

APPENDIX C

Exhibit 3 – Highway 52 Crash Rates Summary

Exhibit 4 – Regions Prone to Surface Karst Feature Development

Exhibit 5 – Identified Karst Features Within 1000 feet of Construction Limit

Exhibit 6 – NRCS Web Soil Summary

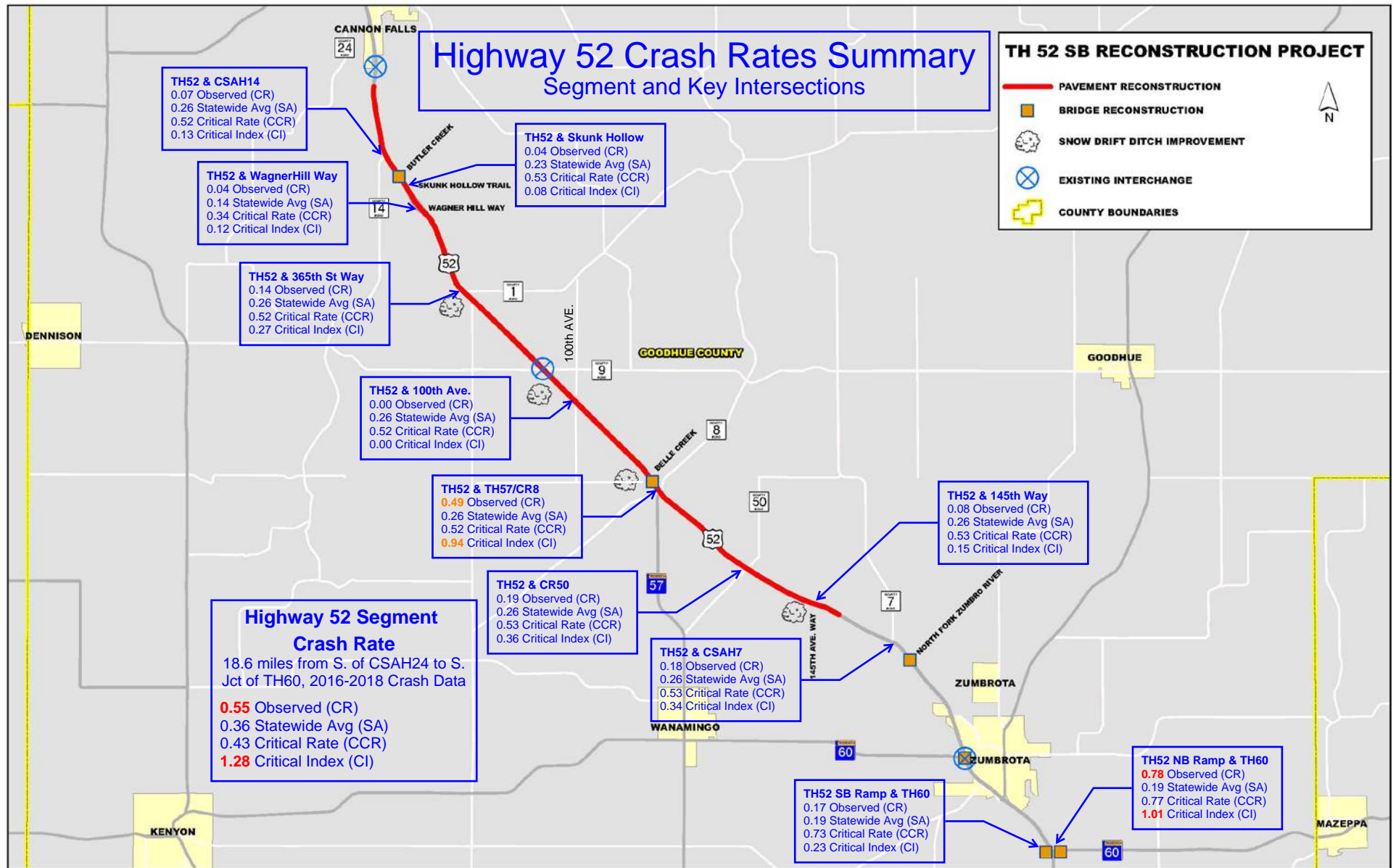
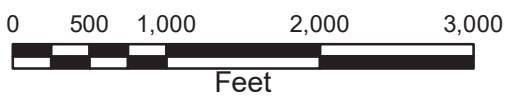
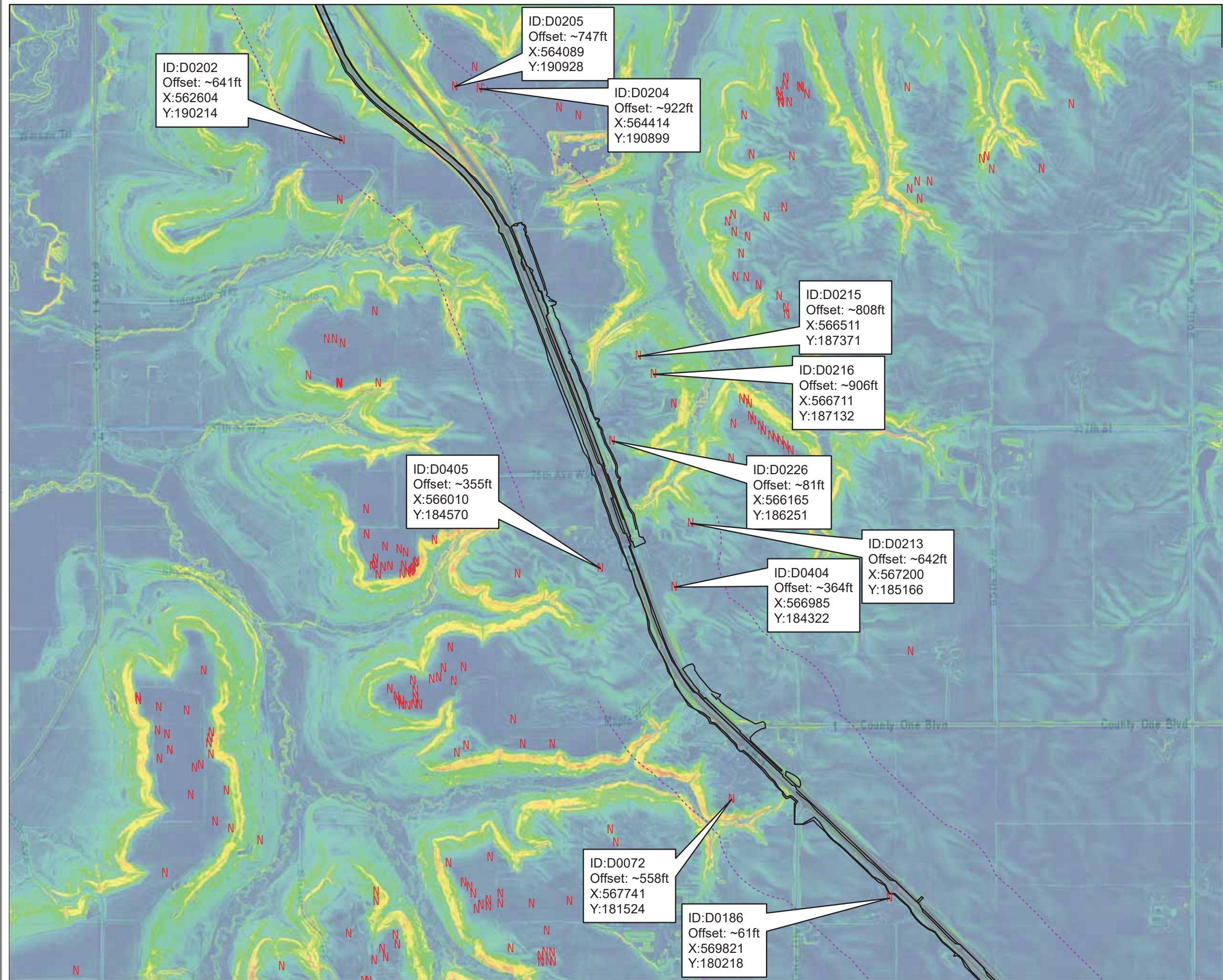


Exhibit 3 - Highway 52 Crash Rates Summary



LEGEND

- N Sinkhole
- SP2506-83 Construction Limits
- 1000 ft Buffer for Construction Limits
- Slope (Degrees)**
 - High : 45
 - Low : 0

Notes:
Construction limits polyline downloaded on July 10, 2020 from:
pw:\pw8i.ad.dot.state.mn.us:cadp\Documents\Projects\ID6_RCH\052\2506\083\Design\Consultant\FromConsultant\2020-04-22_layout files\cd250683_lim.dgn

Karst point features are provided by MN DNR on MN Geospatial Commons.
<https://gisdata.mn.gov/dataset/geos-karst-feature-inventory-pts>
[downloaded July 1, 2020]

Slope (degrees) from ESRI World Atlas
<https://www.arcgis.com/home/item.html?id=af25a795273440deb449b336543602be>

Coordinate System:
NAD 1983 HARN Adj MN Goodhue Feet

Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, iPC, TomTom

Identified Karst Features within 1000 feet of Construction Limit TH52 Cannon Falls to Zumbrota SP2506-83

Version Date: 2020/07/16
Created by: Holz1Mic

EXHIBIT 5



Map Unit Name—Goodhue County, Minnesota
(TH 52 SB Reconstruction: Cannon Falls to Zumbrota)

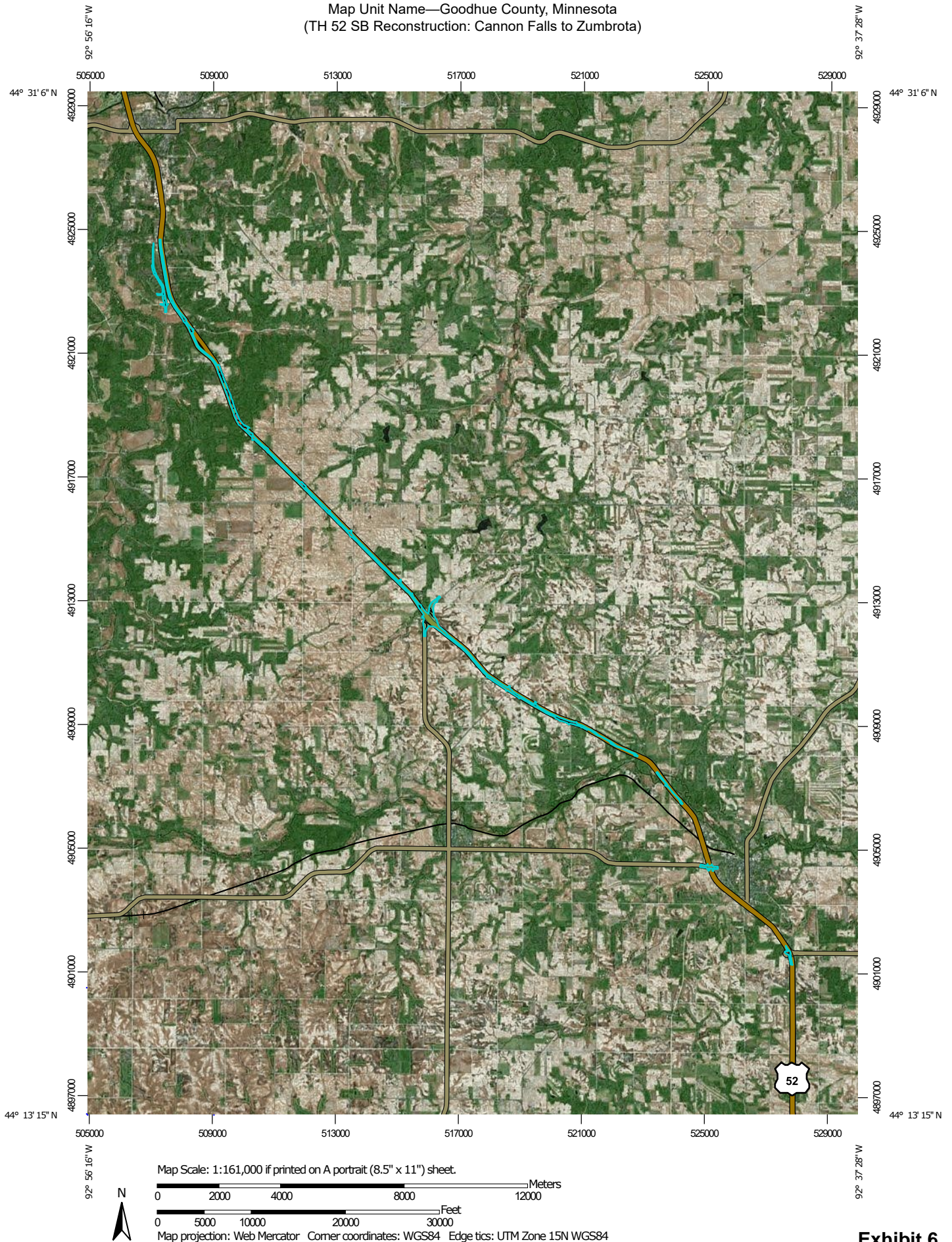


Exhibit 6



**Natural Resources
Conservation Service**


Web Soil Survey
National Cooperative Soil Survey

10/4/2019
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Map Unit Name—Goodhue County, Minnesota
(TH 52 SB Reconstruction: Cannon Falls to Zumbrota)









MAP LEGEND











Area of Interest (AOI)










 Area of Interest (AOI)










Soils











Soil Rating Polygons

-  Barremills silt loam, drainageway, 1 to 5 percent slopes, occasionally flooded
-  Bassett-Kasson complex, 6 to 12 percent slopes, eroded
-  Bassett-Racine complex, 12 to 18 percent slopes, moderately eroded
-  Bassett-Racine complex, 18 to 25 percent slopes
-  Billett sandy loam, 2 to 6 percent slopes
-  Brodale, flaggy-Schapville complex, 18 to 80 percent slopes, rocky
-  Chelsea loamy sand, 12 to 35 percent slopes
-  Chelsea loamy sand, 2 to 6 percent slopes














































-  Chelsea loamy sand, 6 to 12 percent slopes
-  Crescent-Eden Prairie complex, 2 to 6 percent slopes
-  Dakota silt loam, 0 to 3 percent slopes
-  Frankville-Nasset-Mt. Carroll complex, 18 to 35 percent slopes
-  Frontenac-Bellechester complex, 18 to 45 percent slopes
-  Hawick sandy loam, 18 to 45 percent slopes
-  Joy silt loam, 1 to 3 percent slopes
-  Joy-Ossian, occasionally flooded, complex, 1 to 5 percent slopes
-  Kalmarville-Radford complex, 0 to 3 percent slopes, frequently flooded
-  Kasson silt loam, 2 to 6 percent slopes

-  Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded
-  Littleton silt loam, 0 to 2 percent slopes, occasionally flooded
-  Maxfield silt loam, 0 to 2 percent slopes
-  Maxfield silty clay loam, 0 to 2 percent slopes, occasionally flooded
-  Meridian silt loam, 12 to 18 percent slopes, moderately eroded
-  Meridian, till substratum-Bassett complex, 6 to 12 percent slopes, moderately eroded
-  Mt. Carroll-Hersey complex, 12 to 18 percent slopes, moderately eroded
-  Mt. Carroll-Hersey complex, 2 to 6 percent slopes
-  Mt. Carroll-Hersey complex, 6 to 12 percent slopes, moderately eroded















































-  Otter silt loam, channeled upland, 0 to 2 percent slopes, frequently flooded
-  Port Byron silt loam, 0 to 2 percent slopes
-  Port Byron silt loam, 2 to 6 percent slopes
-  Port Byron silt loam, 6 to 12 percent slopes, moderately eroded
-  Rasset sandy loam, 0 to 6 percent slopes
-  Ridgeton, sandy substratum-Eden Prairie complex, 12 to 20 percent slopes, moderately eroded
-  Ridgeton, sandy substratum-Eden Prairie complex, 6 to 12 percent slopes, moderately eroded
-  Seaton silt loam, driftless ridge, 12 to 20 percent slopes, moderately eroded
-  Shandep-Cylinder complex, 0 to 2 percent slopes

-  Sparta loamy sand, 0 to 6 percent slopes
-  Sparta loamy sand, 6 to 12 percent slopes
-  Timula-Mt. Carroll complex, 12 to 18 percent slopes, moderately eroded
-  Timula-Mt. Carroll complex, 2 to 6 percent slopes
-  Timula-Mt. Carroll complex, 6 to 12 percent slopes, moderately eroded
-  Volney channery silt loam, 2 to 12 percent slopes, occasionally flooded
-  Wagen Prairie silt loam, 2 to 6 percent slopes
-  Wangs-Wagen Prairie complex, 12 to 18 percent slopes, moderately eroded
-  Wangs-Wagen Prairie complex, 18 to 35 percent slopes
-  Wangs-Wagen Prairie complex, 6 to 12 percent slopes, moderately eroded




























Map Unit Name—Goodhue County, Minnesota
(TH 52 SB Reconstruction: Cannon Falls to Zumbrota)

	Water		Bassett-Racine complex, 12 to 18 percent slopes, moderately eroded		Frontenac-Bellechester complex, 18 to 45 percent slopes		Meridian silt loam, 12 to 18 percent slopes, moderately eroded		Rasset sandy loam, 0 to 6 percent slopes
	Waucoma-Winneshiek complex, 6 to 12 percent slopes, moderately eroded		Bassett-Racine complex, 18 to 25 percent slopes		Hawick sandy loam, 18 to 45 percent slopes		Meridian, till substratum-Bassett complex, 6 to 12 percent slopes, moderately eroded		Ridgeton, sandy substratum-Eden Prairie complex, 12 to 20 percent slopes, moderately eroded
	Winneshiek loam, sinkhole karst, 6 to 12 percent slopes, moderately eroded		Billett sandy loam, 2 to 6 percent slopes		Joy silt loam, 1 to 3 percent slopes		Mt. Carroll-Hersey complex, 12 to 18 percent slopes, moderately eroded		Ridgeton, sandy substratum-Eden Prairie complex, 6 to 12 percent slopes, moderately eroded
	Winneshiek silt loam, 6 to 12 percent slopes, moderately eroded		Brodale, flaggy-Schapville complex, 18 to 80 percent slopes, rocky		Joy-Ossian, occasionally flooded, complex, 1 to 5 percent slopes		Mt. Carroll-Hersey complex, 2 to 6 percent slopes		Seaton silt loam, driftless ridge, 12 to 20 percent slopes, moderately eroded
	Winneshiek-Waucoma complex, 12 to 18 percent slopes, moderately eroded		Chelsea loamy sand, 2 to 6 percent slopes		Kasson silt loam, 2 to 6 percent slopes		Mt. Carroll-Hersey complex, 6 to 12 percent slopes, moderately eroded		Shandep-Cylinder complex, 0 to 2 percent slopes
	Winneshiek-Waucoma complex, 18 to 35 percent slopes		Chelsea loamy sand, 6 to 12 percent slopes		Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded		Otter silt loam, channeled upland, 0 to 2 percent slopes, frequently flooded		Sparta loamy sand, 0 to 6 percent slopes
	Not rated or not available		Crescent-Eden Prairie complex, 2 to 6 percent slopes		Littleton silt loam, 0 to 2 percent slopes, occasionally flooded		Port Byron silt loam, 0 to 2 percent slopes		Sparta loamy sand, 6 to 12 percent slopes
Soil Rating Lines									
	Barremills silt loam, drainageway, 1 to 5 percent slopes, occasionally flooded		Dakota silt loam, 0 to 3 percent slopes		Maxfield silt loam, 0 to 2 percent slopes		Port Byron silt loam, 2 to 6 percent slopes		Timula-Mt. Carroll complex, 12 to 18 percent slopes, moderately eroded
	Bassett-Kasson complex, 6 to 12 percent slopes, eroded		Frankville-Nasset-Mt. Carroll complex, 18 to 35 percent slopes		Maxfield silty clay loam, 0 to 2 percent slopes, occasionally flooded		Port Byron silt loam, 6 to 12 percent slopes, moderately eroded		Timula-Mt. Carroll complex, 2 to 6 percent slopes

Map Unit Name—Goodhue County, Minnesota
(TH 52 SB Reconstruction: Cannon Falls to Zumbrota)

 Timula-Mt. Carroll complex, 6 to 12 percent slopes, moderately eroded	 Winneshiek silt loam, 6 to 12 percent slopes, moderately eroded	 Brodale, flaggy-Schapville complex, 18 to 80 percent slopes, rocky	 Joy-Ossian, occasionally flooded, complex, 1 to 5 percent slopes	 Mt. Carroll-Hersey complex, 12 to 18 percent slopes, moderately eroded
 Volney channery silt loam, 2 to 12 percent slopes, occasionally flooded	 Winneshiek-Waucoma complex, 12 to 18 percent slopes, moderately eroded	 Chelsea loamy sand, 12 to 35 percent slopes	 Kalmarville-Radford complex, 0 to 3 percent slopes, frequently flooded	 Mt. Carroll-Hersey complex, 2 to 6 percent slopes
 Wagen Prairie silt loam, 2 to 6 percent slopes	 Winneshiek-Waucoma complex, 18 to 35 percent slopes	 Chelsea loamy sand, 2 to 6 percent slopes	 Kasson silt loam, 2 to 6 percent slopes	 Mt. Carroll-Hersey complex, 6 to 12 percent slopes, moderately eroded
 Wangs-Wagen Prairie complex, 12 to 18 percent slopes, moderately eroded	 Not rated or not available	 Chelsea loamy sand, 6 to 12 percent slopes	 Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded	 Otter silt loam, channeled upland, 0 to 2 percent slopes, frequently flooded
 Wangs-Wagen Prairie complex, 18 to 35 percent slopes	Soil Rating Points	 Crescent-Eden Prairie complex, 2 to 6 percent slopes	 Littleton silt loam, 0 to 2 percent slopes, occasionally flooded	 Port Byron silt loam, 0 to 2 percent slopes
 Wangs-Wagen Prairie complex, 6 to 12 percent slopes, moderately eroded	 Barremills silt loam, drainageway, 1 to 5 percent slopes, occasionally flooded	 Dakota silt loam, 0 to 3 percent slopes	 Maxfield silt loam, 0 to 2 percent slopes	 Port Byron silt loam, 2 to 6 percent slopes
 Water	 Bassett-Kasson complex, 6 to 12 percent slopes, eroded	 Frankville-Nasset-Mt. Carroll complex, 18 to 35 percent slopes	 Maxfield silty clay loam, 0 to 2 percent slopes, occasionally flooded	 Port Byron silt loam, 6 to 12 percent slopes, moderately eroded
 Waucoma-Winneshiek complex, 6 to 12 percent slopes, moderately eroded	 Bassett-Racine complex, 12 to 18 percent slopes, moderately eroded	 Frontenac-Bellechester complex, 18 to 45 percent slopes	 Meridian silt loam, 12 to 18 percent slopes, moderately eroded	 Rasset sandy loam, 0 to 6 percent slopes
 Winneshiek loam, sinkhole karst, 6 to 12 percent slopes, moderately eroded	 Bassett-Racine complex, 18 to 25 percent slopes	 Hawick sandy loam, 18 to 45 percent slopes	 Meridian, till substratum-Bassett complex, 6 to 12 percent slopes, moderately eroded	 Ridgeton, sandy substratum-Eden Prairie complex, 12 to 20 percent slopes, moderately eroded
	 Billett sandy loam, 2 to 6 percent slopes	 Joy silt loam, 1 to 3 percent slopes		

Map Unit Name—Goodhue County, Minnesota
(TH 52 SB Reconstruction: Cannon Falls to Zumbrota)

	Ridgeton, sandy substratum-Eden Prairie complex, 6 to 12 percent slopes, moderately eroded		Wangs-Wagen Prairie complex, 12 to 18 percent slopes, moderately eroded		Streams and Canals	<p>The soil surveys that comprise your AOI were mapped at 1:12,000.</p> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</p> <p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Goodhue County, Minnesota Survey Area Data: Version 15, Sep 17, 2019</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>
	Seaton silt loam, driftless ridge, 12 to 20 percent slopes, moderately eroded		Wangs-Wagen Prairie complex, 18 to 35 percent slopes		Rails	
	Shandep-Cylinder complex, 0 to 2 percent slopes		Wangs-Wagen Prairie complex, 6 to 12 percent slopes, moderately eroded		Interstate Highways	
	Sparta loamy sand, 0 to 6 percent slopes		Water		US Routes	
	Sparta loamy sand, 6 to 12 percent slopes		Waucoma-Winneshiek complex, 6 to 12 percent slopes, moderately eroded		Major Roads	
	Timula-Mt. Carroll complex, 12 to 18 percent slopes, moderately eroded		Winneshiek loam, sinkhole karst, 6 to 12 percent slopes, moderately eroded		Local Roads	
	Timula-Mt. Carroll complex, 2 to 6 percent slopes		Winneshiek silt loam, 6 to 12 percent slopes, moderately eroded		Aerial Photography	
	Timula-Mt. Carroll complex, 6 to 12 percent slopes, moderately eroded		Winneshiek-Waucoma complex, 12 to 18 percent slopes, moderately eroded			
	Volney channery silt loam, 2 to 12 percent slopes, occasionally flooded		Winneshiek-Waucoma complex, 18 to 35 percent slopes			
	Wagen Prairie silt loam, 2 to 6 percent slopes		Not rated or not available			
Water Features						

Map Unit Name

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
M506B	Kasson silt loam, 2 to 6 percent slopes	Kasson silt loam, 2 to 6 percent slopes	32.3	6.8%
M510A	Maxfield silt loam, 0 to 2 percent slopes	Maxfield silt loam, 0 to 2 percent slopes	12.2	2.6%
M516C2	Wangs-Wagen Prairie complex, 6 to 12 percent slopes, moderately eroded	Wangs-Wagen Prairie complex, 6 to 12 percent slopes, moderately eroded	6.5	1.4%
M516D2	Wangs-Wagen Prairie complex, 12 to 18 percent slopes, moderately eroded	Wangs-Wagen Prairie complex, 12 to 18 percent slopes, moderately eroded	3.9	0.8%
M516E	Wangs-Wagen Prairie complex, 18 to 35 percent slopes	Wangs-Wagen Prairie complex, 18 to 35 percent slopes	1.9	0.4%
M520B	Rasset sandy loam, 0 to 6 percent slopes	Rasset sandy loam, 0 to 6 percent slopes	19.2	4.1%
M522D2	Bassett-Racine complex, 12 to 18 percent slopes, moderately eroded	Bassett-Racine complex, 12 to 18 percent slopes, moderately eroded	4.0	0.9%
M522E	Bassett-Racine complex, 18 to 25 percent slopes	Bassett-Racine complex, 18 to 25 percent slopes	0.5	0.1%
M523C2	Bassett-Kasson complex, 6 to 12 percent slopes, eroded	Bassett-Kasson complex, 6 to 12 percent slopes, eroded	18.7	4.0%
M526C2	Winneshiek silt loam, 6 to 12 percent slopes, moderately eroded	Winneshiek silt loam, 6 to 12 percent slopes, moderately eroded	3.1	0.7%
M532A	Maxfield silty clay loam, 0 to 2 percent slopes, occasionally flooded	Maxfield silty clay loam, 0 to 2 percent slopes, occasionally flooded	1.5	0.3%
M535B	Wagen Prairie silt loam, 2 to 6 percent slopes	Wagen Prairie silt loam, 2 to 6 percent slopes	2.9	0.6%
M536C2	Meridian, till substratum-Bassett complex, 6 to 12 percent slopes, moderately eroded	Meridian, till substratum-Bassett complex, 6 to 12 percent slopes, moderately eroded	1.4	0.3%
M540F	Frontenac-Bellechester complex, 18 to 45 percent slopes	Frontenac-Bellechester complex, 18 to 45 percent slopes	0.9	0.2%
N507B	Timula-Mt. Carroll complex, 2 to 6 percent slopes	Timula-Mt. Carroll complex, 2 to 6 percent slopes	10.1	2.1%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
N507C2	Timula-Mt. Carroll complex, 6 to 12 percent slopes, moderately eroded	Timula-Mt. Carroll complex, 6 to 12 percent slopes, moderately eroded	2.5	0.5%
N507D2	Timula-Mt. Carroll complex, 12 to 18 percent slopes, moderately eroded	Timula-Mt. Carroll complex, 12 to 18 percent slopes, moderately eroded	1.7	0.4%
N508E	Seaton silt loam, driftless ridge, 12 to 20 percent slopes, moderately eroded	Seaton silt loam, driftless ridge, 12 to 20 percent slopes, moderately eroded	0.4	0.1%
N514B	Joy-Ossian, occasionally flooded, complex, 1 to 5 percent slopes	Joy-Ossian, occasionally flooded, complex, 1 to 5 percent slopes	14.4	3.1%
N522A	Otter silt loam, channeled upland, 0 to 2 percent slopes, frequently flooded	Otter silt loam, channeled upland, 0 to 2 percent slopes, frequently flooded	3.4	0.7%
N553E	Frankville-Nasset-Mt. Carroll complex, 18 to 35 percent slopes	Frankville-Nasset-Mt. Carroll complex, 18 to 35 percent slopes	0.0	0.0%
N577A	Shandep-Cylinder complex, 0 to 2 percent slopes	Shandep-Cylinder complex, 0 to 2 percent slopes	0.1	0.0%
N578B	Barremills silt loam, drainageway, 1 to 5 percent slopes, occasionally flooded	Barremills silt loam, drainageway, 1 to 5 percent slopes, occasionally flooded	4.2	0.9%
N579A	Dakota silt loam, 0 to 3 percent slopes	Dakota silt loam, 0 to 3 percent slopes	5.7	1.2%
N585B	Mt. Carroll-Hersey complex, 2 to 6 percent slopes	Mt. Carroll-Hersey complex, 2 to 6 percent slopes	138.8	29.4%
N585C2	Mt. Carroll-Hersey complex, 6 to 12 percent slopes, moderately eroded	Mt. Carroll-Hersey complex, 6 to 12 percent slopes, moderately eroded	22.3	4.7%
N585D2	Mt. Carroll-Hersey complex, 12 to 18 percent slopes, moderately eroded	Mt. Carroll-Hersey complex, 12 to 18 percent slopes, moderately eroded	4.7	1.0%
N586C2	Ridgeton, sandy substratum-Eden Prairie complex, 6 to 12 percent slopes, moderately eroded	Ridgeton, sandy substratum-Eden Prairie complex, 6 to 12 percent slopes, moderately eroded	2.9	0.6%
N586D2	Ridgeton, sandy substratum-Eden Prairie complex, 12 to 20 percent slopes, moderately eroded	Ridgeton, sandy substratum-Eden Prairie complex, 12 to 20 percent slopes, moderately eroded	6.2	1.3%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
N591A	Port Byron silt loam, 0 to 2 percent slopes	Port Byron silt loam, 0 to 2 percent slopes	3.0	0.6%
N591B	Port Byron silt loam, 2 to 6 percent slopes	Port Byron silt loam, 2 to 6 percent slopes	91.6	19.4%
N591C2	Port Byron silt loam, 6 to 12 percent slopes, moderately eroded	Port Byron silt loam, 6 to 12 percent slopes, moderately eroded	3.5	0.7%
N592B	Crescent-Eden Prairie complex, 2 to 6 percent slopes	Crescent-Eden Prairie complex, 2 to 6 percent slopes	2.8	0.6%
N593B	Sparta loamy sand, 0 to 6 percent slopes	Sparta loamy sand, 0 to 6 percent slopes	5.3	1.1%
N593C	Sparta loamy sand, 6 to 12 percent slopes	Sparta loamy sand, 6 to 12 percent slopes	1.4	0.3%
N594B	Chelsea loamy sand, 2 to 6 percent slopes	Chelsea loamy sand, 2 to 6 percent slopes	3.6	0.8%
N594C	Chelsea loamy sand, 6 to 12 percent slopes	Chelsea loamy sand, 6 to 12 percent slopes	0.0	0.0%
N594E	Chelsea loamy sand, 12 to 35 percent slopes	Chelsea loamy sand, 12 to 35 percent slopes	2.6	0.5%
N597C2	Waucoma-Winneshiek complex, 6 to 12 percent slopes, moderately eroded	Waucoma-Winneshiek complex, 6 to 12 percent slopes, moderately eroded	0.2	0.0%
N598D2	Winneshiek-Waucoma complex, 12 to 18 percent slopes, moderately eroded	Winneshiek-Waucoma complex, 12 to 18 percent slopes, moderately eroded	3.1	0.7%
N598E	Winneshiek-Waucoma complex, 18 to 35 percent slopes	Winneshiek-Waucoma complex, 18 to 35 percent slopes	0.4	0.1%
N599C2	Winneshiek loam, sinkhole karst, 6 to 12 percent slopes, moderately eroded	Winneshiek loam, sinkhole karst, 6 to 12 percent slopes, moderately eroded	0.2	0.0%
N602A	Joy silt loam, 1 to 3 percent slopes	Joy silt loam, 1 to 3 percent slopes	7.0	1.5%
N604B	Billett sandy loam, 2 to 6 percent slopes	Billett sandy loam, 2 to 6 percent slopes	0.2	0.0%
N607D2	Meridian silt loam, 12 to 18 percent slopes, moderately eroded	Meridian silt loam, 12 to 18 percent slopes, moderately eroded	0.0	0.0%
N609E	Hawick sandy loam, 18 to 45 percent slopes	Hawick sandy loam, 18 to 45 percent slopes	0.4	0.1%
N614A	Kalmarville-Radford complex, 0 to 3 percent slopes, frequently flooded	Kalmarville-Radford complex, 0 to 3 percent slopes, frequently flooded	3.1	0.7%
N616A	Littleton silt loam, 0 to 2 percent slopes, occasionally flooded	Littleton silt loam, 0 to 2 percent slopes, occasionally flooded	4.8	1.0%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
N617A	Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded	Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded	0.1	0.0%
N621B	Volney channery silt loam, 2 to 12 percent slopes, occasionally flooded	Volney channery silt loam, 2 to 12 percent slopes, occasionally flooded	5.8	1.2%
N632G	Brodale, flaggy-Schapville complex, 18 to 80 percent slopes, rocky	Brodale, flaggy-Schapville complex, 18 to 80 percent slopes, rocky	6.7	1.4%
W	Water	Water	0.1	0.0%
Totals for Area of Interest			472.5	100.0%

Description

A soil map unit is a collection of soil areas or nonsoil areas (miscellaneous areas) delineated in a soil survey. Each map unit is given a name that uniquely identifies the unit in a particular soil survey area.

Rating Options

Aggregation Method: No Aggregation Necessary

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The majority of soil attributes are associated with a component of a map unit, and such an attribute has to be aggregated to the map unit level before a thematic map can be rendered. Map units, however, also have their own attributes. An attribute of a map unit does not have to be aggregated in order to render a corresponding thematic map. Therefore, the "aggregation method" for any attribute of a map unit is referred to as "No Aggregation Necessary".

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.