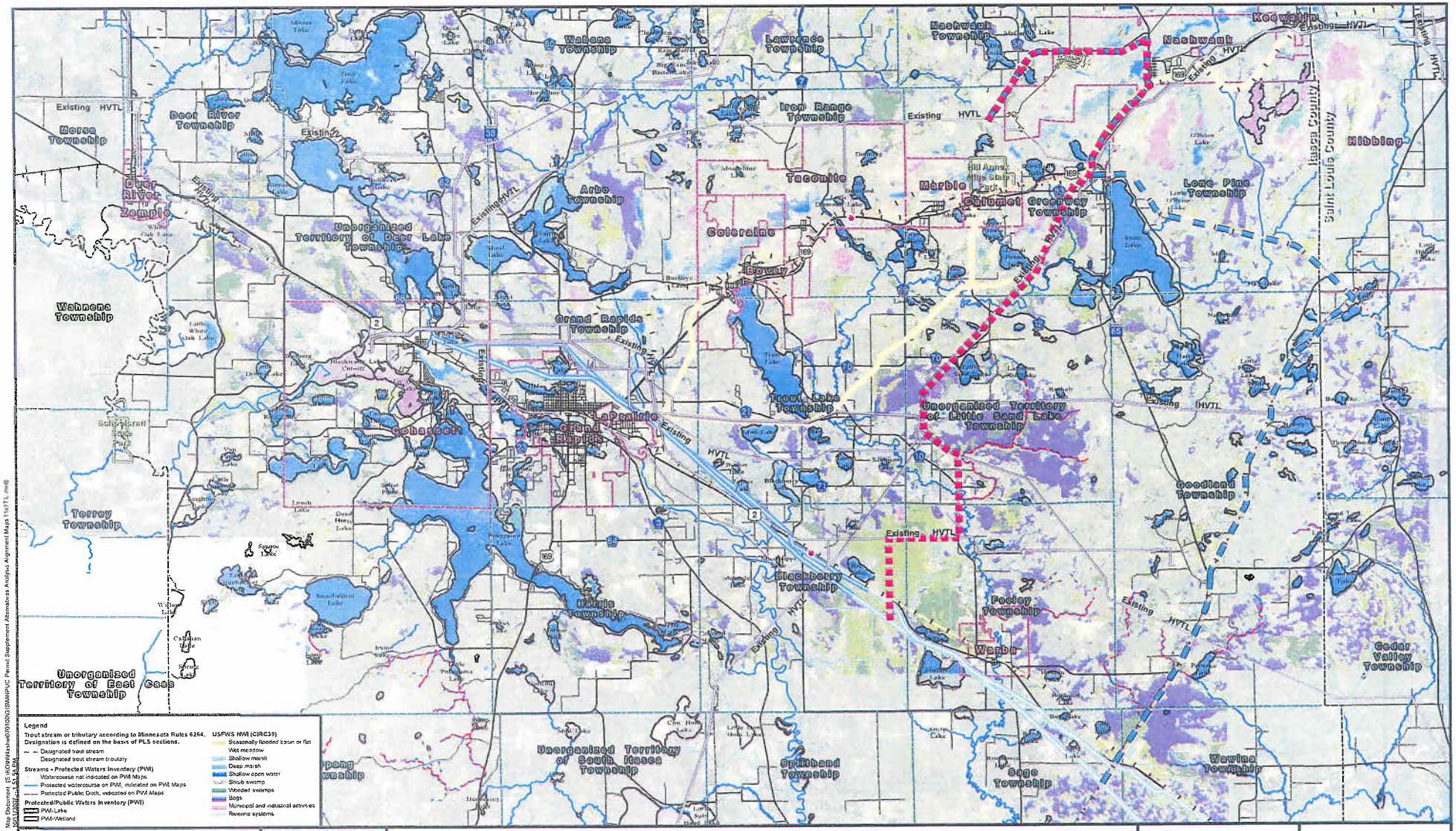
D-22-K



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City of Nashwauk Public Utilities Commission

October 2007

Nashwauk-Blackberry Pipeline Project

Itasca County/MSI Alternative
07-MNPUC-P1

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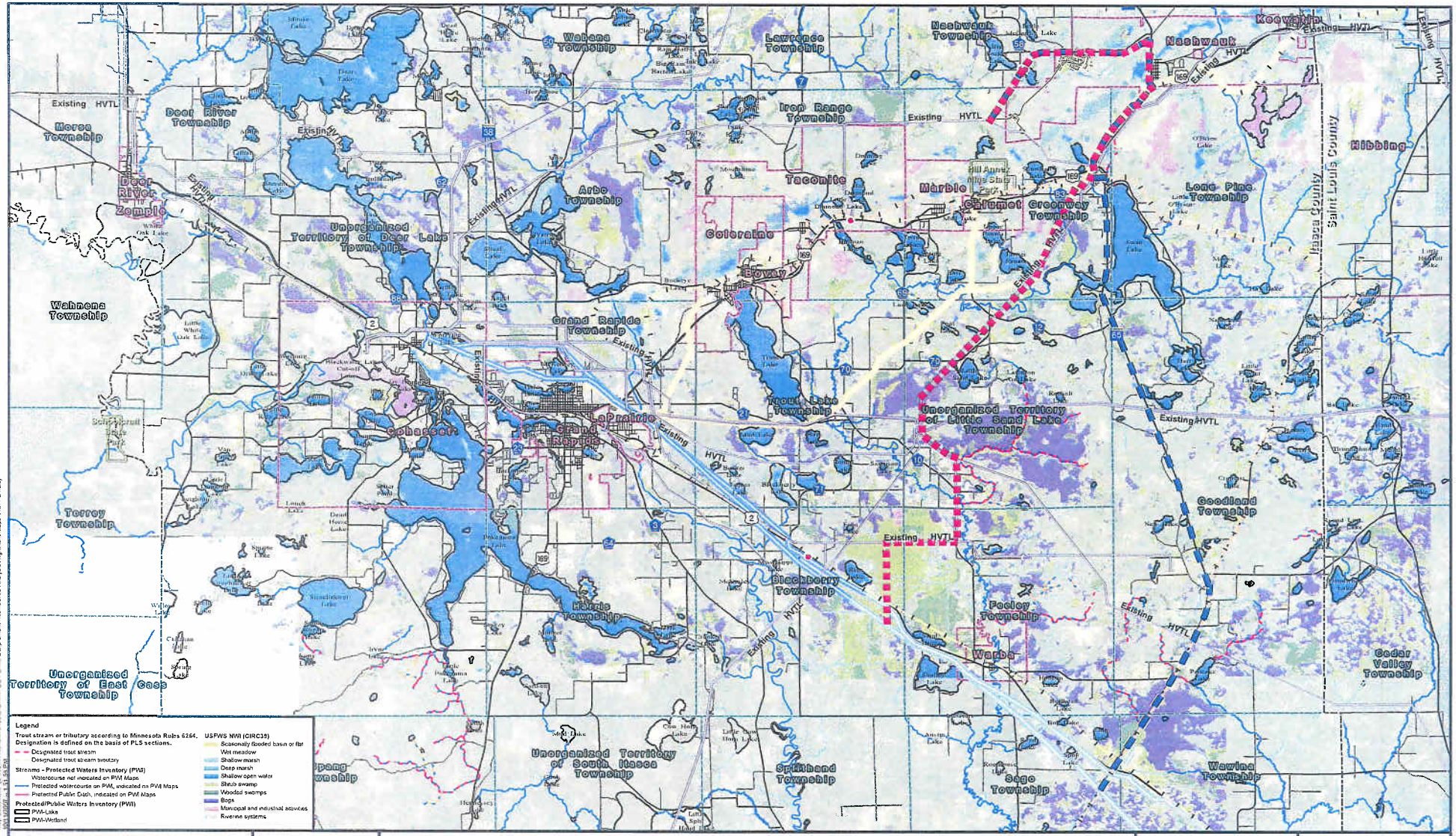
D-23-K


Existing HVTL
Morse Township
Deer River Township
Deer River
Zemple
Unorganized Territory of Deer Lake Township
Wahnena Township
Wabana Township
Arbo Township
Lawrence Township
Iron Range Township
Taconite
Coleraine
Bovey
Grand Rapids Township
Grand Rapids
LaPrairie
Cohasset
Trout Lake Township
Torrey Township
Harris Township
Unorganized Territory of East Cass Township
Nashwauk Township
Nashwauk
Keewatin
Marble
Calumet
Greenway Township
Hibbing
Lone Pine Township
Itasca County
Saint Louis County
Unorganized Territory of Little Sand Lake Township
Goodland Township
Blackberry Township
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Warba
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Splithand Township
Sago Township
Wawina Township
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Deep marsh
Shallow open water
Shrub swamp
Wooded swamps
Bogs
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Existing HVTL Lines
Mn/DOT Abandoned Rails Database (2004)
SEH Improved (2007)
Abandoned Rail Lines
Existing Rail Lines
Mn/DOT Basemap Roads Jurisdiction
02, U. S. Trunk Highway
03, Minnesota Trunk Highway
04, County State-aid Highway
05, Municipal State-aid Street
07, County Road
08, Township Road
09, Unorganized Township Road
10, Municipal Street
12, National Forest Development Road
13, Indian Reservation Road
14, State Forest Road
15, State Park Road
22, Ramp
U.S. 169 Bovey Bypass
Municipal Boundaries
Civil Township Boundaries
County Boundaries
State Park Statutory Boundary
Additional Lease Area
Source: NAIP 2003 & 2006, USGS, USFWS, MnDOT, MNDNR, Barr, MN Steel, LRS, NNG, NPUC, and SEH
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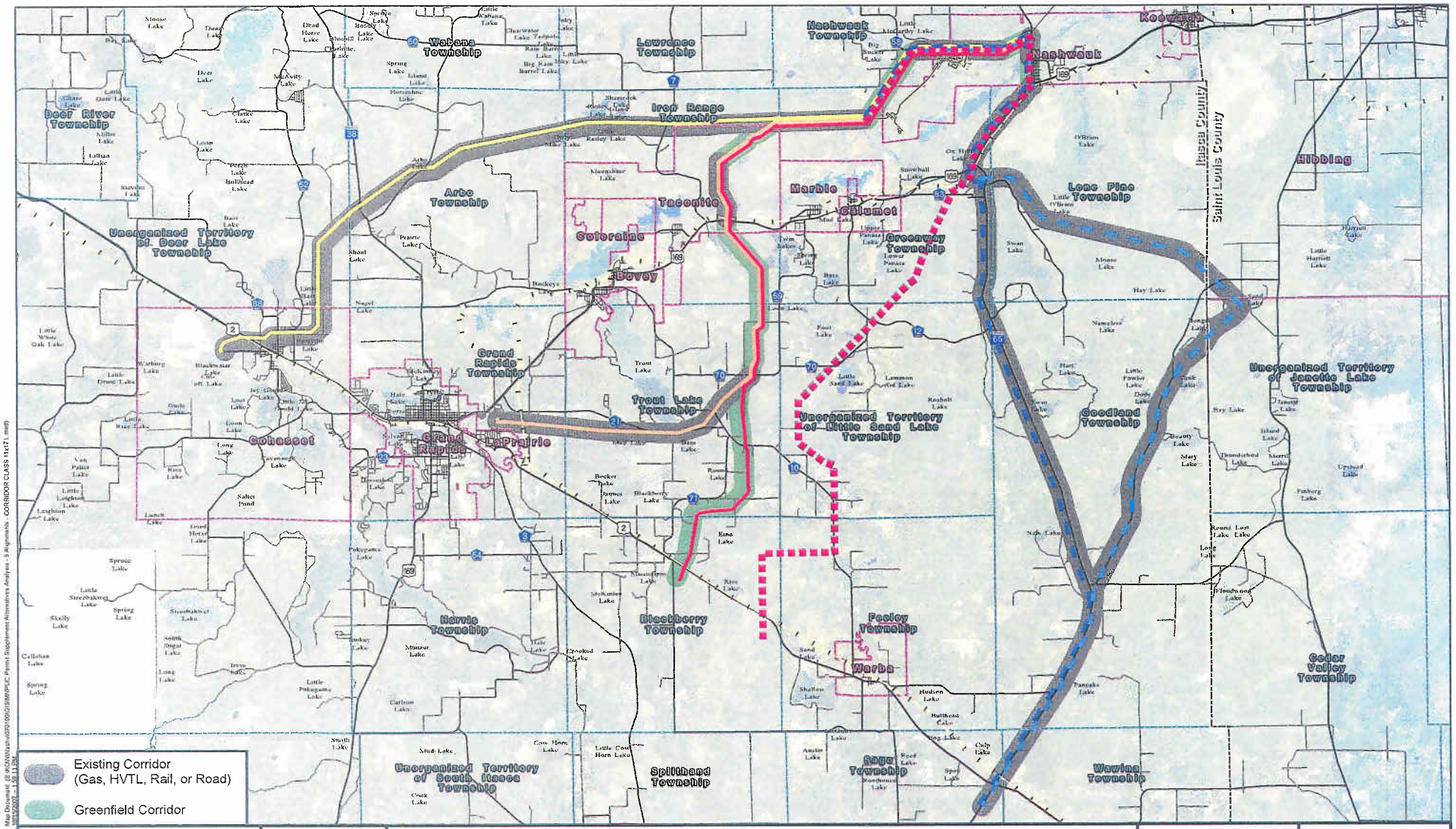
Nashwauk-Blackberry Pipeline Project
Itasca County/MSI Alternative
07-MNPUC-P2
Itasca County - South Coordinate System
N
W
E
S
0
2
Miles

D-24-K



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City of Nashwauk Public Utilities Commission

July 2007

Legend

- 2005 Itasca County/MSI - Alternative 1 (05-ICMSI-1)
- 2005 Itasca County/MSI - Alternative 2 (05-ICMSI-2)
- 2005 Itasca County/MSI - Alternative 3 (05-ICMSI-3)
- 2007 NPUC/MNPUC Citizen's Route - Alternative P1 (07-MNPUC-P1)
- 2007 NPUC/MNPUC Citizen's Route - Alternative P2 (07-MNPUC-P2)
- KARNA Proposed Route Alternative (27.62 Mi.)
- MN Steel Plant Layout
- Existing Roads
- Existing Rail Lines
- Municipal Boundaries
- Civil Township Boundaries
- County Boundaries

Source: NAIP 2003 & 2006, Itasca County, USGS, MnDOT, LMIC-EQB, Barr, MN Steel, and SEH.
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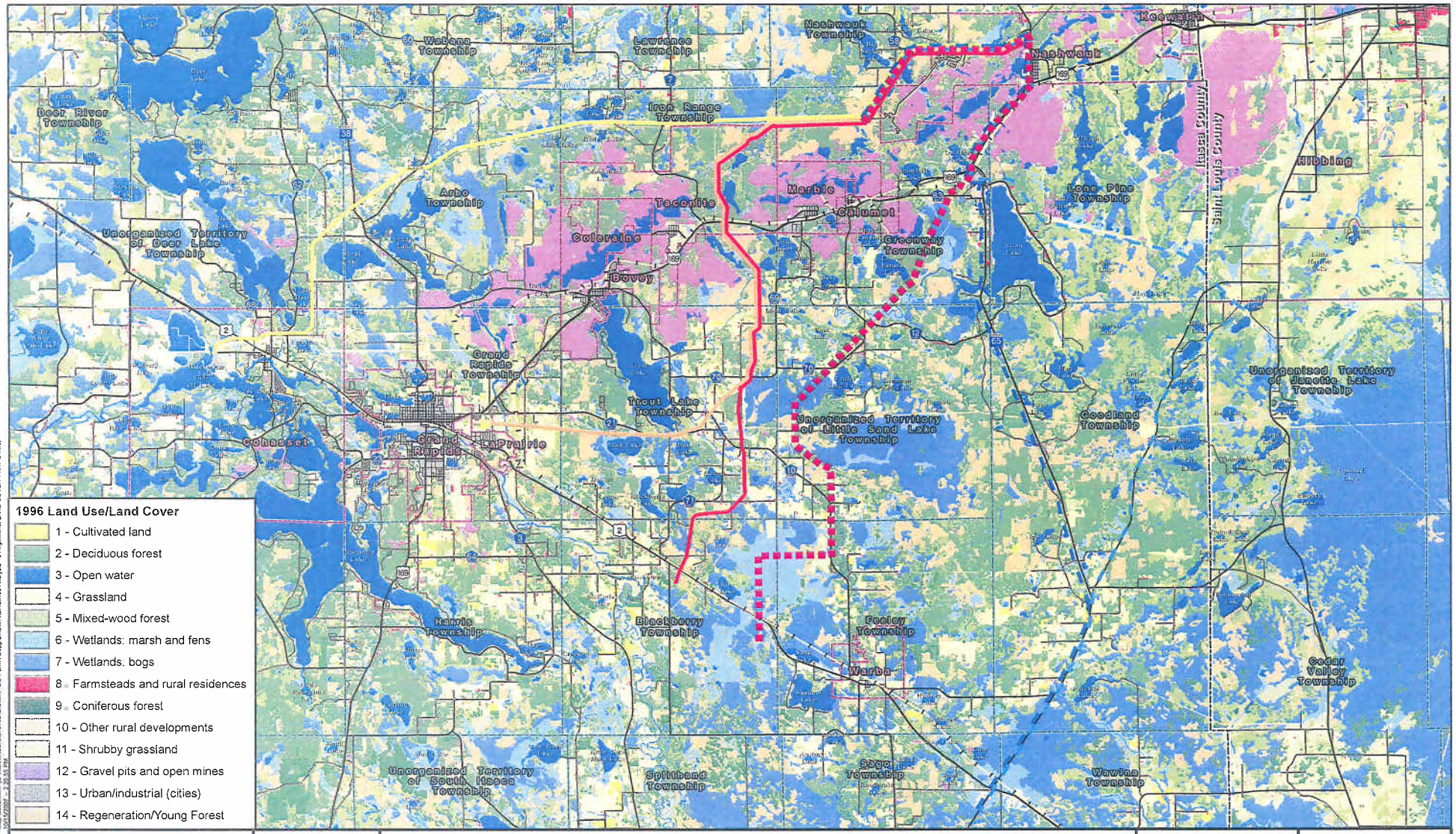
Nashwauk-Blackberry Pipeline Project

Route Corridor Existing vs. Greenfield Classification

Itasca County - South Coordinate System

0 2.5 Miles

D-25-K



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- KARNA Proposed Route Alternative (27.62 Mi.)
- MN Steel Plant Layout
- Existing Roads
- Existing Rail Lines
- Municipal Boundaries
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- County Boundaries

Source: Itasca County, USGS, Manitoba Remote Sensing Centre, Mn/DOT, Barr, MN Steel, and SEH.
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Nashwauk-Blackberry Pipeline Project

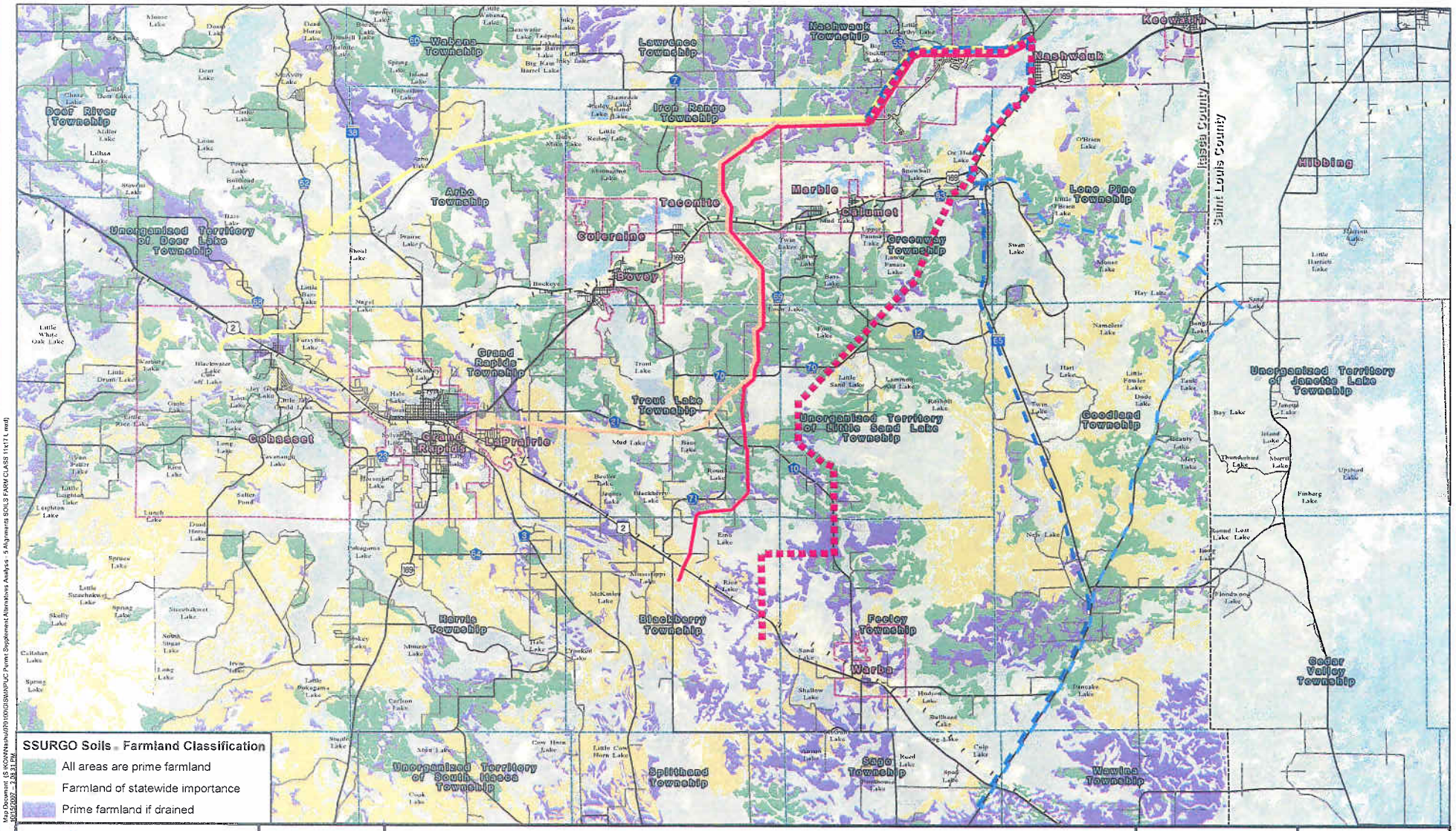
1996 Landsat TM Land Use/Land Cover

Itasca County - South Coordinate System

N W E S

0 2.5 Miles

D-26-K



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City of Nashwauk Public Utilities Commission

July 2007

Legend

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- 2005 Itasca County/MSI - Alternative 2 (05-ICMSI-2)
- 2005 Itasca County/MSI - Alternative 3 (05-ICMSI-3)
- 2007 NPUC/MNPUC Citizen's Route - Alternative P1 (07-MNPUC-P1)
- 2007 NPUC/MNPUC Citizen's Route - Alternative P2 (07-MNPUC-P2)
- KARNA Proposed Route Alternative (27.62 Mi.)
- MN Steel Plant Layout
- Existing Roads
- Existing Rail Lines
- Municipal Boundaries
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- County Boundaries

Source: NAIP 2003 & 2006, Itasca County, USGS, USDA-NRCS, Mn/DOT, Barr, MN Steel, and SEH.
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Nashwauk-Blackberry Pipeline Project

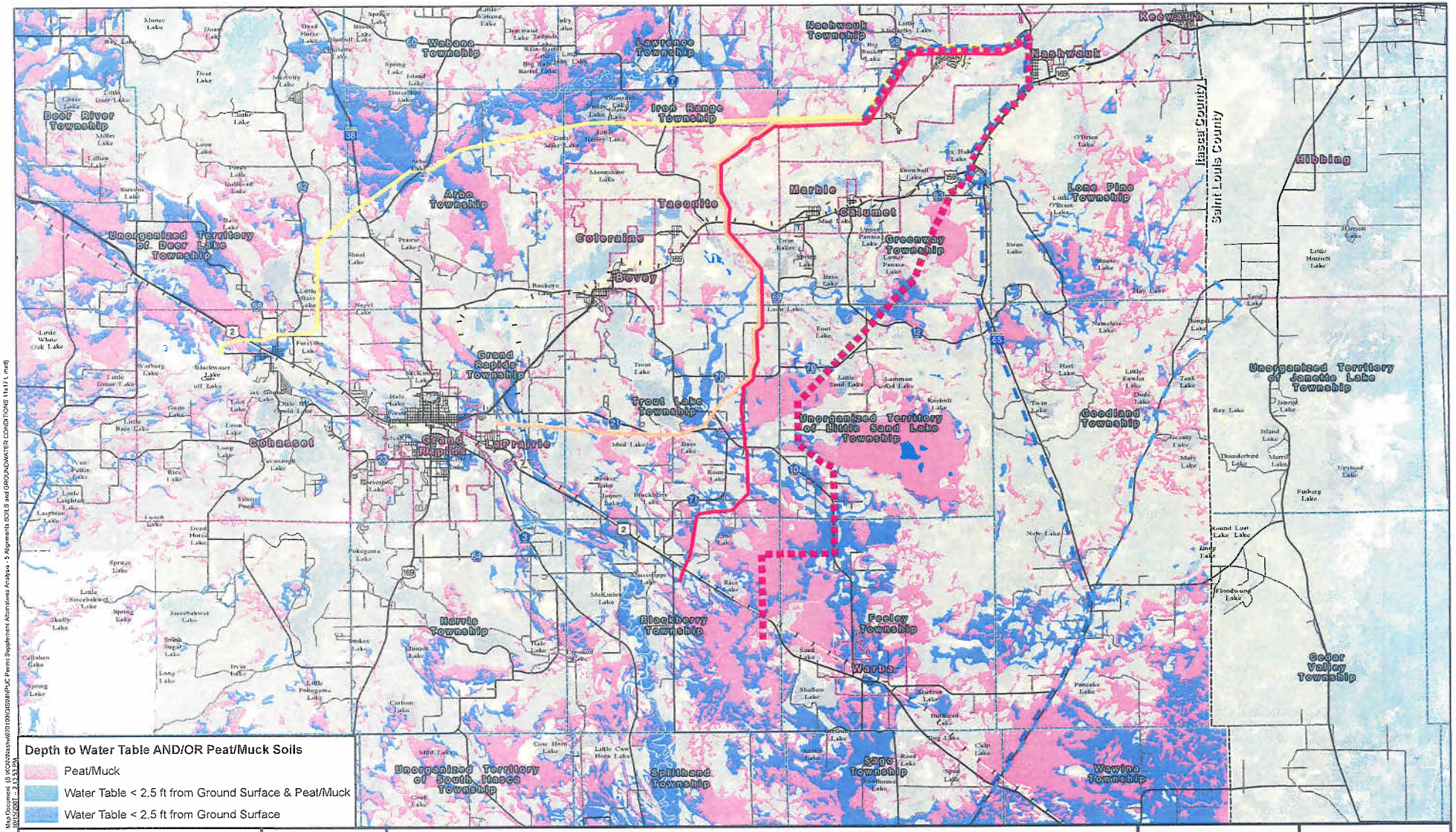
Soils Farmland Classification

Itasca County - South Coordinate System

N W E S

0 2.5 Miles

D-27-K



Map Document: (S:\KON\Nashwa\070100\GIS\MNPUC Permit Supplement Alternatives Analysis - 5 Alignments SOILS and GROUNDWATER CONDITIONS 11x17 L.mxd)
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City of Nashwauk Public Utilities Commission

July 2007

Legend

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- 2005 Itasca County/MSI - Alternative 2 (05-ICMSI-2)
- 2005 Itasca County/MSI - Alternative 3 (05-ICMSI-3)
- 2007 NPUC/MNPUC Citizen's Route - Alternative P1 (07-MNPUC-P1)
- 2007 NPUC/MNPUC Citizen's Route - Alternative P2 (07-MNPUC-P2)
- KARNA Proposed Route Alternative (27.62 Mi.)
- MN Steel Plant Layout
- Existing Roads
- Existing Rail Lines
- Municipal Boundaries
- Civil Township Boundaries
- County Boundaries

Source: NAIP 2003 & 2006, Itasca County, USGS, USDA-NRCS, Mn/DOT, Barr, MN Steel, and SEH, © 2007 SEH

Nashwauk-Blackberry Pipeline Project

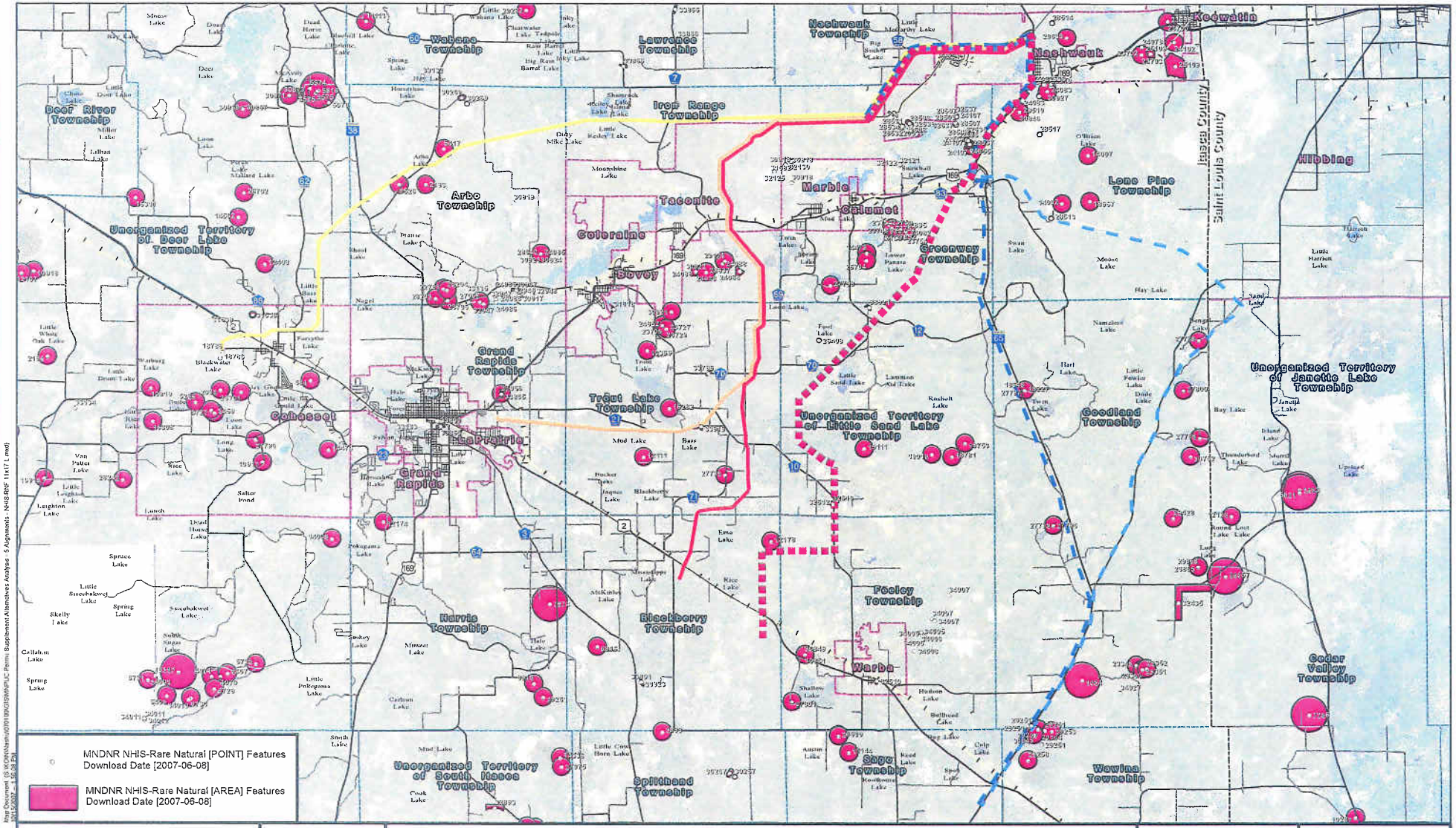
Soils and Groundwater Conditions Impacting Construction

Itasca County - South Coordinate System

N W E S

0 2.5 Miles

D-28-K



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City of Nashwauk Public Utilities Commission

July 2007

Nashwauk-Blackberry Pipeline Project

MNDNR-Natural Heritage Program Rare Natural Features

D-29-K

Information Request No. 3
Date of Request: September 20, 2007
Response Due: October 15, 2007
Reference: Karna Modification to Preferred Route

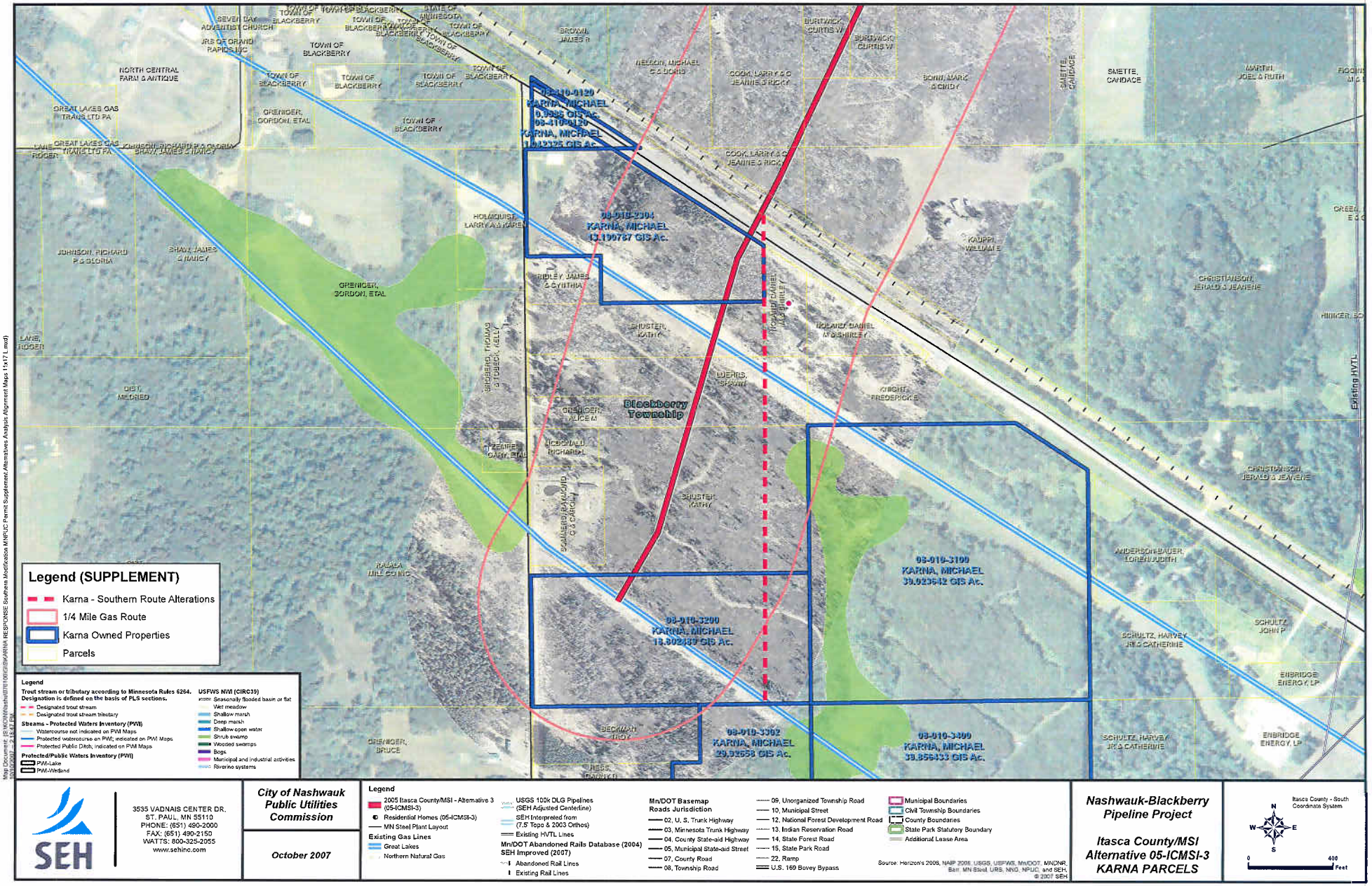
How the request for a 1500 foot corridor route in the application allows for flexibility to accommodate specific landowner concerns
Verify whether this proposed Karna request lies within the proposed 1500 foot pipeline route corridor
Provide an aerial photograph illustration (small scale) of the area, showing both the original preferred route and proposed modifications
Discuss the implications of moving the tap on the Great Lakes Gas line to accommodate the proposed modification

Response: One of the reasons for the 1,320 foot corridor that Nashwauk requested in its gas pipeline application is to allow Nashwauk to respond to and route the pipeline according to actual conditions, and, when possible, to accommodate landowner requests for modifications. This particular information request is an example of the flexibility that Nashwauk desires to keep in routing the gas pipeline.

The requested Karna modification lies within the limits of the 1,320 foot corridor width. The requested aerial photo illustration (labeled IR-3) is enclosed. The proposed modification is reasonable and within the boundaries of the corridor. However, one residence along US Highway #2 is impacted. The adjustment to the pipe placement will cause the location of the pipeline to move closer to that residence, as seen on IR-3. Discussions with that property owner will need to resolve this issue to accommodate the modification. The proposed Karna modification and adjustment to the tap on the Great Lakes Gas line are not expected to have significant impacts to pipeline construction.

Response By: Clarence Kadrmas*
Company: Utilities Management Company
Telephone: (952) 797-6455

* Aerial photo provided by SEH.



Legend

Trout stream or tributary according to Minnesota Rules 6264. Designation is defined on the basis of PLS sections.
- Designated trout stream
- Designated trout stream tributary

Streams - Protected Waters Inventory (PWI)
- Watercourse not indicated on PWI Maps
- Protected watercourse on PWI; indicated on PWI Maps
- Protected Public Ditch, indicated on PWI Maps

Protected/Public Waters Inventory (PWI)
- PWI-Lake
- PWI-Wetland

USFWS NWI (CIRC39)
- Seasonally flooded basin or flat
- Wet meadow
- Shallow marsh
- Deep marsh
- Shallow open water
- Shrub swamp
- Wooded swamps
- Bogs
- Municipal and industrial activities
- Riverine systems

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City of Nashwauk Public Utilities Commission

October 2007

Legend
- 2005 Itasca County/MSI - Alternative 3 (05-ICMSI-3)
- Residential Homes (05-ICMSI-3)
- MN Steel Plant Layout

Existing Gas Lines
- Great Lakes
- Northern Natural Gas

- USGS 100k DLG Pipelines (SEH Adjusted Centerline)
- SEH Interpreted from (7.5 Topo & 2003 Ortho)
- Existing HVTL Lines

Mn/DOT Abandoned Rails Database (2004)
SEH Improved (2007)
- Abandoned Rail Lines
- Existing Rail Lines

Mn/DOT Basemap Roads Jurisdiction
- 02, U. S. Trunk Highway
- 03, Minnesota Trunk Highway
- 04, County State-aid Highway
- 05, Municipal State-aid Street
- 07, County Road
- 08, Township Road
- 09, Unorganized Township Road
- 10, Municipal Street
- 12, National Forest Development Road
- 13, Indian Reservation Road
- 14, State Forest Road
- 15, State Park Road
- 22, Ramp
- U.S. 169 Bovey Bypass

- Municipal Boundaries
- Civil Township Boundaries
- County Boundaries
- State Park Statutory Boundary
- Additional Lease Area

Source: Horizon's 2006, NAIP 2006, USGS, USFWS, Mn/DOT, MNDNR, Barr, MN Steel, URS, NNG, NPUC, and SEH.
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Nashwauk-Blackberry Pipeline Project

Itasca County/MSI Alternative 05-ICMSI-3 KARNA PARCELS

Itasca County - South Coordinate System

N W E S

0 400 Feet

Map Document: (S:\KONH\data\007010\00\GIS\MXD\KARNA RESPONSE Southern Modification MNPUC Permit Supplement Alternatives Analysis Alignment Maps 11x17 L.mxd)
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IR-3

Information Request No. 4

Date of Request: September 24, 2007
Response Due: October 15, 2007
Reference: House Count Data

- Discuss the relationship between the data (i.e. location of residential homes) illustrated in figure D-22 of the permit application (in red) and Figures 11-1 through 11-7 (in orange), the requested corridor width of 1,500 feet and the house count (i.e. residences within 300 feet of the center line of the proposed pipeline);

- Provide tables and figures along with your text to aid in the clarification of the data.

Response: SEH GIS staff personally examined air photos at close detail along the entire length of each proposed route. In response to this information request, SEH staff re-examined the five routes in the permit application and the proposed Karna alternative. For each of these six routes, a visual house count was made at two levels of scrutiny: first for 330 feet (+/-) from the proposed centerline of the pipeline route, and then for a one quarter mile wide corridor (+/- 660 feet from the proposed centerline of the pipeline route). The 660-foot figure reflects the entire corridor.

The red dots on Figure D-22 depict houses within 330 feet of the centerline of the proposed one eighth mile wide pipeline by red dots, as noted by SEH GIS staff doing detailed visual inspection of air photos. The orange dots located on maps 11-1 through 11-7 are all residences provided in air photo data received from Itasca County land Records GIS staff. In addition, the table below summarizes the data, referencing the +/- 300 feet of the centerline data:

Route Name	ICMSI-1 WestGR (alt. 1)	ICMSI-2 EastGR (alt. 2)	NPUC Prfd. Route (alt. 3)	Karna Route Alt.	Citizen's Route 1 Highway 65 (alt. P-1)	Citizen's Route 2 RR (alt. P-2)
Route Color	**YELLOW**	**ORANGE**	**RED**	**PINK**	**DARK BLUE**	**LIGHT BLUE**
House Count w/in 300' of center line	50	8	5	150	141	68
House Count w/in entire corridor	33	44	36	106	236	149

Response By: George Johnson
Company: SEH
Telephone: (651) 765-2930

Information Request No. 5
Date of Request: October 2, 2007
Response Due: October 15, 2007
Reference: Pipeline Safety

Please include in your discussion [relating to pipeline safety] the following concepts and how they relate to the construction, operation, and maintenance of the proposed pipeline:

- Pipeline Integrity Management
- High Consequence Areas
- Potential Impact Radius
- Area Classification

Response:

In discussing the information requested, it is perhaps appropriate to begin with Class locations as prescribed by 49 CFR 192.5. 49 CFR 192 is one of nine volumes relating to Transportation and part 192 covers the transportation of natural gas.

Area Classification

Generally this part defines the following relating to "class location unit" as an onshore area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipe.

Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

A class 1 location has 10 or fewer buildings intended for human occupancy.

A class 2 location has more than 10 but fewer than 46 buildings intended for human occupancy.

A class 3 location has more 46 or more buildings intended for human occupancy. There are some additional areas that are considered class 3. That being any building or a small, well-defined outside area such as a playground that is occupied by 20 or more persons on a least 5 days a week for 10 weeks in any 12 month period. (The days and weeks need not be consecutive.)

A class 4 location is any class location where buildings with four or more stories above ground are prevalent.

Pipeline Integrity Management

The class location of a particular segment of a pipeline determines the necessity and complexity of the Pipeline Integrity Management (PIM) program. This subpart

prescribes minimum requirements for an integrity management program on any gas transmission pipeline that is covered.

High Consequence Areas

One element of the PIM program is the High consequence area (HCA). An HCA is determined by one of the following methods.

1. A class 3 or 4 location or any area in a class 1 or 2 location where the potential impact radius (PIR) is greater than 660 feet and the area contains 20 or more buildings intended for human occupancy or any area in a class 1 or 2 location where the PIR contains an identified site.
2. The area within a potential impact circle containing 20 or more buildings intended for human occupancy or an identified site.

Identified sites generally follow the additional areas described in class 3 locations above with the addition of a facility occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate. Examples are prisons and hospitals.

Potential Impact Radius

The Potential impact radius (PIR) means the radius of a circle within which the potential failure of a pipeline could have significant impact on people or property. The PIR is determined by a formula that among other things utilizes the allowable operating pressure and diameter of the pipe. Projected PIR for the proposed pipeline is approximately 525 feet.

Discussion

The four concepts relationship to the proposed pipeline is really a consequence of the class location along the pipeline. For this reason all cross-country transmission pipelines are routed to avoid existing and potential high-class locations if possible. Higher class locations, such as 3 and 4, or numerous identified sites increase operation and maintenance cost.

Although the proposed pipeline route is expected to have only class 1 or 2 locations it will be designed for class 3 exposure. This is because of future population increases that may impact the class location. Construction of the pipeline would be largely un-affected by the four concepts.

Response By: Phillip McLean
Company: Natural Gas Consulting, Omaha, Nebraska
Telephone: (402) 505-8835