

Site Maps

Initial Site Map

Operation Site Map

Final Site Map

Appendix A

Location Map & DNR Wetlands

124 Pit



Printed 10/20/2015

Scale = 1:660'



Disclaimer: This map is a compilation of records as they appear in the Chippewa County Offices affecting the area shown and is to be used only for reference purposes.

Appendix B

Parcel Map



PIN: 23008-0523-00020000

Owner Name: CHIPPEWA COUNTY

Owner Address:

Owner Address: , 547244439

Acreage: 37.1

School Code: 1092

Assessed Value: 0

Fair Market Value: 0

Description: SW NW EX 1.35 A. FOR STATE HWY 124 & EX THE S 22' FOR ACCESS TO SE NW & NE SW

Computer Number: 20-1584

Physical Address:



Scale = 1":470'

Printed 09/08/2015

Disclaimer: This map is a compilation of records as they appear in the Chippewa County Offices affecting the area shown and is to be used only for reference purposes.

Appendix C

Soils Map

Soil Map—Chippewa County, Wisconsin
(USDA Soils Map)



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

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.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chippewa County, Wisconsin
Survey Area Data: Version 10, Sep 9, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 6, 2011—Sep 10, 2011

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.

Map Unit Legend

Chippewa County, Wisconsin (WI017)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CkB	Chetek sandy loam, 2 to 6 percent slopes	3.6	9.7%
CkC2	Chetek sandy loam, 6 to 12 percent slopes, eroded	4.7	12.5%
CkD2	Chetek-Mahtomedi complex, 12 to 25 percent slopes, eroded	0.6	1.7%
Pc	Pits, gravel	28.7	76.1%
Totals for Area of Interest		37.7	100.0%

Appendix D

Erosion Control Matrices

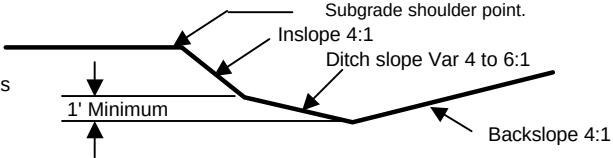
CHANNEL EROSION CONTROL MATRIX

(Concentrated Flow Application)

TYPE OF EROSION CONTROL DEVICE	PERMISSIBLE SHEAR LBS./F.	DITCH GRADE															REMARKS
		< 2%			2% - 4%			4% - 6%			6% - 9% *			9% - 12% *			
		Max. Length (ft.)			Max. Length (ft.)			Max. Length (ft.)			Max. Length (ft.)			Max. Length (ft.)			
		300	600	1200	300	600	1200	300	600	1200	300	600	1200	300	600	1200	
Seed with properly anchored mulch	0.6																Anchor mulch per specifications.
Sod ditch checks with seed and mulch	N/A																Install one ditch check for every 1 foot of drop. Sod stakes required.
Temporary ditch checks (hay bales or approved manufactured alternatives lisited in the WisDOT PAL)	N/A																Install one ditch check for every 2 feet of drop. Maximum 200' spacing. Not recommended for slopes less than 1%.
Sod ditch liner	1.0																Upstream end must be buried. Additional sod stakes required.
Double netted light duty (WisDOT Class I Type B) erosion mat	1.5																Only mat type products allowed.
Sod reinforced with a double netted jute (WisDOT Class II Type A) erosion mat	1.5																Upstream end must be buried. Additional sod stakes required. Two bid items needed.
Stone or rock ditch checks, or Rock-Filled Filter Bags	N/A																Use No. 2 coarse aggregate, railroad ballast, or breaker run. Install one ditch check for every 2 feet of drop. Use in conjunction with a channel lining.
Medium duty coconut erosion mat (WisDOT Class II Type B or C)	2.0																
Heavy duty synthetic (WisDOT Class III Type A) erosion mat or turf reinforcement mat (WisDOT Class III Type B)	2.0																Germination may be a problem with Class III Type A mats. An ECRM is required for initial erosion protection for Class III Type B mats.
Heavy duty synthetic turf reinforcement (WisDOT Class III Type C) mat	3.5																An ECRM is required for initial erosion protection. Contact manufacturer if higher shears are needed.
Riprap ditch checks	N/A																Place top of downstream ditch check level with bottom of upstream ditch check. Use in conjunction with a channel lining.
Heavy duty synthetic turf reinforcement (Class III Type D) mat	5																An ECRM is required for initial erosion protection. Contact manufacturer if higher shears are needed.
Light riprap	4																Outfalling, overtopping and scour need to be addressed. Use 2' minimum ditch depth.
Medium riprap	5																
Heavy riprap	8																
Riprap measures apply to all ditch types. Use of these measure requires engineering judgement and design.																	

CHANNEL EROSION CONTROL MATRIX

(Concentrated Flow Application)

TYPE OF EROSION CONTROL DEVICE	PERMISSIBLE SHEAR LB/S.F.	DITCH GRADE															REMARKS
		< 2%			2% - 4%			4% - 6%			6% - 9% *			9% - 12% *			
		Max. Length (ft.)			Max. Length (ft.)			Max. Length (ft.)			Max. Length (ft.)			Max. Length (ft.)			
		300	600	1200	300	600	1200	300	600	1200	300	600	1200	300	600	1200	
Grouted rip rap	N/A	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Address outfalling, overtopping and scour. Line with Grotexile fabric Type "HR", (see Chap. 10, Const. Detail and special provision). Use 2' minimum ditch depth.
Articulated Concrete Block Type A	5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	ACBs apply to all ditch types. Use of these measures requires engineering judgement and design.
Articulated Concrete Block Type B	10	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Articulated Concrete Block Type C	15	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Articulated Concrete Block Type D	20	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Articulated Concrete Block Type E	30	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Standard Ditch Section  Erosion control for ditches not conforming to the typical at right, that complies with FDM procedures 11-15-1 Figures 6 & 7, should be designed according to FDM Chapter 13. KEY Effective range of device for Sandy or Clayey Soil: ● Device applicable, may not be cost effective: ○ "C" effective for clayey soil only: ○ Not applicable. Use in conjunction with other BMPs: ○ ECRM - Erosion control revegetation mat. All Class I and II mats are ECRMs. TRM - Turf reinforcement mat. FDM - WisDOT Facilities Development Manual BMP - Best Management Practice PAL - See Note 6 * For ditch grades over 9% special design considerations may be required. ** Soils that are not sandy should be treated as clay soils.																	
NOTES 1) Ditch flow rates used to develop bar chart are based on a 60 ft. right of way from pavement centerline and a 2-Yr. rainfall event for temporary liners or a 25-Yr. rainfall event for permanent (Class III mat or riprap) liners. If the drainage area extends outside the 60 foot right of way or unusual flows are expected, use the shear stress column values to determine the suitability of a liner. See FDM procedures in Chapter 10 and in Section 13-30-10. 2) Erosion mats shall extend upslope 1.0 ft. min. vertically from the ditch bottom or 6" higher than the design flow depth. There shall be no joints within 18" of the low point. 3) Cost shall be a consideration in the selection of these devices. 4) Add sediment traps at the bottom of channel slopes. 5) Refer to FDM Chapter 10 for any channels exceeding the limits shown. 6) Approved materials for erosion products are referenced from the Wisconsin Department of Transportation Erosion Control Product Acceptability Lists (PAL), found at the web site: http://www.dot.wisconsin.gov/business/engrserv/pal.htm 7) On long or steep channels that require a higher class mat, use the appropriate lower class mat for the first 300 ft to 600 ft of the channel. 8) Effective erosion control involves minimizing the amount of time soil is exposed and the selection of a combination of practices, and not reliance on just one practice.																	

SLOPE EROSION CONTROL MATRIX

TYPE OF EROSION CONTROL	SLOPE																		REMARKS
	6:1 or flatter (7)			4:1			3:1			2.5:1			2:1			1:1			
	SLOPE LENGTH			SLOPE LENGTH			SLOPE LENGTH			SLOPE LENGTH			SLOPE LENGTH			SLOPE LENGTH			
	0 - 30'	30 - 60'	60 - 120'	0 - 30'	30 - 60'	60 - 120'	0 - 30'	30 - 60'	60 - 120'	0 - 30'	30 - 60'	60 - 120'	0 - 30'	30 - 60'	60 - 120'	0 - 30'	30 - 60'	60 - 120'	
Seed with properly anchored mulch																			
Single netted light duty (WisDOT Class I Type A) erosion mat																			
Light duty single netted 100% biodegradable (WisDOT Urban Type A) erosion mat																			Use only 100% biodegradeable anchors for urban mats.
Light duty double netted 100% biodegradeable (WisDOT Urban Type B) erosion mat																			Use only 100% biodegradeable anchors for urban mats.
Bonded Mulch (WisDOT Type A Soil Stabilizer)																			May be applied over Class III Type B, C, or D mats in place of erosion control revegetation mats.
Polymer (WisDOT Type B Soil Stabilizer)	Used in conjunction with other BMPs effective up to a 2:1 slope. Not effective in sand. When used alone effective up to a 3:1 slope. Stand alone use appropriate for earthen stock piles, temporary, and late season applications																		
Double netted light duty (WisDOT Class I Type B) erosion mat																			
Sod																			
Medium duty coconut erosion mat (WisDOT Class II Type B or C)																			
Sod reinforced with a double netted jute (WisDOT Class II Type A) erosion mat																			Sod stakes required. Two bid items needed.
Heavy duty synthetic erosion control revegetation mat (WisDOT Class III Type A)																			Germination may be a problem with Class III Type A mats
Riprap																			Angle of repose must be considered, see FDM Chapter 13.
Heavy duty synthetic turf reinforcement (WisDOT Class III Type B or C) mat																			A soil stabilizer or ECRM will be required for initial erosion protection.
Heavy duty synthetic turf reinforcement (WisDOT Class III Type D) mat																			A soil stabilizer or ECRM will be required for initial erosion protection.
Slope paving or grouted riprap																			Consider clear zone requirements. Only use in limited circumstances such as overflow areas near bridges.

SLOPE EROSION CONTROL MATRIX

Benches	Consider benches when cuts exceed 20', bench at approximately 15' vertical intervals to collect and drain water. Treat benches as channels (ditches). Adjust elevations to provide drainage. Consider flumes at transitions.
Intercepting embankments	Used to intercept runoff from abutting lands. Flumes may be necessary to direct runoff.
Silt fence	Used at toe of slopes to intercept and detain small amounts of sediment. Use only WisDOT approved silt fence as listed in the PAL.
Temporary ditch checks or Erosion bales	Used at toe of slopes to intercept and detain small amounts of sediment.
Slope drains/flumes	May be necessary on slopes (see channel matrix for design guidance).
Sediment traps	Used to trap sediment laden runoff. Could be used at the inlet or outlet end of slope drain.
<u>KEY:</u> Not applicable. Use in conjunction with other BMPs:  Effective range of device for Sandy or Clayey Soil:  Device applicable, may not be cost effective:  * Soils that are not sandy should be treated as clay soils. ECRM - Erosion control revegetation mat. All Class I and II mats are ECRMs. TRM - Turf reinforcement mat. FDM - WisDOT Facilities Development Manual PAL - See Note 5 <u>NOTES</u> 1) Cost shall be a consideration in the selection of these devices. 2) Designers should review FDM Chapter 10 prior to selection of erosion mats. 3) Install intercepting ditches to limit slope lengths to 15' vertical intervals. (See FDM Chapter 10) 4) Refer to FDM Chapter 10 for any slopes exceeding the limits shown. 5) Approved materials for erosion products are referenced from the Wisconsin Department of Transportation Erosion Control Product Acceptability Lists (PAL), found at the web site: http://www.dot.wisconsin.gov/business/engrserv/pal.htm 6) On steeper slopes that require a higher class mat, use the appropriate lower class mat or seed and mulch for the first 30 ft to 60 ft of the slope. 7) Unless project conditions require otherwise, seed and mulch all slopes that are flatter than a 5% grade, regardless of length. If practicable, bench the slopes. 8) Effective erosion control involves minimizing the amount of time soil is exposed and the selection of a combination of practices, and not reliance on just one practice.	