

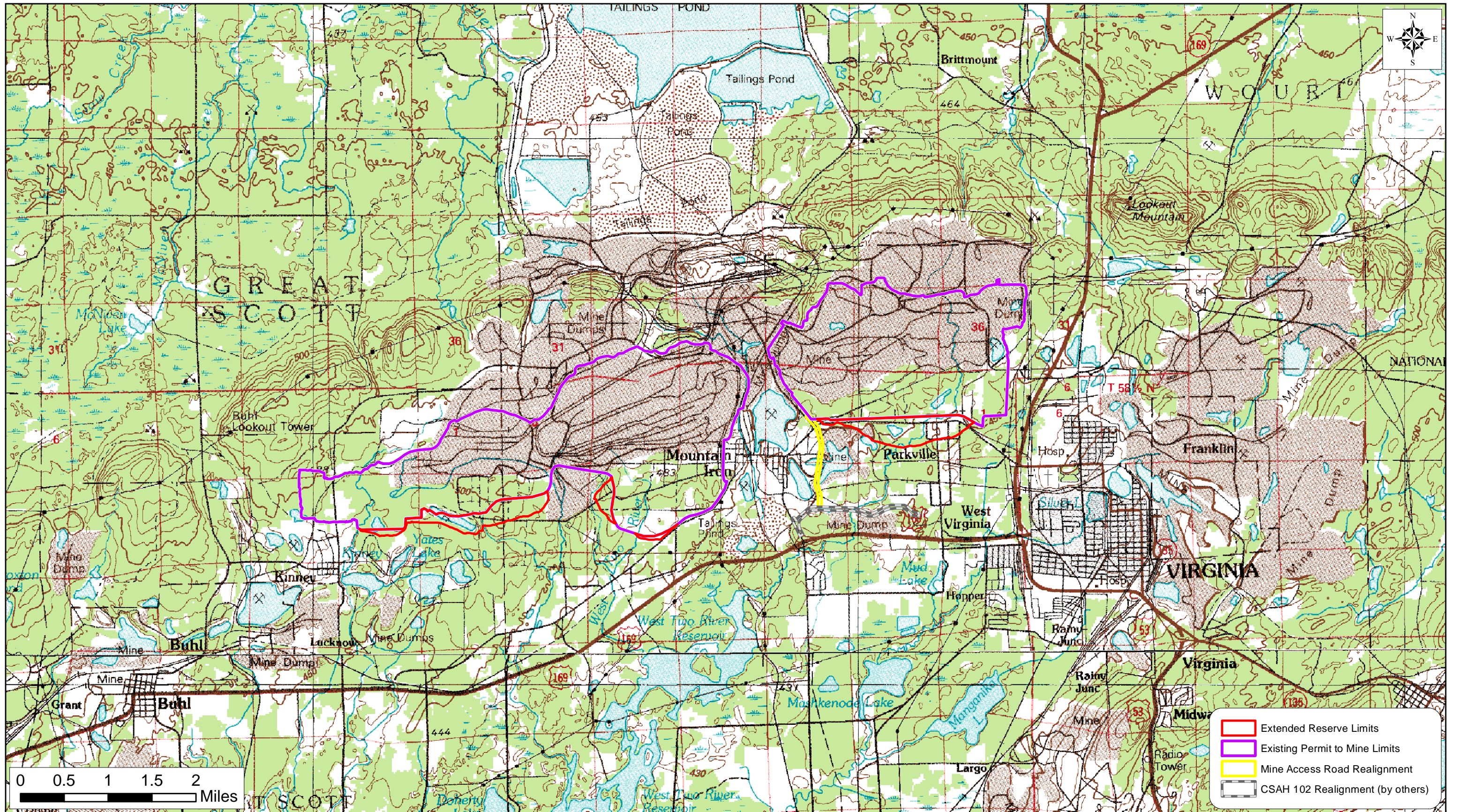

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Project: USSMN 114082
 Print Date: 7/23/2012
 Map by: DRD/bpt
 Projection: UTM NAD83
 Source: MNDNR

Project Location Map
 Minntac Mine Extension
 Mountain Iron, Minnesota

Figure
 1

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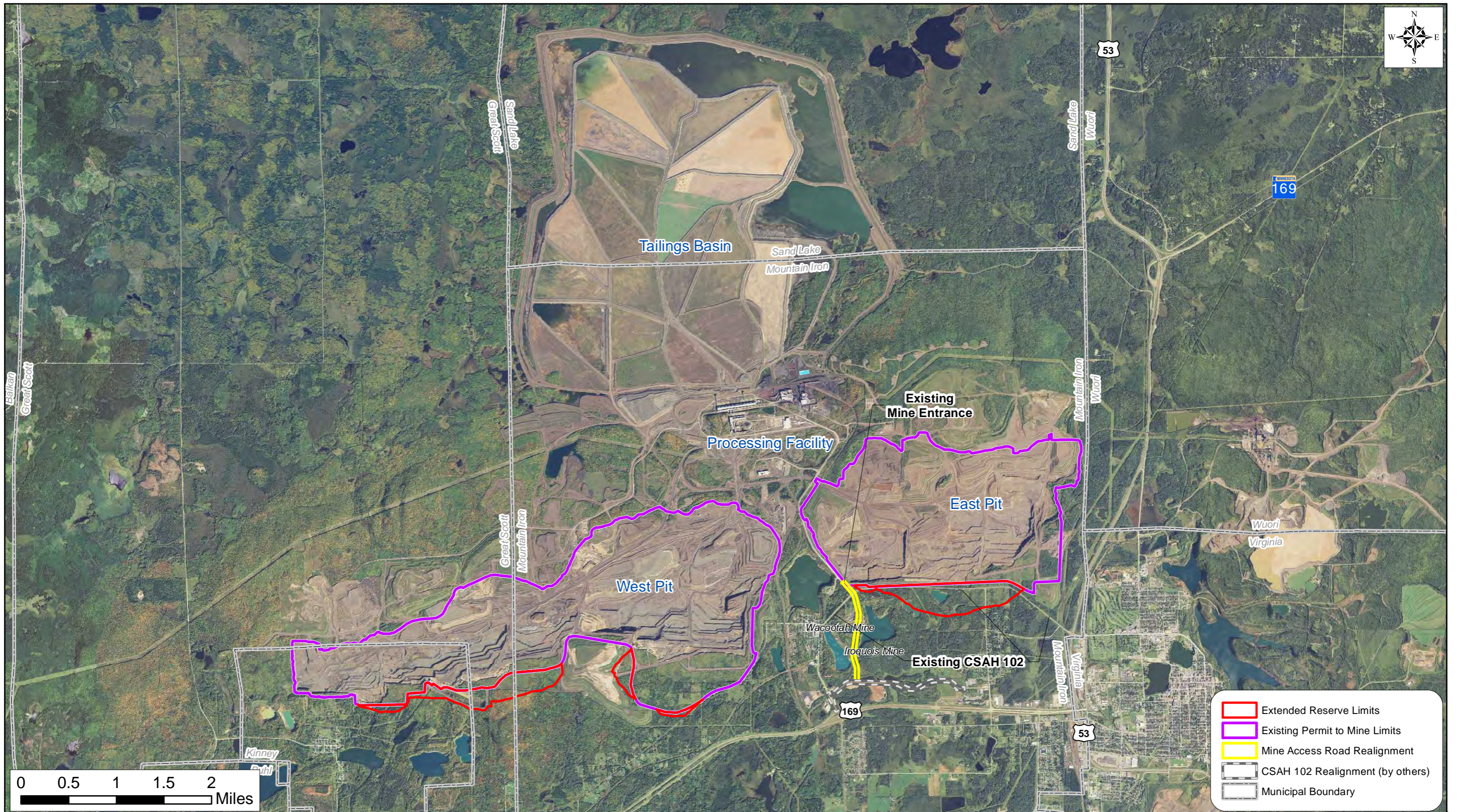

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USGS Topographic Map
 Minntac Mine Extension
 Mountain Iron, Minnesota

Figure
2

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0 0.5 1 1.5 2 Miles

- Extended Reserve Limits
- Existing Permit to Mine Limits
- Mine Access Road Realignment
- CSAH 102 Realignment (by others)
- Municipal Boundary

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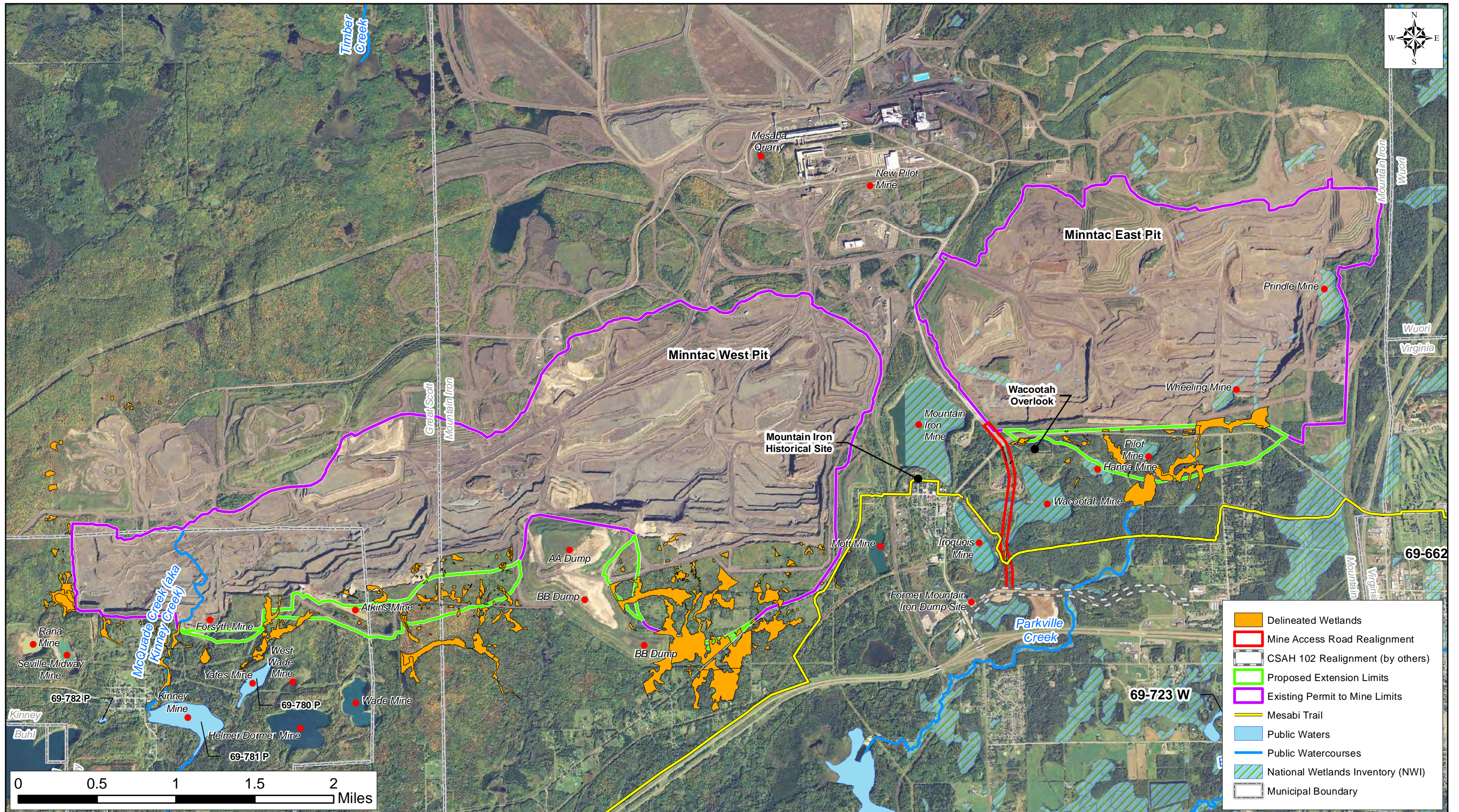
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2010 Aerial Photograph


Minntac Mine Extension Mountain Iron, Minnesota

Figure
3

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- Delineated Wetlands
- Mine Access Road Realignment
- CSAH 102 Realignment (by others)
- Proposed Extension Limits
- Existing Permit to Mine Limits
- Mesabi Trail
- Public Waters
- Public Watercourses
- National Wetlands Inventory (NWI)
- Municipal Boundary


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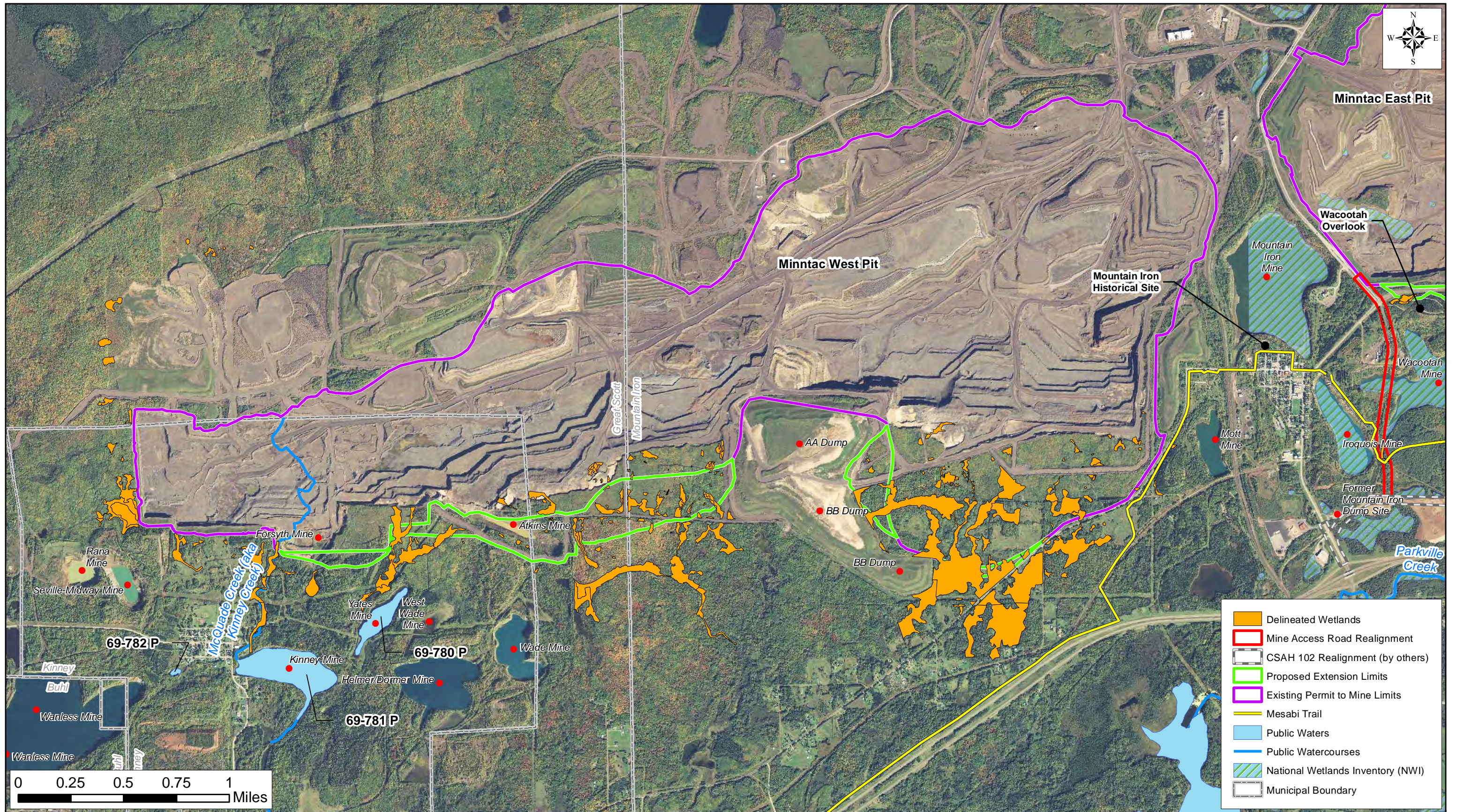
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 Projection: NAD27 State Plane MN North
 Source: MNDNR, USDA, SEH Inc.
 Background: 2010 FSA

Surrounding Land Use

Minntac Mine Extension Mountain Iron, Minnesota

Figure
4

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0 0.25 0.5 0.75 1 Miles

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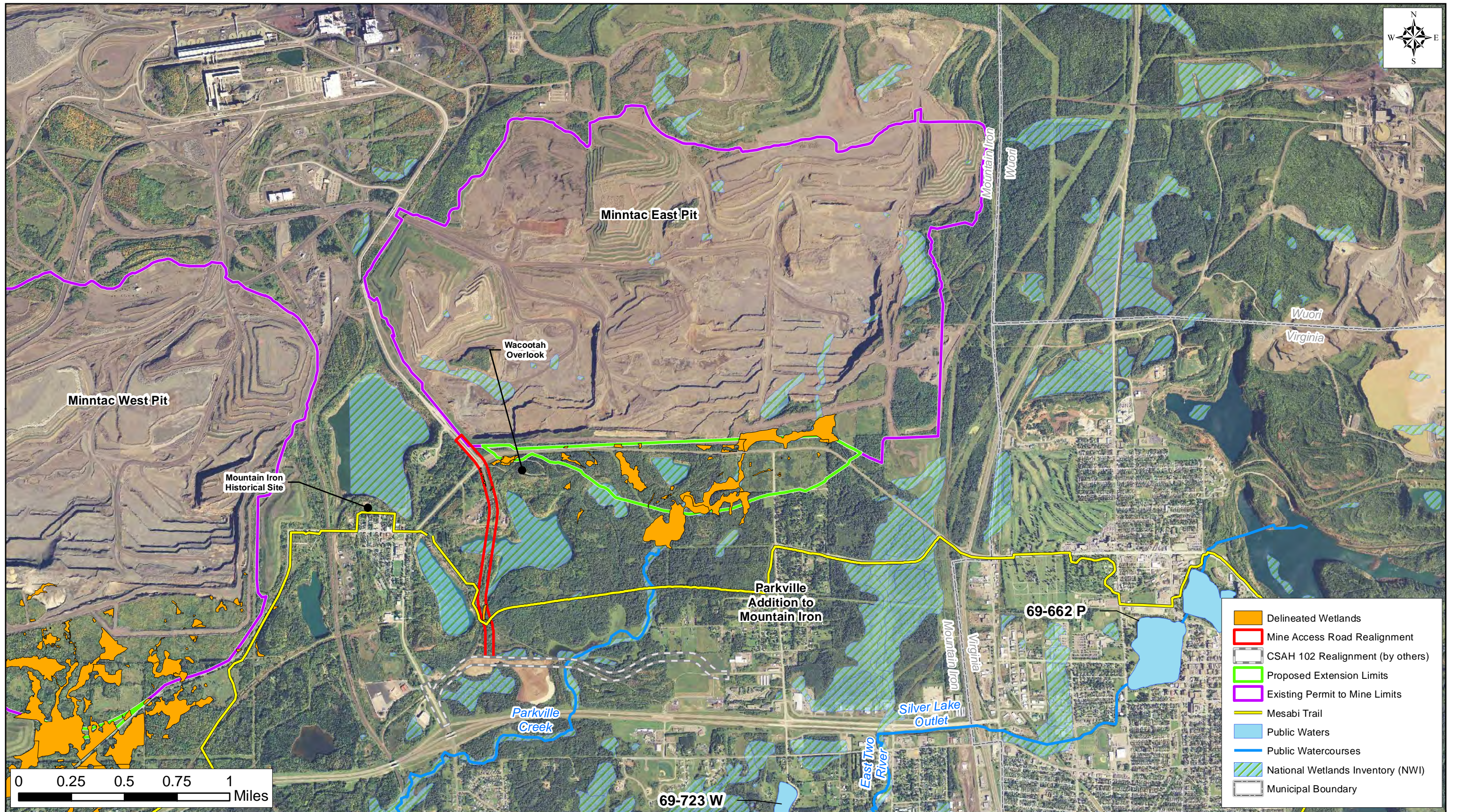
Project: USSMN 114082
Print Date: 7/23/2012
Map by: drd/bpt
Projection: NAD27 State Plane MN North
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Surrounding Land Use - West Pit

Minntac Mine Extension Mountain Iron, Minnesota

Figure
4a

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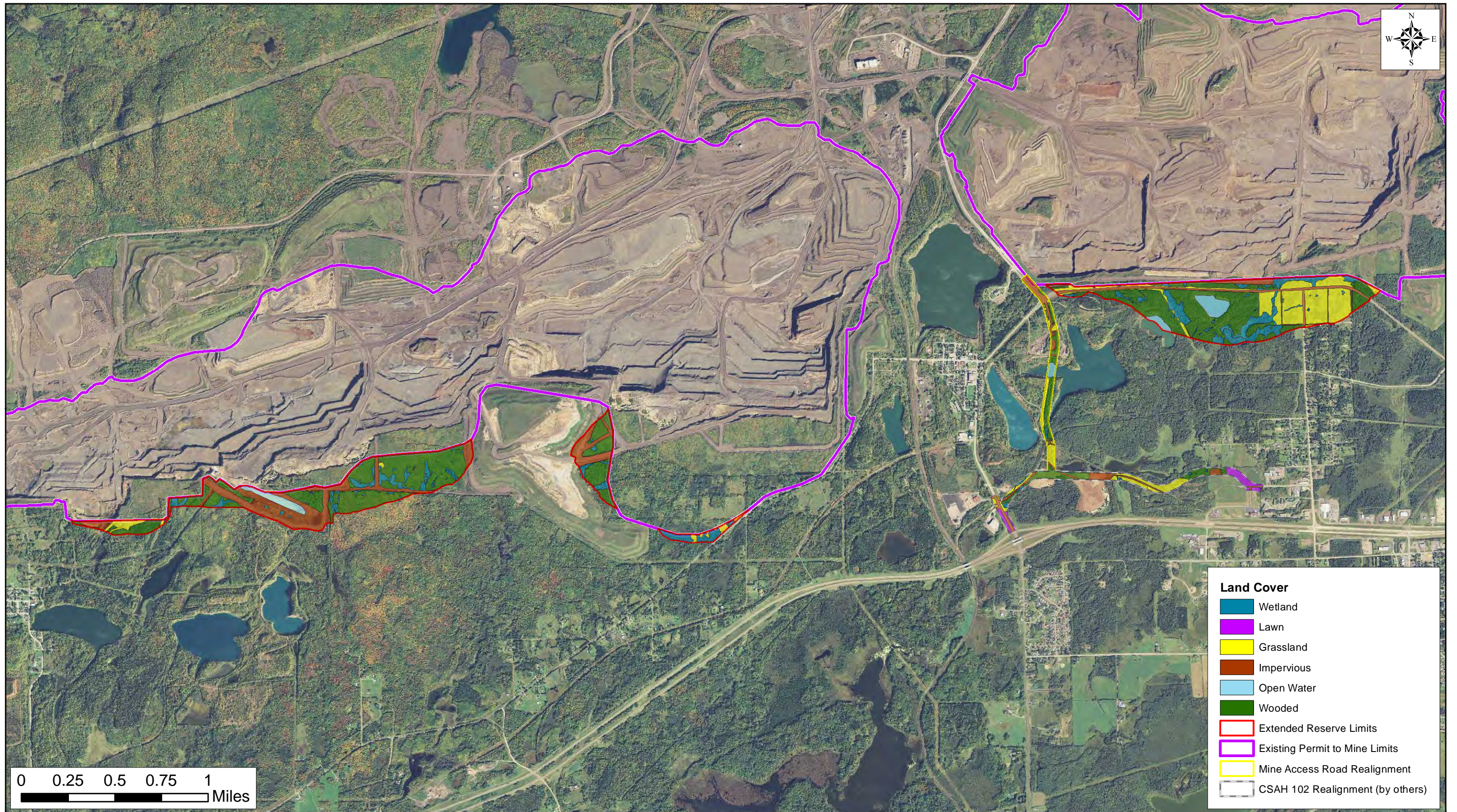
Surrounding Land Use - East Pit
 Minntac Mine Extension
 Mountain Iron, Minnesota

**Figure
4b**

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Land Cover

- Wetland
- Lawn
- Grassland
- Impervious
- Open Water
- Wooded
- Extended Reserve Limits
- Existing Permit to Mine Limits
- Mine Access Road Realignment
- CSAH 102 Realignment (by others)

0 0.25 0.5 0.75 1
Miles

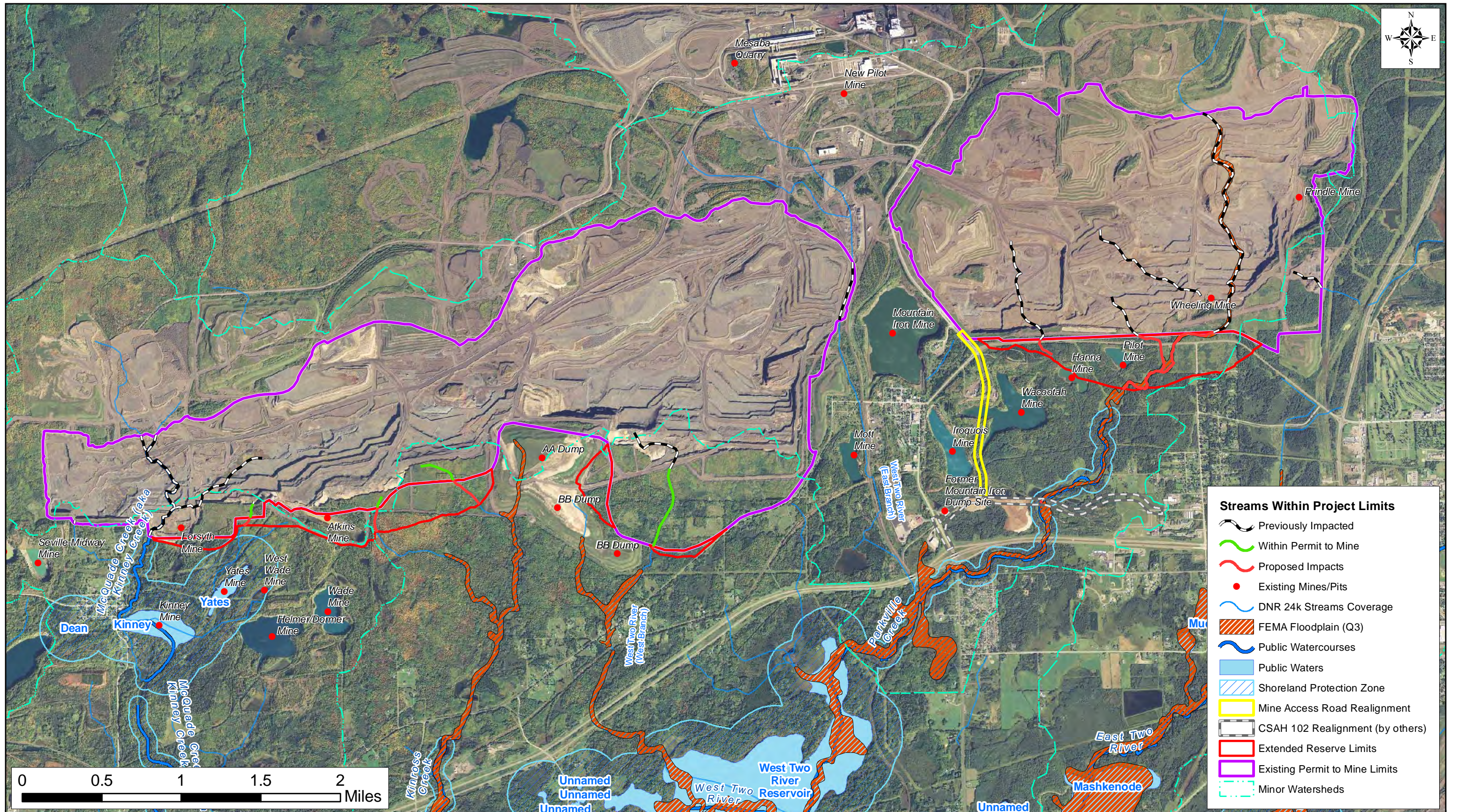
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Affected Land Cover
Minntac Mine Extension
Mountain Iron, Minnesota

Figure 5

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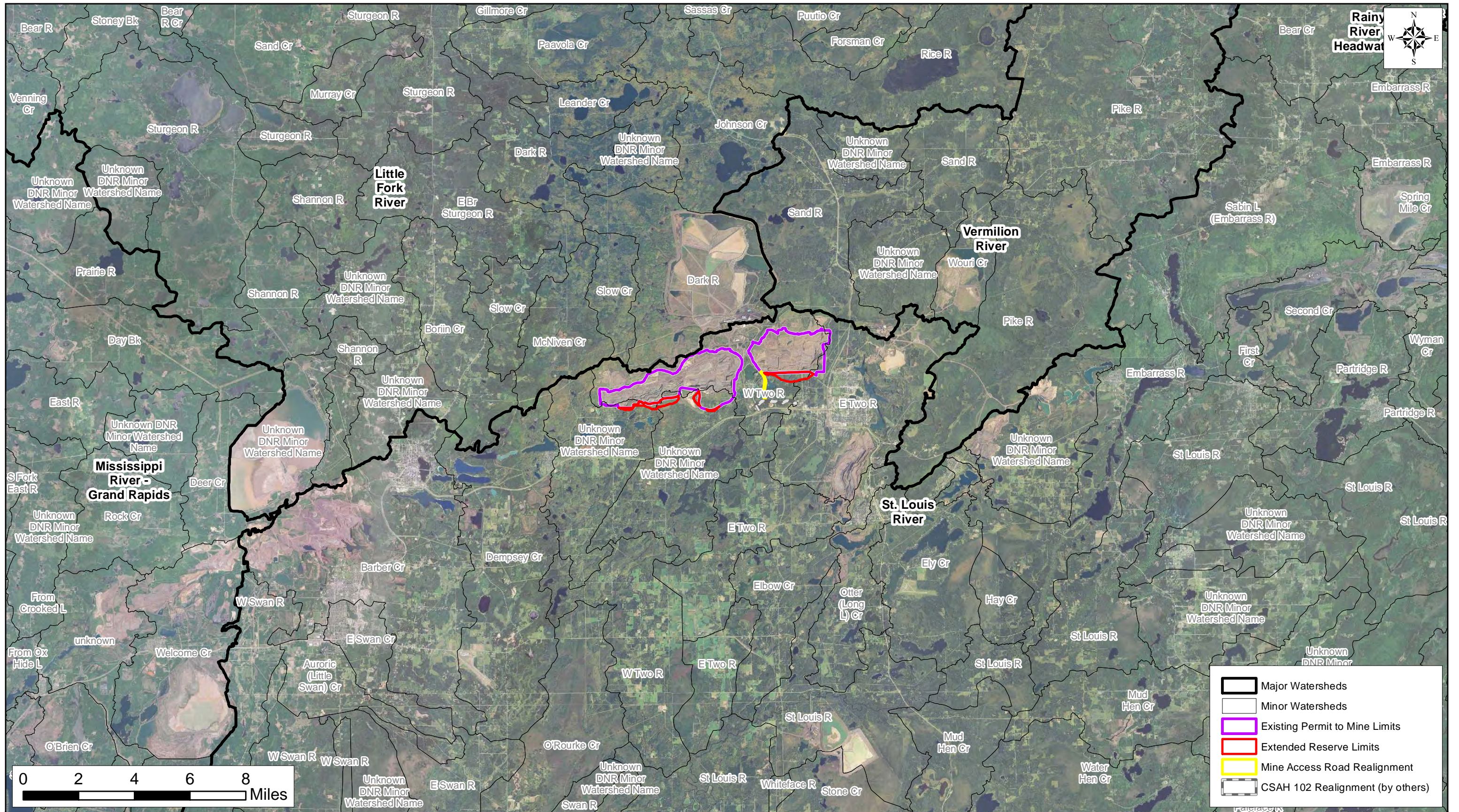
Map by: bpt/drd
 Projection: UTM NAD83
 Source: MnDNR, SEHinc, USS
 Background: 2010 FSA

Surface Water Resources

Minntac Mine Extension
 Mountain Iron, Minnesota

Figure 6

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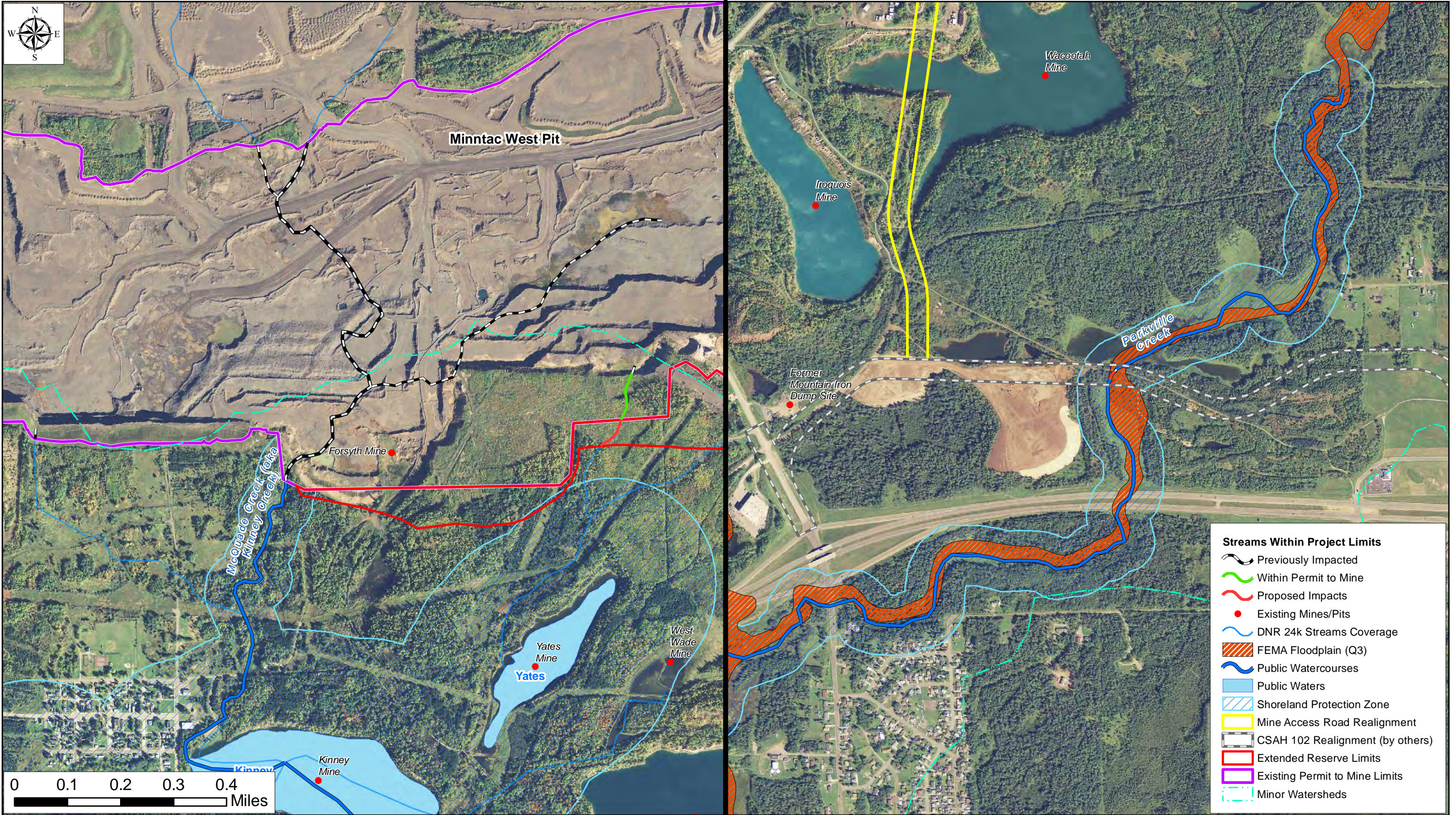
Project: USSMN 114082
 Print Date: 7/23/2012
 Map by: bpt
 Projection: UTM NAD83
 Source: MnDNR, SEHinc, USS
 Background: 2010 FSA

Watershed Map

Minntac Mine Extension Mountain Iron, Minnesota

Figure
6a

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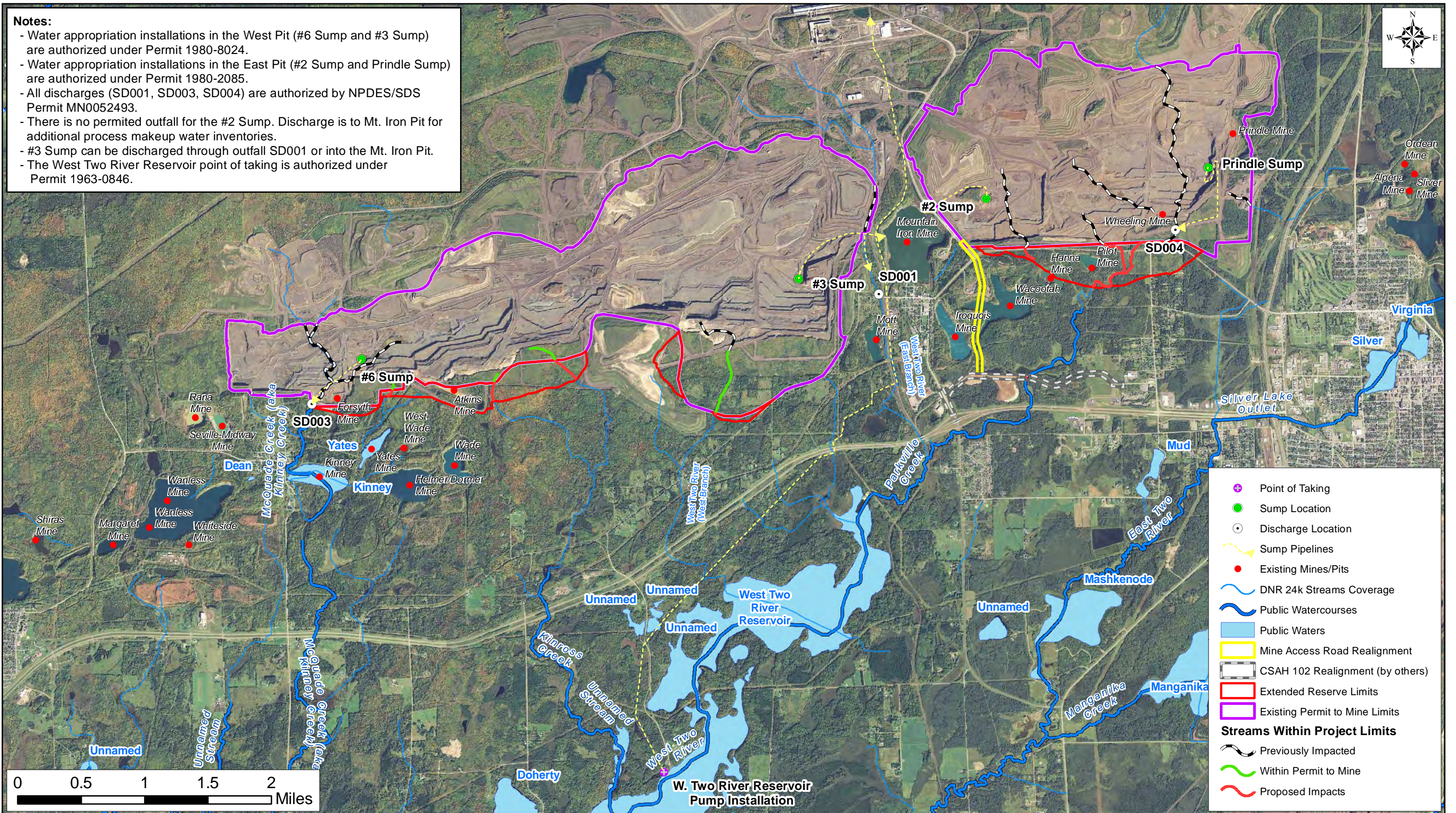
Shoreland Zone Impacts
 Minntac Mine Extension
 Mountain Iron, Minnesota

Figure 6b

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Notes:

- Water appropriation installations in the West Pit (#6 Sump and #3 Sump) are authorized under Permit 1980-8024.
- Water appropriation installations in the East Pit (#2 Sump and Prindle Sump) are authorized under Permit 1980-2085.
- All discharges (SD001, SD003, SD004) are authorized by NPDES/SDS Permit MN0052493.
- There is no permitted outfall for the #2 Sump. Discharge is to Mt. Iron Pit for additional process makeup water inventories.
- #3 Sump can be discharged through outfall SD001 or into the Mt. Iron Pit.
- The West Two River Reservoir point of taking is authorized under Permit 1963-0846.



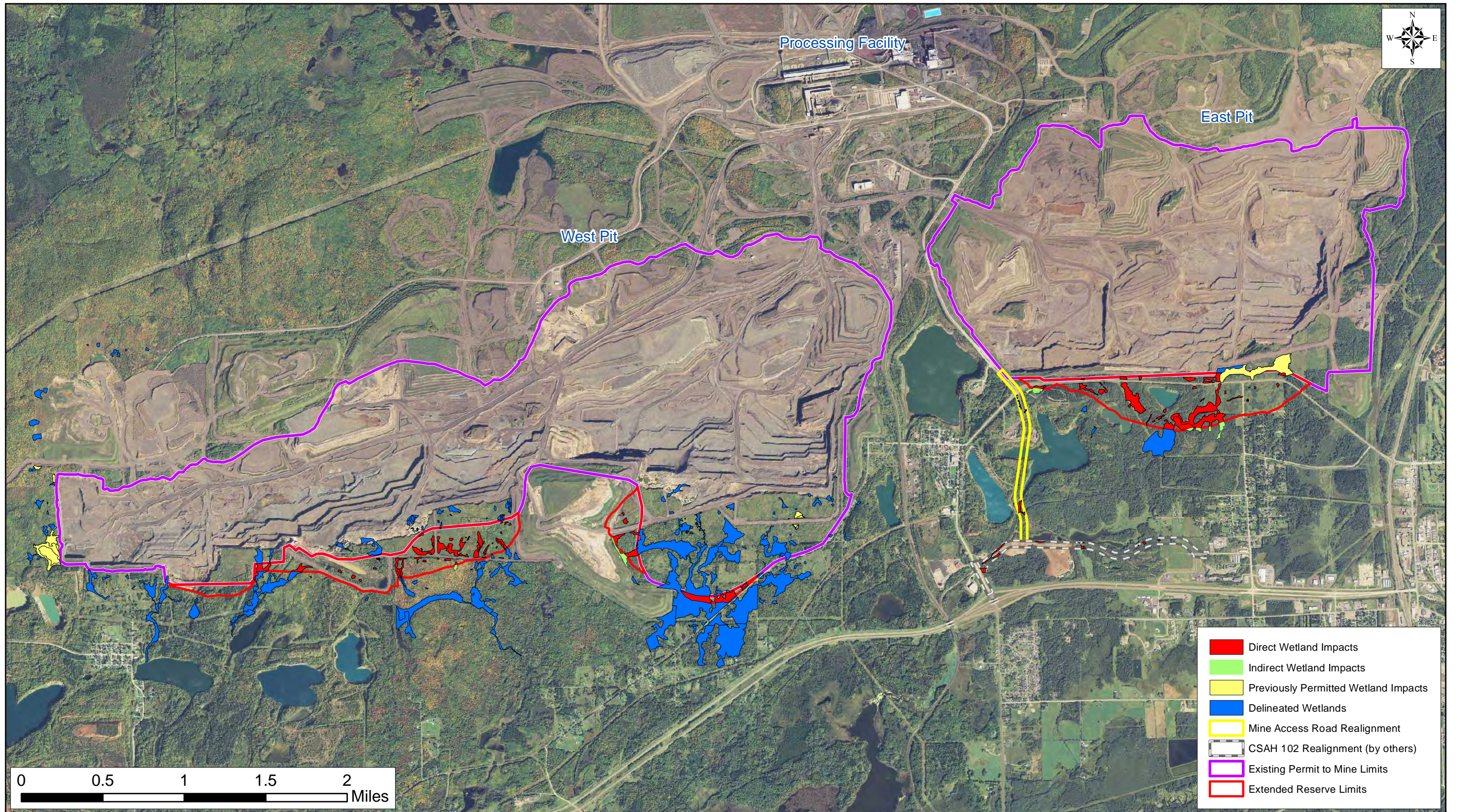
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Existing Water Appropriation Installations and NPDES/SDS Outfalls
 Minntac Mine Extension
 Mountain Iron, Minnesota

Figure
 6c

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- Direct Wetland Impacts
- Indirect Wetland Impacts
- Previously Permitted Wetland Impacts
- Delineated Wetlands
- Mine Access Road Realignment
- CSAH 102 Realignment (by others)
- Existing Permit to Mine Limits
- Extended Reserve Limits

0 0.5 1 1.5 2 Miles



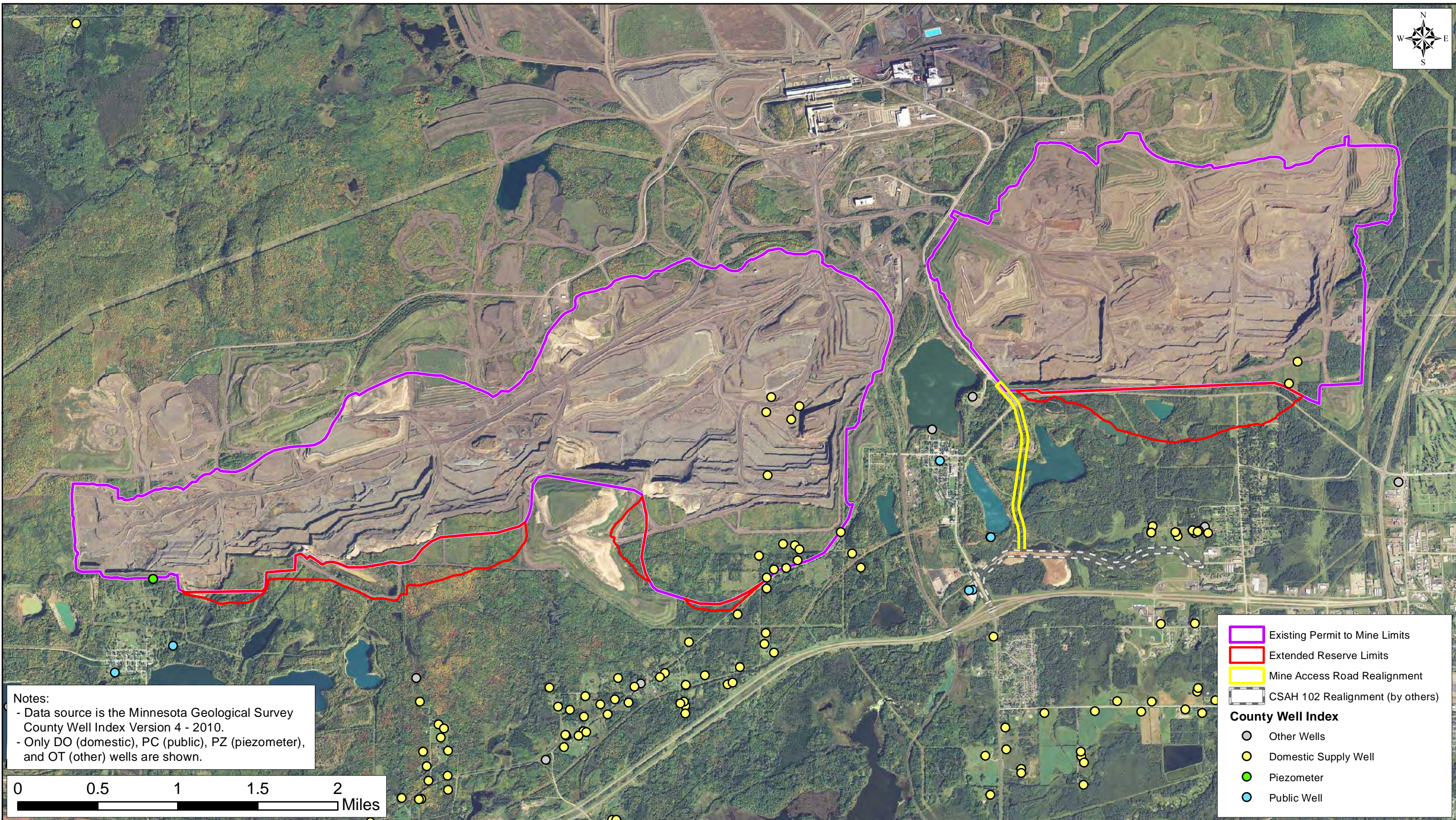
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 Map by: bpt/drd
 Projection: UTM NAD83
 Source: MnDNR, LMIC, USS
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Wetland Impacts
 Minntac Mine Extension
 Mountain Iron, Minnesota

Figure
7

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Notes:
 - Data source is the Minnesota Geological Survey County Well Index Version 4 - 2010.
 - Only DO (domestic), PC (public), PZ (piezometer), and OT (other) wells are shown.



	Existing Permit to Mine Limits
	Extended Reserve Limits
	Mine Access Road Realignment
	CSAH 102 Realignment (by others)
County Well Index	
	Other Wells
	Domestic Supply Well
	Piezometer
	Public Well

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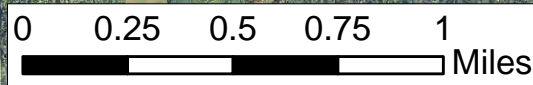
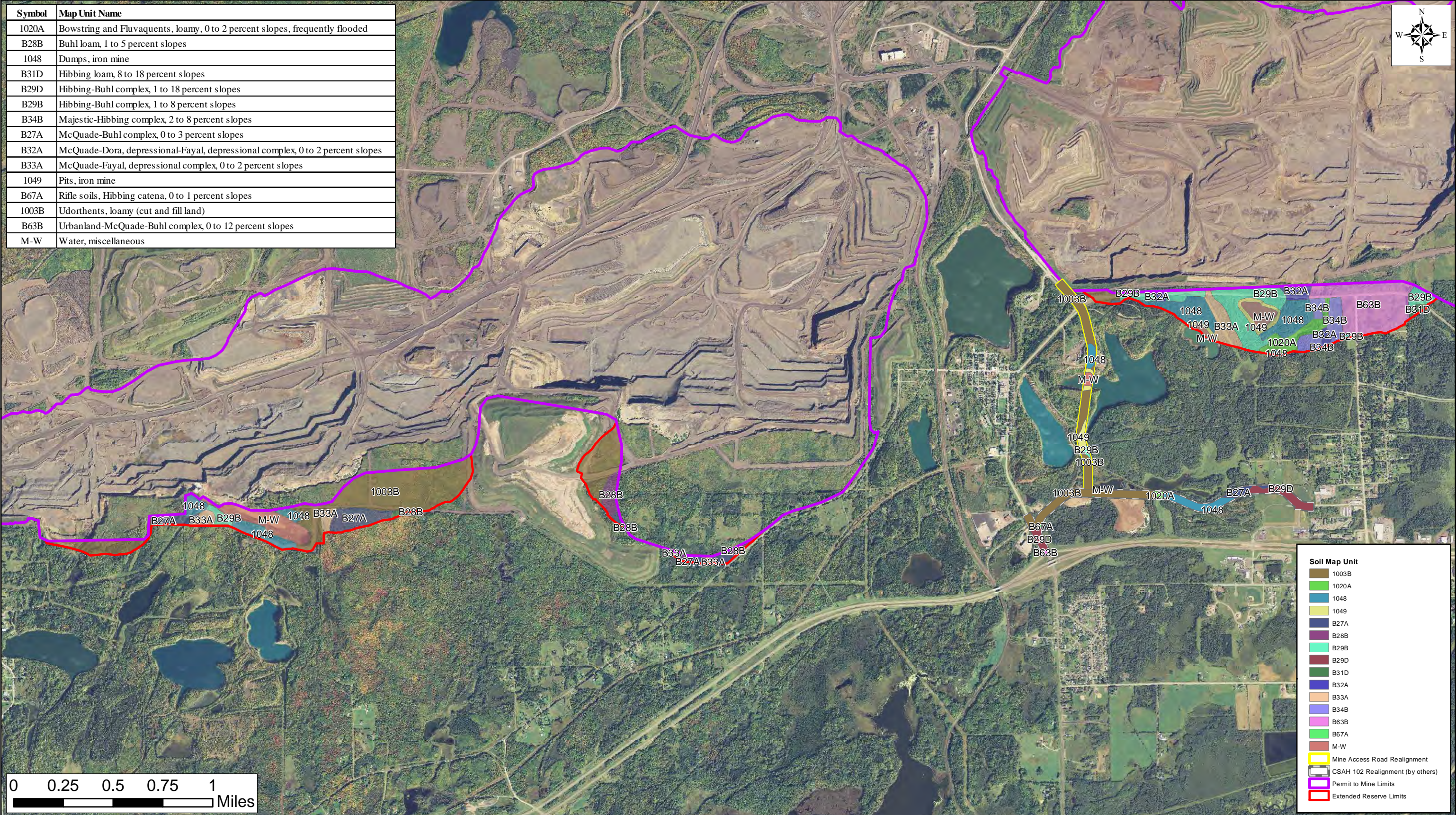
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County Well Index
 Minntac Mine Extension
 Mountain Iron, Minnesota

Figure 8

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Symbol	Map Unit Name
1020A	Bowstring and Fluvaquents, loamy, 0 to 2 percent slopes, frequently flooded
B28B	Buhl loam, 1 to 5 percent slopes
1048	Dumps, iron mine
B31D	Hibbing loam, 8 to 18 percent slopes
B29D	Hibbing-Buhl complex, 1 to 18 percent slopes
B29B	Hibbing-Buhl complex, 1 to 8 percent slopes
B34B	Majestic-Hibbing complex, 2 to 8 percent slopes
B27A	McQuade-Buhl complex, 0 to 3 percent slopes
B32A	McQuade-Dora, depressional-Fayal, depressional complex, 0 to 2 percent slopes
B33A	McQuade-Fayal, depressional complex, 0 to 2 percent slopes
1049	Pits, iron mine
B67A	Rifle soils, Hibbing catena, 0 to 1 percent slopes
1003B	Udorthents, loamy (cut and fill land)
B63B	Urbanland-McQuade-Buhl complex, 0 to 12 percent slopes
M-W	Water, miscellaneous



Soil Map Unit	Color
1003B	Brown
1020A	Light Green
1048	Blue
1049	Yellow
B27A	Dark Purple
B28B	Dark Blue
B29B	Light Green
B29D	Dark Green
B31D	Dark Green
B32A	Dark Green
B33A	Light Green
B34B	Light Green
B63B	Light Purple
B67A	Light Green
M-W	Blue
Mine Access Road Realignment	Yellow Line
CSAH 102 Realignment (by others)	Grey Line
Permit to Mine Limits	Purple Line
Extended Reserve Limits	Red Line

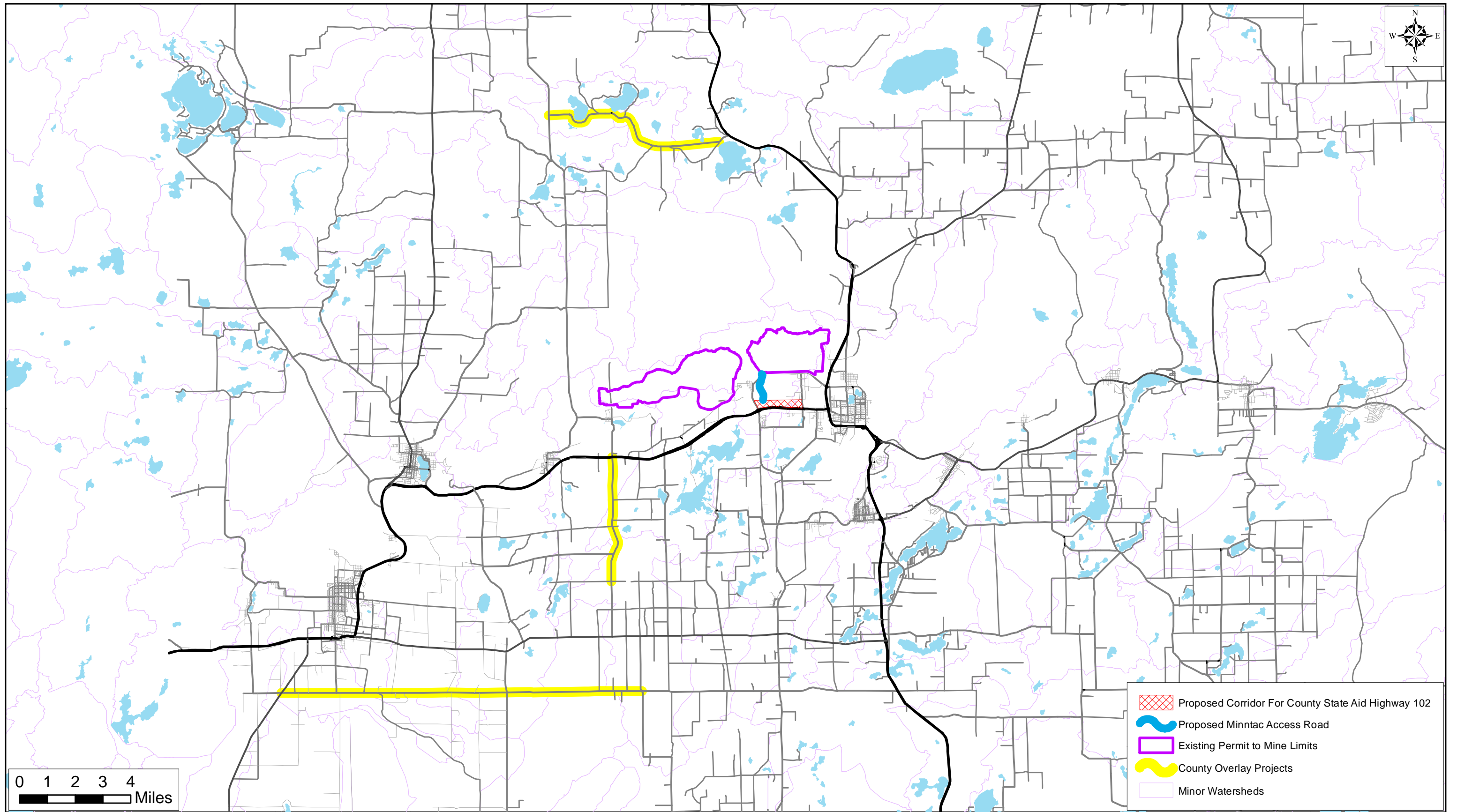

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St. Louis County Soil Survey
 Minntac Mine Extension
 Mountain Iron, Minnesota

Figure 9

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Map by: bpt
 Projection: UTM NAD83
 Source: MnDNR, SEHinc, USS
 Background:

Reasonably Foreseeable Projects by Others
 Minntac Mine Extension
 Mountain Iron, Minnesota

Figure
 10

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