

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

[Data apply to the entire extent of the map unit within the survey area. Map unit and soil properties for a specific parcel of land may vary somewhat and should be determined by onsite investigation]

### 1003B--Udorthents, loamy (cut and fill land)

#### Udorthents, loamy, (cut and fill land)

*Extent:* 100 percent of the unit

*Landform(s):* fills on moraines, beveled cuts on moraines

*Slope gradient:* 0 to 6 percent

*Parent material:* variable soil material

*Restrictive feature(s):* greater than 60 inches

*Flooding:*

*Ponding:*

*Drainage class:* well drained

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:*

*Hydric soil:* no

*Hydrologic group:*

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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### 1007--Udorthents, shallow (sanitary landfill)

#### Udorthents, shallow (sanitary landfill)

*Extent:* 100 percent of the unit

*Landform(s):* sanitary landfills on moraines

*Slope gradient:*

*Parent material:* variable soil material

*Restrictive feature(s):* greater than 60 inches

*Flooding:*

*Ponding:*

*Drainage class:* well drained

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:*

*Hydric soil:* no

*Hydrologic group:*

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### 1012A--Lobo-Waskish complex, 0 to 2 percent slopes

#### Lobo

<p><i>Extent:</i> 50 to 80 percent of the unit</p> <p><i>Landform(s):</i> raised bogs on end moraines, raised bogs on outwash plains, raised bogs on till plains</p> <p><i>Slope gradient:</i> 0 to 2 percent</p> <p><i>Parent material:</i> organic material</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 8</p> <p><i>Wind erodibility index (WEI):</i> 0</p> <p><i>Kw factor (surface layer):</i></p> <p><i>Land capability, nonirrigated:</i> 7w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 38 in	peat	very rapid	21.00 to 24.82 in	
Oe -- 38 to 80 in	mucky peat	rapid	18.78 to 22.95 in	

#### Waskish

<p><i>Extent:</i> 20 to 50 percent of the unit</p> <p><i>Landform(s):</i> raised bogs on end moraines, raised bogs on outwash plains, raised bogs on till plains</p> <p><i>Slope gradient:</i> 0 to 2 percent</p> <p><i>Parent material:</i> organic material</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 8</p> <p><i>Wind erodibility index (WEI):</i> 0</p> <p><i>Kw factor (surface layer):</i></p> <p><i>Land capability, nonirrigated:</i> 7w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 14 in	peat	very rapid	7.80 to 9.21 in	
Oa -- 14 to 16 in	muck	moderately rapid	0.69 to 0.89 in	
Oi -- 16 to 80 in	mucky peat	very rapid	35.08 to 41.46 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### 1014A--Uskabwanka peat, 0 to 1 percent slopes

#### Uskabwanka

*Extent:* 50 to 80 percent of the unit

*Landform(s):* closed depressions on lake plains, closed depressions on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 40 in	mucky peat	rapid	13.64 to 16.67 in	
2Oe2 -- 40 to 70 in	water	impermeable		
Oe3 -- 70 to 80 in	mucky peat	rapid	4.43 to 5.41 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### 1020A--Bowstring and Fluvaquents, loamy, 0 to 2 percent slopes, frequently flooded

#### Bowstring, frequently flooded

*Extent:* 0 to 90 percent of the unit

*Landform(s):* flats on flood plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic materials mixed with alluvium

*Restrictive feature(s):* greater than 60 inches

*Flooding:* frequent

*Ponding:* none

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 38 in	muck	moderately rapid	13.37 to 17.19 in	
Cg -- 38 to 47 in	stratified fine sand to loamy fine sand	rapid	0.43 to 0.87 in	5.6 to 7.3
O'a -- 47 to 80 in	muck	moderately rapid	11.57 to 14.88 in	

#### Fluvaquents, frequently flooded

*Extent:* 0 to 90 percent of the unit

*Landform(s):* flats on flood plains

*Slope gradient:* 0 to 2 percent

*Parent material:* alluvium

*Restrictive feature(s):* greater than 60 inches

*Flooding:* frequent

*Ponding:* none

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 6 in	mucky silt loam	moderate	1.18 to 1.42 in	5.6 to 7.3
Cg -- 6 to 80 in	stratified silt loam to loamy coarse sand	moderately rapid	4.44 to 16.28 in	5.6 to 7.3

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### 1021A--Rifle soils, 0 to 1 percent slopes

#### Rifle

<i>Extent:</i> 0 to 95 percent of the unit	<i>Soil loss tolerance (T factor):</i> 2
<i>Landform(s):</i> swamps on end moraines, swamps on outwash plains, swamps on till plains	<i>Wind erodibility group (WEG):</i> 5
<i>Slope gradient:</i> 0 to 1 percent	<i>Wind erodibility index (WEI):</i> 56
<i>Parent material:</i> organic material	<i>Kw factor (surface layer):</i>
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated:</i> 7w
<i>Flooding:</i> none	<i>Hydric soil:</i> yes
<i>Ponding:</i> frequent	<i>Hydrologic group:</i> A/D
<i>Drainage class:</i> very poorly drained	<i>Potential for frost action:</i> high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

#### Rifle, depressional

<i>Extent:</i> 0 to 95 percent of the unit	<i>Soil loss tolerance (T factor):</i> 2
<i>Landform(s):</i> swamps on end moraines, swamps on outwash plains, swamps on till plains	<i>Wind erodibility group (WEG):</i> 8
<i>Slope gradient:</i> 0 to 1 percent	<i>Wind erodibility index (WEI):</i> 0
<i>Parent material:</i> organic material	<i>Kw factor (surface layer):</i>
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated:</i> 7w
<i>Flooding:</i> none	<i>Hydric soil:</i> yes
<i>Ponding:</i> frequent	<i>Hydrologic group:</i> A/D
<i>Drainage class:</i> very poorly drained	<i>Potential for frost action:</i> high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	



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### 1035--Urban land

#### Urban land

<p><i>Extent:</i> 90 to 100 percent of the unit</p> <p><i>Landform(s):</i> urban land on moraines</p> <p><i>Slope gradient:</i> 0 to 8 percent</p> <p><i>Parent material:</i> fill material from surrounding uplands, gravel pits and blasted bedrock.</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i></p> <p><i>Ponding:</i></p> <p><i>Drainage class:</i></p>	<p><i>Soil loss tolerance (T factor):</i></p> <p><i>Wind erodibility group (WEG):</i></p> <p><i>Wind erodibility index (WEI):</i></p> <p><i>Kw factor (surface layer)</i></p> <p><i>Land capability, nonirrigated:</i></p> <p><i>Hydric soil:</i> unranked</p> <p><i>Hydrologic group:</i></p> <p><i>Potential for frost action:</i></p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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### 1048--Dumps, iron mine

#### Dumps, iron mine

<p><i>Extent:</i> 100 percent of the unit</p> <p><i>Landform(s):</i> spoil piles on moraines</p> <p><i>Slope gradient:</i></p> <p><i>Parent material:</i> variable soil material</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i></p> <p><i>Ponding:</i></p> <p><i>Drainage class:</i></p>	<p><i>Soil loss tolerance (T factor):</i></p> <p><i>Wind erodibility group (WEG):</i></p> <p><i>Wind erodibility index (WEI):</i></p> <p><i>Kw factor (surface layer)</i></p> <p><i>Land capability, nonirrigated:</i></p> <p><i>Hydric soil:</i> unranked</p> <p><i>Hydrologic group:</i></p> <p><i>Potential for frost action:</i></p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

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### 1049--Pits, iron mine

#### Pits, iron mine

*Extent:* 100 percent of the unit  
*Landform(s):* openpit mines on moraines  
*Slope gradient:*  
*Parent material:* variable soil material  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:*  
*Ponding:*  
*Drainage class:*

*Soil loss tolerance (T factor):*  
*Wind erodibility group (WEG):*  
*Wind erodibility index (WEI):*  
*Kw factor (surface layer)*  
*Land capability, nonirrigated:*  
*Hydric soil:* unranked  
*Hydrologic group:*  
*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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### 1050--Tailings basin

#### Tailings basin

*Extent:* 100 percent of the unit  
*Landform(s):* spoil piles on moraines  
*Slope gradient:*  
*Parent material:* metal ore extraction mine spoil  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:*

*Soil loss tolerance (T factor):*  
*Wind erodibility group (WEG):*  
*Wind erodibility index (WEI):*  
*Kw factor (surface layer)*  
*Land capability, nonirrigated:*  
*Hydric soil:* unranked  
*Hydrologic group:*  
*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### A1B--Graycalm-Grayling complex, 1 to 8 percent slopes

#### Graycalm

*Extent:* 30 to 60 percent of the unit  
*Landform(s):* outwash plains  
*Slope gradient:* 1 to 8 percent  
*Parent material:* sandy outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 2  
*Wind erodibility index (WEI):* 134  
*Kw factor (surface layer)* .10  
*Land capability, nonirrigated:* 4s  
*Hydric soil:* no  
*Hydrologic group:* A  
*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw -- 2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt -- 37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
C -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

#### Grayling

*Extent:* 30 to 50 percent of the unit  
*Landform(s):* outwash plains  
*Slope gradient:* 1 to 8 percent  
*Parent material:* sandy outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* excessively drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 2  
*Wind erodibility index (WEI):* 134  
*Kw factor (surface layer)* .10  
*Land capability, nonirrigated:* 4s  
*Hydric soil:* no  
*Hydrologic group:* A  
*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.25 to 0.38 in	4.5 to 6.0
Bw -- 3 to 22 in	coarse sand	very rapid	0.57 to 1.70 in	4.5 to 6.0
C -- 22 to 80 in	coarse sand	very rapid	1.16 to 4.05 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### A3B--Wurtsmith-Friendship complex, 1 to 4 percent slopes

#### Wurtsmith

*Extent:* 30 to 60 percent of the unit

*Landform(s):* outwash plains

*Slope gradient:* 1 to 4 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw -- 3 to 18 in	sand	rapid	0.45 to 1.65 in	4.5 to 6.0
BC -- 18 to 33 in	sand	rapid	0.30 to 1.05 in	4.5 to 6.0
C -- 33 to 80 in	sand	rapid	0.94 to 3.28 in	5.1 to 6.5

#### Friendship

*Extent:* 30 to 55 percent of the unit

*Landform(s):* outwash plains

*Slope gradient:* 1 to 4 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw1 -- 3 to 24 in	sand	rapid	0.63 to 2.30 in	4.5 to 6.0
Bw2 -- 24 to 40 in	sand	rapid	0.32 to 1.13 in	4.5 to 6.0
C -- 40 to 80 in	sand	rapid	0.80 to 2.78 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### A4A--Meehan loamy sand, 0 to 2 percent slopes

#### Meehan

*Extent:* 70 to 90 percent of the unit

*Landform(s):* flats on outwash plains, rises on outwash plains

*Slope gradient:* 0 to 2 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A/D

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw1 -- 3 to 12 in	loamy sand	rapid	0.52 to 0.95 in	4.5 to 6.0
Bw2 -- 12 to 47 in	sand	rapid	0.70 to 3.15 in	4.5 to 6.0
C -- 47 to 80 in	coarse sand	very rapid	0.66 to 2.31 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### A21B--Graycalm-Keenan complex, 1 to 8 percent slopes

#### Graycalm

*Extent:* 30 to 60 percent of the unit

*Landform(s):* outwash plains

*Slope gradient:* 1 to 8 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw -- 2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt -- 37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
C -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### A21B--Graycalm-Keenan complex, 1 to 8 percent slopes

#### Keenan

*Extent:* 15 to 40 percent of the unit

*Landform(s):* outwash plains

*Slope gradient:* 1 to 6 percent

*Parent material:* sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 2s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.71 in	4.5 to 6.0
Bw1 -- 4 to 12 in	loamy fine sand	rapid	0.31 to 0.87 in	4.5 to 6.5
Bw2 -- 12 to 32 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bw3 -- 32 to 54 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	3.75 to 4.85 in	5.1 to 6.5
2C -- 54 to 80 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	4.42 to 5.72 in	5.6 to 7.8

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B1C--Taylor silty clay loam, 4 to 12 percent slopes

#### Taylor

*Extent:* 75 to 90 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 4 to 12 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E -- 4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E -- 10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt -- 14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC -- 30 to 38 in	clay	very slow	0.66 to 0.99 in	7.4 to 8.4
C -- 38 to 80 in	clay	very slow	3.34 to 5.01 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B1D--Taylor silty clay loam, 12 to 25 percent slopes

#### Taylor

*Extent:* 75 to 90 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 12 to 25 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E -- 4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E -- 10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt -- 14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC -- 30 to 38 in	clay	very slow	0.66 to 0.99 in	7.4 to 8.4
C -- 38 to 80 in	clay	very slow	3.34 to 5.01 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B2A--Indus-Woodslake, depressional, complex, 0 to 1 percent slopes

#### Indus

*Extent:* 55 to 75 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
Eg -- 4 to 7 in	clay	slow	0.31 to 0.60 in	5.1 to 7.3
Btg -- 7 to 34 in	clay	very slow	2.14 to 2.68 in	5.6 to 7.3
Bkg -- 34 to 50 in	clay	very slow	1.29 to 1.94 in	7.4 to 8.4
Cg -- 50 to 80 in	clay	very slow	2.39 to 3.59 in	7.4 to 8.4

#### Woodslake, depressional

*Extent:* 20 to 40 percent of the unit

*Landform(s):* depressions on lake plains, swales on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 6w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 7 in	silty clay loam	moderately slow	1.49 to 1.63 in	5.6 to 6.5
Bg -- 7 to 18 in	clay	very slow	0.88 to 1.21 in	5.6 to 7.3
Cg1 -- 18 to 36 in	clay	very slow	1.42 to 1.77 in	6.6 to 7.8
Cg2 -- 36 to 80 in	clay	very slow	3.53 to 5.29 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B3B--Alango-Indus complex, 1 to 4 percent slopes

#### Alango

*Extent:* 50 to 75 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 1 to 4 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	silty clay loam	moderately slow	0.41 to 0.45 in	5.1 to 6.5
Eg -- 2 to 10 in	silty clay loam	moderately slow	1.02 to 1.57 in	5.1 to 7.3
Btg -- 10 to 28 in	clay	very slow	1.45 to 1.81 in	5.6 to 7.3
Bkg -- 28 to 60 in	clay	very slow	2.55 to 3.83 in	7.4 to 8.4
Cg -- 60 to 80 in	clay	very slow	1.61 to 2.41 in	7.4 to 8.4

#### Indus

*Extent:* 15 to 35 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 1 to 2 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
Eg -- 4 to 7 in	clay	slow	0.31 to 0.60 in	5.1 to 7.3
Btg -- 7 to 34 in	clay	very slow	2.14 to 2.68 in	5.6 to 7.3
Bkg -- 34 to 50 in	clay	very slow	1.29 to 1.94 in	7.4 to 8.4
Cg -- 50 to 80 in	clay	very slow	2.39 to 3.59 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B4A--Indus-Dora, depressional, complex, 0 to 2 percent slopes

#### Indus

*Extent:* 55 to 80 percent of the unit

*Landform(s):* rises on lake plains, flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
Eg -- 4 to 7 in	clay	slow	0.31 to 0.60 in	5.1 to 7.3
Btg -- 7 to 34 in	clay	very slow	2.14 to 2.68 in	5.6 to 7.3
Bkg -- 34 to 50 in	clay	very slow	1.29 to 1.94 in	7.4 to 8.4
Cg -- 50 to 80 in	clay	very slow	2.39 to 3.59 in	7.4 to 8.4

#### Dora, depressional

*Extent:* 20 to 40 percent of the unit

*Landform(s):* depressions on lake plains, drainageways on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe -- 0 to 6 in	mucky peat	rapid	2.66 to 3.25 in	
Oa -- 6 to 22 in	muck	moderately rapid	6.46 to 7.26 in	
A -- 22 to 26 in	mucky silty clay loam	slow	0.59 to 1.18 in	6.1 to 7.3
Cg1 -- 26 to 36 in	clay	very slow	0.79 to 0.98 in	6.6 to 7.8
Cg2 -- 36 to 80 in	clay	very slow	3.53 to 5.29 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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### **B4A--Indus-Dora, depressional, complex, 0 to 2 percent slopes**

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B5B--Alango-Taylor-Woodslake, depressional, complex, 0 to 6 percent slopes

#### Alango

*Extent:* 40 to 60 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 1 to 4 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	silty clay loam	moderately slow	0.41 to 0.45 in	5.1 to 6.5
Eg -- 2 to 10 in	silty clay loam	moderately slow	1.02 to 1.57 in	5.1 to 7.3
Btg -- 10 to 28 in	clay	very slow	1.45 to 1.81 in	5.6 to 7.3
Bkg -- 28 to 60 in	clay	very slow	2.55 to 3.83 in	7.4 to 8.4
Cg -- 60 to 80 in	clay	very slow	1.61 to 2.41 in	7.4 to 8.4

#### Woodslake, depressional

*Extent:* 10 to 25 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 6w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 7 in	silty clay loam	moderately slow	1.49 to 1.63 in	5.6 to 6.5
Bg -- 7 to 18 in	clay	very slow	0.88 to 1.21 in	5.6 to 7.3
Cg1 -- 18 to 36 in	clay	very slow	1.42 to 1.77 in	6.6 to 7.8
Cg2 -- 36 to 80 in	clay	very slow	3.53 to 5.29 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B5B--Alango-Taylor-Woodslake, depressional, complex, 0 to 6 percent slopes

#### Taylor

*Extent:* 15 to 25 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 2 to 6 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E -- 4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E -- 10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt -- 14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC -- 30 to 38 in	clay	very slow	0.66 to 0.99 in	7.4 to 8.4
C -- 38 to 80 in	clay	very slow	3.34 to 5.01 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B6B--Morcom-Thistledeew complex, 0 to 6 percent slopes

#### Morcom

*Extent:* 40 to 60 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 0 to 4 percent

*Parent material:* sandy outwash over clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

*Representative soil profile:*

	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	fine sandy loam	moderately rapid	0.50 to 0.57 in	5.1 to 6.5
E -- 3 to 8 in	sandy loam	moderately rapid	0.47 to 0.76 in	5.1 to 6.5
Bw -- 8 to 19 in	loamy sand	rapid	0.88 to 1.21 in	5.1 to 6.5
2B/E -- 19 to 24 in	sandy clay loam	moderate	0.72 to 0.97 in	5.6 to 7.3
3Bt -- 24 to 28 in	clay	very slow	0.31 to 0.47 in	5.6 to 7.3
3Bk -- 28 to 44 in	clay	very slow	1.29 to 1.94 in	7.4 to 8.4
3C -- 44 to 80 in	clay	very slow	2.87 to 4.30 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B6B--Morcom-Thistledew complex, 0 to 6 percent slopes

#### Thistledew

*Extent:* 20 to 40 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 1 to 6 percent

*Parent material:* sandy outwash over clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

*Representative soil profile:*

	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	5.1 to 6.5
Bw -- 3 to 29 in	loamy sand	rapid	1.56 to 2.86 in	5.1 to 6.5
2Bt1 -- 29 to 43 in	sandy clay loam	moderate	1.93 to 2.62 in	5.6 to 7.3
3Bt2 -- 43 to 50 in	clay	very slow	0.57 to 0.85 in	5.6 to 7.3
3C -- 50 to 80 in	clay	very slow	2.39 to 3.59 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B7D--Udorthents, slumped-Thistledew-Taylor complex, 10 to 25 percent slopes

#### Udorthents, slumped

*Extent:* 40 to 60 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 10 to 25 percent

*Parent material:* glaciolacustrine sediments and outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	loam	moderate	1.02 to 1.13 in	5.1 to 6.5
C1 -- 5 to 18 in	fine sandy loam	moderate	1.95 to 2.47 in	5.1 to 7.3
C2 -- 18 to 28 in	loamy fine sand	rapid	0.49 to 0.98 in	5.6 to 7.3
2C3 -- 28 to 50 in	stratified fine sandy loam to clay loam	moderately slow	3.09 to 4.19 in	5.6 to 7.8
3C4 -- 50 to 80 in	silty clay	very slow	2.39 to 3.59 in	7.4 to 8.4

#### Thistledew

*Extent:* 20 to 40 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 10 to 25 percent

*Parent material:* sandy outwash and/or beach deposits over glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* B/D

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	5.1 to 6.5
Bw -- 3 to 29 in	loamy sand	rapid	1.56 to 2.86 in	5.1 to 6.5
2Bt1 -- 29 to 43 in	sandy clay loam	moderate	1.93 to 2.62 in	5.6 to 7.3
3Bt2 -- 43 to 50 in	clay	very slow	0.57 to 0.85 in	5.6 to 7.3
3C -- 50 to 80 in	clay	very slow	2.39 to 3.59 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B7D--Udorthents, slumped-Thistledew-Taylor complex, 10 to 25 percent slopes

#### Taylor

*Extent:* 10 to 20 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 10 to 25 percent

*Parent material:* clayey glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E -- 4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E -- 10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt -- 14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC -- 30 to 38 in	clay	very slow	0.66 to 0.99 in	7.4 to 8.4
C -- 38 to 80 in	clay	very slow	3.34 to 5.01 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B8A--Bearville loamy sand, 0 to 2 percent slopes

#### Bearville

*Extent:* 65 to 85 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* sandy outwash and/or beach deposits over glaciolacustrine sediments

*Restrictive feature(s):* abrupt textural change at 10 to 20 i

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

#### Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 2 in	loamy sand	rapid	0.20 to 0.24 in	5.1 to 6.5
Eg --	2 to 16 in	loamy sand	rapid	1.13 to 1.56 in	5.1 to 6.5
2Btg1 --	16 to 25 in	sandy clay loam	moderate	1.27 to 1.72 in	5.6 to 7.3
3Btg2 --	25 to 35 in	clay	very slow	0.79 to 1.18 in	5.6 to 7.3
3BCg --	35 to 80 in	clay	very slow	3.59 to 5.39 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B9A--Greaney and Dora soils, 0 to 1 percent slopes, frequently flooded

#### Dora, frequently flooded

*Extent:* 0 to 95 percent of the unit

*Landform(s):* oxbows on flood plains, flats on flood plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over clayey alluvium

*Restrictive feature(s):* greater than 60 inches

*Flooding:* frequent

*Ponding:* none

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe -- 0 to 6 in	mucky peat	rapid	2.66 to 3.25 in	
Oa -- 6 to 24 in	muck	moderately rapid	7.24 to 8.15 in	
A -- 24 to 36 in	mucky silty clay loam	slow	1.77 to 3.54 in	6.1 to 7.3
Cg -- 36 to 80 in	stratified clay loam to silty clay loam to silty clay to clay	slow	4.41 to 5.73 in	6.6 to 8.4

#### Greaney, frequently flooded

*Extent:* 0 to 95 percent of the unit

*Landform(s):* flats on flood plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey alluvium

*Restrictive feature(s):* greater than 60 inches

*Flooding:* frequent

*Ponding:* none

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
Bg -- 4 to 30 in	silty clay	slow	2.86 to 5.20 in	5.6 to 7.3
Cg -- 30 to 80 in	stratified clay loam to silty clay loam to silty clay to clay	slow	5.00 to 6.50 in	6.6 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B10B--Rollins sandy loam, 2 to 8 percent slopes

#### Rollins

*Extent:* 75 to 90 percent of the unit

*Landform(s):* kames

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B10D--Rollins sandy loam, 8 to 18 percent slopes

#### Rollins

*Extent:* 80 to 90 percent of the unit

*Landform(s):* kames

*Slope gradient:* 8 to 18 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B11B--Taylor-Taylor, sandy substratum, complex, 2 to 6 percent slopes

#### Taylor

*Extent:* 40 to 60 percent of the unit

*Landform(s):* kames

*Slope gradient:* 2 to 6 percent

*Parent material:* clayey glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E -- 4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E -- 10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt -- 14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC -- 30 to 38 in	clay	very slow	0.66 to 0.99 in	7.4 to 8.4
C -- 38 to 80 in	clay	very slow	3.34 to 5.01 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B11B--Taylor-Taylor, sandy substratum, complex, 2 to 6 percent slopes

#### Taylor, sandy substratum

*Extent:* 30 to 50 percent of the unit

*Landform(s):* kames

*Slope gradient:* 2 to 6 percent

*Parent material:* clayey glaciolacustrine sediments over sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

#### Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E --	4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E --	10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt --	14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC --	30 to 63 in	clay	very slow	2.65 to 3.97 in	7.4 to 8.4
2C --	63 to 80 in	gravelly coarse sand	very rapid	0.34 to 1.02 in	6.6 to 7.8

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B11C--Taylor-Taylor, sandy substratum, complex, 6 to 12 percent slopes

#### Taylor

*Extent:* 40 to 60 percent of the unit

*Landform(s):* kames

*Slope gradient:* 6 to 12 percent

*Parent material:* clayey glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E -- 4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E -- 10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt -- 14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC -- 30 to 38 in	clay	very slow	0.66 to 0.99 in	7.4 to 8.4
C -- 38 to 80 in	clay	very slow	3.34 to 5.01 in	6.6 to 7.8

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B11C--Taylor-Taylor, sandy substratum, complex, 6 to 12 percent slopes

#### Taylor, sandy substratum

*Extent:* 30 to 50 percent of the unit

*Landform(s):* kames

*Slope gradient:* 6 to 12 percent

*Parent material:* clayey glaciolacustrine sediments over sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

*Representative soil profile:*

	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E -- 4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E -- 10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt -- 14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC -- 30 to 63 in	clay	very slow	2.65 to 3.97 in	7.4 to 8.4
2C -- 63 to 80 in	gravelly coarse sand	very rapid	0.34 to 1.02 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B12D--Taylor-Greaney, frequently flooded, complex, 0 to 25 percent slopes

#### Taylor

*Extent:* 40 to 60 percent of the unit

*Landform(s):* flood plains

*Slope gradient:* 8 to 25 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E -- 4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E -- 10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt -- 14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC -- 30 to 38 in	clay	very slow	0.66 to 0.99 in	7.4 to 8.4
C -- 38 to 80 in	clay	very slow	3.34 to 5.01 in	7.4 to 8.4

#### Greaney, frequently flooded

*Extent:* 30 to 50 percent of the unit

*Landform(s):* flats on flood plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey alluvium

*Restrictive feature(s):* greater than 60 inches

*Flooding:* frequent

*Ponding:* none

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
Bg -- 4 to 30 in	silty clay	slow	2.86 to 5.20 in	5.6 to 7.3
Cg -- 30 to 80 in	stratified clay loam to silty clay loam to silty clay to clay	slow	5.00 to 6.50 in	6.6 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B15A--Morph fine sandy loam, 0 to 2 percent slopes

#### Morph

*Extent:* 75 to 90 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 3w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.71 in	5.1 to 6.5
Eg -- 4 to 9 in	fine sandy loam	moderate	0.77 to 0.97 in	5.1 to 6.5
E/B -- 9 to 22 in	very fine sandy loam	moderate	1.95 to 2.47 in	5.1 to 6.5
Btg -- 22 to 31 in	loam	moderate	1.27 to 1.99 in	5.1 to 6.5
Cg -- 31 to 80 in	stratified loamy fine sand to fine sandy loam to very fine sandy loam to loam to silt loam	moderate	6.35 to 9.76 in	6.6 to 7.8

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B18A--Foglake-Hassman, depressional, complex, 0 to 2 percent slopes

#### Foglake

<p><i>Extent:</i> 40 to 60 percent of the unit</p> <p><i>Landform(s):</i> flats on lake plains, rises on lake plains</p> <p><i>Slope gradient:</i> 0 to 2 percent</p> <p><i>Parent material:</i> glaciolacustrine deposits</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 6</p> <p><i>Wind erodibility index (WEI):</i> 48</p> <p><i>Kw factor (surface layer)</i> .43</p> <p><i>Land capability, nonirrigated:</i> 4w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> C/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg,BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

#### Hassman, depressional

<p><i>Extent:</i> 20 to 40 percent of the unit</p> <p><i>Landform(s):</i> swales on lake plains, depressions on lake plains</p> <p><i>Slope gradient:</i> 0 to 1 percent</p> <p><i>Parent material:</i> glaciolacustrine deposits</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> frequent</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 6</p> <p><i>Wind erodibility index (WEI):</i> 48</p> <p><i>Kw factor (surface layer)</i> .28</p> <p><i>Land capability, nonirrigated:</i> 6w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> C/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 10 in	silty clay loam	moderately slow	2.07 to 2.26 in	5.1 to 6.5
Bg -- 10 to 32 in	silty clay	slow	1.98 to 4.19 in	5.1 to 7.3
BCg -- 32 to 45 in	silty clay	slow	1.17 to 2.47 in	5.6 to 7.8
Cg -- 45 to 80 in	silty clay	slow	3.15 to 6.66 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B19B--Longsiding-Foglake-Grasston complex, 0 to 6 percent slopes

#### Longsiding

*Extent:* 35 to 60 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 1 to 4 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 12 in	silty clay loam	moderately slow	0.30 to 0.55 in	5.1 to 7.3
Bt1,Bt3 -- 12 to 35 in	silty clay	slow	2.09 to 4.41 in	5.1 to 7.3
Bk,C -- 35 to 80 in	silty clay loam	moderately slow	8.08 to 9.87 in	7.4 to 8.4

#### Foglake

*Extent:* 15 to 35 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg,BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B19B--Longsiding-Foglake-Grasston complex, 0 to 6 percent slopes

#### Grasston

*Extent:* 10 to 20 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 3 to 6 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .37

*Land capability, nonirrigated:* 2e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 14 in	silty clay loam	moderately slow	0.56 to 1.02 in	5.1 to 7.3
Bt1,Bt2 -- 14 to 42 in	silty clay	slow	2.52 to 5.31 in	5.1 to 7.3
Bk,C -- 42 to 80 in	silty clay loam	moderately slow	6.80 to 8.31 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B23A--Effie-Ashlake complex, MLRA 88, 0 to 2 percent slopes

#### Effie

*Extent:* 50 to 65 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderate	0.39 to 0.43 in	5.1 to 7.3
Eg -- 2 to 5 in	loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 5 to 8 in	silty clay loam	slow	0.39 to 0.52 in	5.1 to 7.3
Btg -- 8 to 20 in	silty clay	slow	1.22 to 2.20 in	5.1 to 7.8
BCg -- 20 to 64 in	silty clay loam	moderately slow	6.17 to 7.94 in	7.4 to 8.4
Cg -- 64 to 80 in	clay loam	moderately slow	2.20 to 2.83 in	7.4 to 8.4

#### Ashlake

*Extent:* 30 to 45 percent of the unit

*Landform(s):* rises on moraines

*Slope gradient:* 1 to 2 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 1 in	loam	moderate	0.24 to 0.26 in	5.1 to 7.3
E -- 1 to 4 in	loam	moderate	0.36 to 0.52 in	5.1 to 7.3
E/B -- 4 to 9 in	loam	moderate	0.72 to 0.97 in	5.1 to 7.3
Bt -- 9 to 26 in	silty clay	slow	1.69 to 3.05 in	5.1 to 7.3
Bk -- 26 to 80 in	clay loam	moderately slow	7.55 to 9.71 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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### B23A--Effie-Ashlake complex, MLRA 88, 0 to 2 percent slopes

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B24B--Ashlake-Suomi-Effie complex, MLRA 88, 1 to 4 percent slopes

#### Ashlake

*Extent:* 25 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 3 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 1 in	loam	moderate	0.24 to 0.26 in	5.1 to 7.3
E -- 1 to 4 in	loam	moderate	0.36 to 0.52 in	5.1 to 7.3
E/B -- 4 to 9 in	loam	moderate	0.72 to 0.97 in	5.1 to 7.3
Bt -- 9 to 26 in	silty clay	slow	1.69 to 3.05 in	5.1 to 7.3
Bk -- 26 to 80 in	clay loam	moderately slow	7.55 to 9.71 in	7.4 to 8.4

#### Suomi

*Extent:* 30 to 40 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 4 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 2e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	5.1 to 7.3
E -- 4 to 7 in	silt loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 7 to 11 in	silty clay loam	slow	0.55 to 0.75 in	5.1 to 7.3
Bt -- 11 to 39 in	silty clay	slow	2.80 to 5.03 in	5.1 to 7.3
BC -- 39 to 80 in	clay loam	moderately slow	5.73 to 7.37 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B24B--Ashlake-Suomi-Effie complex, MLRA 88, 1 to 4 percent slopes

#### Effie

*Extent:* 15 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 2 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderate	0.39 to 0.43 in	5.1 to 7.3
Eg -- 2 to 5 in	loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 5 to 8 in	silty clay loam	slow	0.39 to 0.52 in	5.1 to 7.3
Btg -- 8 to 20 in	silty clay	slow	1.22 to 2.20 in	5.1 to 7.8
BCg -- 20 to 64 in	silty clay loam	moderately slow	6.17 to 7.94 in	7.4 to 8.4
Cg -- 64 to 80 in	clay loam	moderately slow	2.20 to 2.83 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B25C--Suomi-Ashlake complex, MLRA 88, 6 to 15 percent slopes

#### Suomi

*Extent:* 70 to 90 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 6 to 15 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3e

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	5.1 to 7.3
E -- 4 to 7 in	silt loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 7 to 11 in	silty clay loam	slow	0.55 to 0.75 in	5.1 to 7.3
Bt -- 11 to 39 in	silty clay	slow	2.80 to 5.03 in	5.1 to 7.3
BC -- 39 to 80 in	clay loam	moderately slow	5.73 to 7.37 in	7.4 to 8.4

#### Ashlake

*Extent:* 5 to 25 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 6 to 6 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 1 in	loam	moderate	0.24 to 0.26 in	5.1 to 7.3
E -- 1 to 4 in	loam	moderate	0.36 to 0.52 in	5.1 to 7.3
E/B -- 4 to 9 in	loam	moderately slow	0.72 to 0.97 in	5.1 to 7.3
Bt -- 9 to 26 in	silty clay	slow	1.69 to 3.05 in	5.1 to 7.3
Bk -- 26 to 80 in	clay loam	moderately slow	7.55 to 9.71 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B26A--Daisybay-Greenwood complex, 0 to 1 percent slopes

#### Daisybay

*Extent:* 45 to 80 percent of the unit

*Landform(s):* bogs on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over clayey glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 7 in	peat	very rapid	3.90 to 4.61 in	
Oe -- 7 to 30 in	mucky peat	rapid	10.28 to 12.56 in	
Oa -- 30 to 35 in	muck	moderately rapid	1.79 to 2.30 in	
Cg1 -- 35 to 42 in	clay	very slow	0.57 to 0.71 in	6.6 to 7.8
Cg2 -- 42 to 80 in	clay	very slow	3.02 to 4.54 in	7.4 to 8.4

#### Greenwood

*Extent:* 20 to 55 percent of the unit

*Landform(s):* bogs on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B36B--Lavell-Shawano complex, 1 to 6 percent slopes

#### Shawano

*Extent:* 25 to 55 percent of the unit

*Landform(s):* outwash plains, lake plains

*Slope gradient:* 1 to 6 percent

*Parent material:* eolian and/or glaciolacustrine sand

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw -- 5 to 21 in	loamy fine sand	rapid	1.10 to 1.73 in	5.1 to 6.5
C -- 21 to 80 in	fine sand	rapid	3.54 to 5.91 in	5.1 to 6.5

#### Lavell

*Extent:* 30 to 55 percent of the unit

*Landform(s):* outwash plains, lake plains

*Slope gradient:* 1 to 6 percent

*Parent material:* eolian and/or glaciolacustrine sand

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw1 -- 5 to 18 in	loamy fine sand	rapid	0.78 to 1.30 in	4.5 to 6.5
Bw2 -- 18 to 42 in	fine sand	rapid	1.44 to 2.40 in	5.1 to 6.5
C -- 42 to 80 in	fine sand	rapid	2.27 to 3.78 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B37B--Westoo-Lavell complex, 0 to 6 percent slopes

#### Westoo

*Extent:* 30 to 50 percent of the unit

*Landform(s):* lake plains, outwash plains

*Slope gradient:* 0 to 4 percent

*Parent material:* eolian deposits and/or glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw1 -- 5 to 17 in	loamy fine sand	rapid	1.06 to 1.89 in	4.5 to 6.5
Bw2 -- 17 to 44 in	loamy fine sand	rapid	1.63 to 2.72 in	5.1 to 6.5
C -- 44 to 74 in	fine sand	rapid	1.80 to 2.99 in	5.1 to 6.5
Cg -- 74 to 80 in	fine sand	rapid	0.35 to 0.59 in	5.1 to 6.5

#### Lavell

*Extent:* 25 to 40 percent of the unit

*Landform(s):* lake plains, outwash plains

*Slope gradient:* 1 to 6 percent

*Parent material:* eolian and/or glaciolacustrine sand

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw1 -- 5 to 18 in	loamy fine sand	rapid	0.78 to 1.30 in	4.5 to 6.5
Bw2 -- 18 to 42 in	fine sand	rapid	1.44 to 2.40 in	5.1 to 6.5
C -- 42 to 80 in	fine sand	rapid	2.27 to 3.78 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B41B--Friendship loamy sand, 0 to 4 percent slopes

#### Friendship

*Extent:* 65 to 85 percent of the unit

*Landform(s):* rises on lake plains, rises on outwash plains

*Slope gradient:* 0 to 4 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw1 -- 3 to 24 in	sand	rapid	0.63 to 2.30 in	4.5 to 6.0
Bw2 -- 24 to 40 in	sand	rapid	0.32 to 1.13 in	4.5 to 6.0
C -- 40 to 80 in	sand	rapid	0.80 to 2.78 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B45A--Dora muck, depressional, taylor catena, 0 to 1 percent slopes

#### Dora, depressional

*Extent:* 60 to 90 percent of the unit

*Landform(s):* swamps on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over clayey glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

*Representative soil profile:*

	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 28 in	muck	moderately rapid	9.78 to 12.58 in	
Cg1 -- 28 to 34 in	clay	very slow	0.47 to 0.59 in	6.6 to 7.8
Cg2 -- 34 to 80 in	clay	very slow	3.69 to 5.53 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B46A--Dora mucky peat, taylor catena, 0 to 1 percent slopes

#### Dora

*Extent:* 60 to 90 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe --	0 to 6 in	mucky peat	rapid	2.66 to 3.25 in	
Oa --	6 to 22 in	muck	moderately rapid	5.65 to 7.26 in	
A --	22 to 26 in	mucky silty clay loam	slow	0.59 to 1.18 in	6.1 to 7.3
Cg1 --	26 to 36 in	clay	very slow	0.79 to 0.98 in	6.6 to 7.8
Cg2 --	36 to 80 in	clay	very slow	3.53 to 5.29 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B55A--Kooch-Kab-Ratroot complex, 0 to 4 percent slopes

#### Kooch

*Extent:* 30 to 60 percent of the unit

*Landform(s):* till plains

*Slope gradient:* 1 to 4 percent

*Parent material:* clayey till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	silt loam	moderate	0.63 to 0.76 in	5.1 to 7.3
E -- 3 to 5 in	silt loam	moderate	0.33 to 0.43 in	5.1 to 7.3
E/B -- 5 to 11 in	silt loam	moderate	0.53 to 1.30 in	5.1 to 7.3
Bt -- 11 to 22 in	clay	slow	0.99 to 2.20 in	5.6 to 7.8
Cg -- 22 to 80 in	clay	slow	4.63 to 11.57 in	7.4 to 8.4

#### Kab

*Extent:* 20 to 50 percent of the unit

*Landform(s):* drainageways on till plains

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .32

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silt loam	moderate	0.79 to 0.94 in	5.1 to 7.3
Eg -- 4 to 7 in	silt loam	moderate	0.54 to 0.69 in	5.1 to 7.3
B/E -- 7 to 13 in	silt loam	moderate	0.53 to 1.30 in	5.1 to 7.3
Btg -- 13 to 29 in	clay	slow	1.45 to 3.23 in	5.6 to 7.8
Cg -- 29 to 80 in	clay	slow	4.06 to 10.16 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B55A--Kooch-Kab-Ratroot complex, 0 to 4 percent slopes

#### Ratroot

*Extent:* 10 to 20 percent of the unit

*Landform(s):* depressions on till plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 6w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe -- 0 to 4 in	mucky peat	rapid	1.77 to 2.17 in	5.1 to 6.5
A -- 4 to 10 in	clay	slow	0.47 to 1.18 in	7.4 to 8.4
Btg -- 10 to 37 in	clay	slow	2.44 to 5.43 in	5.6 to 7.8
Cg -- 37 to 80 in	clay	slow	3.43 to 8.58 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B64B--Vasso-Keenan complex, 1 to 6 percent slopes

#### Vasso

*Extent:* 30 to 50 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 1 to 3 percent

*Parent material:* sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* B/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.75 in	4.5 to 6.0
E -- 4 to 6 in	fine sandy loam	moderately rapid	0.18 to 0.33 in	4.5 to 6.0
Bw1 -- 6 to 18 in	loamy fine sand	rapid	0.37 to 1.22 in	4.5 to 6.5
Bw2 -- 18 to 38 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bg -- 38 to 50 in	silt loam	moderate	2.01 to 2.60 in	5.6 to 6.5
2Cg -- 50 to 80 in	silt loam	moderate	5.09 to 6.58 in	5.6 to 7.8

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B64B--Vasso-Keenan complex, 1 to 6 percent slopes

#### Keenan

*Extent:* 25 to 45 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 1 to 6 percent

*Parent material:* sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 2s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.71 in	4.5 to 6.0
Bw1 --	4 to 12 in	loamy fine sand	rapid	0.31 to 0.87 in	4.5 to 6.5
Bw2 --	12 to 32 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bw3 --	32 to 54 in	silt loam	moderate	3.75 to 4.85 in	5.6 to 6.5
2C --	54 to 80 in	silt loam	moderate	4.42 to 5.72 in	5.6 to 7.8

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B79B--Sugarbush-Graycalm complex, 2 to 8 percent slopes

#### Sugarbush

*Extent:* 50 to 60 percent of the unit

*Landform(s):* beach ridges, moraines, outwash plains

*Slope gradient:* 2 to 6 percent

*Parent material:* sandy and gravelly glaciofluvial deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	sandy loam	moderately rapid	0.41 to 0.47 in	5.6 to 7.3
E -- 3 to 13 in	loamy sand	rapid	0.59 to 1.08 in	5.6 to 7.3
Bt -- 13 to 25 in	sandy loam	moderately rapid	1.34 to 1.59 in	5.6 to 7.3
2C -- 25 to 80 in	gravelly coarse sand	very rapid	1.09 to 2.19 in	7.4 to 8.4

#### Graycalm

*Extent:* 20 to 30 percent of the unit

*Landform(s):* beach ridges, moraines, outwash plains

*Slope gradient:* 4 to 8 percent

*Parent material:* sandy glaciofluvial deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 1

*Wind erodibility index (WEI):* 220

*Kw factor (surface layer)* .02

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	sand	rapid	0.22 to 0.28 in	3.5 to 6.5
Bw -- 3 to 22 in	sand	rapid	1.13 to 2.08 in	3.5 to 7.3
E -- 22 to 35 in	sand	rapid	0.78 to 1.43 in	3.5 to 7.3
E and Bt -- 35 to 60 in	sand	rapid	1.24 to 3.97 in	3.5 to 7.3
C -- 60 to 80 in	sand	rapid	0.40 to 1.41 in	5.6 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B79D--Sugarbush-Graycalm complex, 8 to 18 percent slopes

#### Sugarbush

*Extent:* 55 to 75 percent of the unit  
*Landform(s):* moraines, outwash plains  
*Slope gradient:* 8 to 18 percent  
*Parent material:* sandy and gravelly outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* well drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 3  
*Wind erodibility index (WEI):* 86  
*Kw factor (surface layer)* .20  
*Land capability, nonirrigated:* 4e  
*Hydric soil:* no  
*Hydrologic group:* A  
*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	sandy loam	moderately rapid	0.41 to 0.47 in	5.6 to 6.5
E -- 3 to 13 in	sand	rapid	0.30 to 1.08 in	5.6 to 6.5
Bt -- 13 to 25 in	coarse sandy loam	moderately rapid	1.34 to 1.95 in	6.1 to 7.3
2C -- 25 to 80 in	gravelly coarse sand	very rapid	1.09 to 3.28 in	7.4 to 8.4

#### Graycalm

*Extent:* 15 to 30 percent of the unit  
*Landform(s):* moraines, outwash plains  
*Slope gradient:* 8 to 18 percent  
*Parent material:* sandy outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 2  
*Wind erodibility index (WEI):* 134  
*Kw factor (surface layer)* .10  
*Land capability, nonirrigated:* 4e  
*Hydric soil:* no  
*Hydrologic group:* A  
*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw -- 2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt -- 37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
C -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B80A--Rifle soils, taylor catena, 0 to 1 percent slopes

#### Rifle

*Extent:* 0 to 95 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

#### Rifle, depressional

*Extent:* 0 to 95 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B82A--Greenwood soils, taylor catena, 0 to 1 percent slopes

#### Greenwood

*Extent:* 0 to 95 percent of the unit

*Landform(s):* raised bogs on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

#### Greenwood, depressional

*Extent:* 0 to 95 percent of the unit

*Landform(s):* bogs on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B84B--Eutrudepts, occasionally flooded-Greaney, frequently flooded, complex, 0 to 4 percent slopes

#### Eutrudepts, occasionally flooded

*Extent:* 35 to 60 percent of the unit

*Landform(s):* flood-plain steps on flood plains, bars on flood plains

*Slope gradient:* 1 to 4 percent

*Parent material:* alluvium

*Restrictive feature(s):* greater than 60 inches

*Flooding:* occasional

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .37

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Bg -- 8 to 52 in	stratified fine sandy loam to silt loam to silty clay loam to silty clay	moderately slow	4.85 to 8.82 in	5.6 to 7.3
Cg -- 52 to 80 in	stratified silt loam to silty clay loam to silty clay to clay	slow	2.80 to 3.63 in	6.6 to 8.4

#### Greaney, frequently flooded

*Extent:* 25 to 50 percent of the unit

*Landform(s):* flood-plain steps on flood plains

*Slope gradient:* 0 to 2 percent

*Parent material:* alluvium

*Restrictive feature(s):* greater than 60 inches

*Flooding:* frequent

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 5w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
Bg -- 4 to 30 in	silty clay	slow	2.86 to 5.20 in	5.6 to 7.3
Cg -- 30 to 80 in	stratified silty clay loam to silty clay to clay loam to clay	slow	5.00 to 6.50 in	6.6 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B151A--Kab-Kooch complex, 0 to 4 percent slopes

#### Kab

*Extent:* 30 to 60 percent of the unit  
*Landform(s):* drainageways on till plains  
*Slope gradient:* 0 to 2 percent  
*Parent material:* clayey till  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3  
*Wind erodibility group (WEG):* 6  
*Wind erodibility index (WEI):* 48  
*Kw factor (surface layer)* .32  
*Land capability, nonirrigated:* 4w  
*Hydric soil:* yes  
*Hydrologic group:* C/D  
*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silt loam	moderate	0.79 to 0.94 in	5.1 to 7.3
Eg -- 4 to 7 in	silt loam	moderate	0.54 to 0.69 in	5.1 to 7.3
B/E -- 7 to 13 in	silt loam	moderate	0.53 to 1.30 in	5.1 to 7.3
Btg -- 13 to 29 in	clay	slow	1.45 to 3.23 in	5.6 to 7.8
Cg -- 29 to 80 in	clay	slow	4.06 to 10.16 in	7.4 to 8.4

#### Kooch

*Extent:* 25 to 50 percent of the unit  
*Landform(s):* till plains  
*Slope gradient:* 1 to 4 percent  
*Parent material:* clayey till  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 3  
*Wind erodibility group (WEG):* 6  
*Wind erodibility index (WEI):* 48  
*Kw factor (surface layer)* .32  
*Land capability, nonirrigated:* 3w  
*Hydric soil:* no  
*Hydrologic group:* C/D  
*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	silt loam	moderate	0.63 to 0.76 in	5.1 to 7.3
E -- 3 to 5 in	silt loam	moderate	0.33 to 0.43 in	5.1 to 7.3
E/B -- 5 to 11 in	silt loam	moderate	0.53 to 1.30 in	5.1 to 7.3
Bt -- 11 to 22 in	clay	slow	0.99 to 2.20 in	5.6 to 7.8
Cg -- 22 to 80 in	clay	slow	4.63 to 11.57 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B255A--Beseman and Merwin soils, suomi catena, 0 to 1 percent slopes

#### Beseman

*Extent:* 35 to 60 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
Cg -- 36 to 80 in	loam	moderate	5.73 to 8.38 in	7.4 to 8.4

#### Merwin

*Extent:* 35 to 60 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 6 in	peat	very rapid	3.25 to 3.84 in	
Oe -- 6 to 46 in	mucky peat	rapid	18.07 to 22.09 in	
Cg -- 46 to 80 in	loam	moderate	4.40 to 6.43 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B256A--Cathro and Tacoosh soils, suomi catena, 0 to 1 percent slopes

#### Cathro

*Extent:* 35 to 60 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
A -- 36 to 40 in	mucky silt loam	moderate	0.95 to 1.13 in	5.1 to 6.5
Cg -- 40 to 80 in	loam	moderate	5.17 to 7.56 in	7.4 to 8.4

#### Tacoosh

*Extent:* 35 to 60 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 32 in	mucky peat	rapid	9.04 to 11.04 in	
Oa -- 32 to 36 in	muck	moderately rapid	1.38 to 1.77 in	
Cg -- 36 to 80 in	loam	moderate	5.73 to 8.38 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B274A--Rifle soils, spooner catena, 0 to 1 percent slopes

#### Rifle

*Extent:* 0 to 95 percent of the unit

*Landform(s):* depressions on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

#### Rifle, depressional

*Extent:* 0 to 95 percent of the unit

*Landform(s):* depressions on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B275A--Rifle soils, suomi catena, 0 to 1 percent slopes

#### Rifle

<p><i>Extent:</i> 0 to 95 percent of the unit</p> <p><i>Landform(s):</i> depressions on lake plains</p> <p><i>Slope gradient:</i> 0 to 1 percent</p> <p><i>Parent material:</i> herbaceous organic material</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> frequent</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 5</p> <p><i>Wind erodibility index (WEI):</i> 56</p> <p><i>Kw factor (surface layer):</i></p> <p><i>Land capability, nonirrigated:</i> 7w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

#### Rifle, depressional

<p><i>Extent:</i> 0 to 95 percent of the unit</p> <p><i>Landform(s):</i> depressions on lake plains</p> <p><i>Slope gradient:</i> 0 to 1 percent</p> <p><i>Parent material:</i> herbaceous organic material</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> frequent</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 8</p> <p><i>Wind erodibility index (WEI):</i> 0</p> <p><i>Kw factor (surface layer):</i></p> <p><i>Land capability, nonirrigated:</i> 7w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B276A--Cathro and Tacoosh soils, spooner catena, 0 to 1 percent slopes

#### Cathro

*Extent:* 35 to 60 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over silty glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
A -- 36 to 40 in	mucky silt loam	moderate	0.95 to 1.13 in	5.1 to 6.5
Cg -- 40 to 80 in	silt loam	moderate	6.76 to 8.75 in	7.4 to 8.4

#### Tacoosh

*Extent:* 35 to 60 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over silty glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 32 in	mucky peat	rapid	9.04 to 11.04 in	
Oa -- 32 to 36 in	muck	moderately rapid	1.38 to 1.77 in	
Cg -- 36 to 80 in	silt loam	moderate	7.50 to 9.70 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B277A--Greenwood soils, suomi catena, 0 to 1 percent slopes

#### Greenwood

*Extent:* 0 to 95 percent of the unit

*Landform(s):* raised bogs on till plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

#### Greenwood, depressional

*Extent:* 0 to 95 percent of the unit

*Landform(s):* depressions on till plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B279A--Markey and Lougee soils, 0 to 1 percent slopes

#### Markey

*Extent:* 35 to 60 percent of the unit

*Landform(s):* depressions on beach ridges, depressions on beach ridges, depressions on outwash plains, depressions on outwash plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over sandy glaciofluvial deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 32 in	muck	moderately rapid	11.16 to 14.35 in	
Cg -- 32 to 80 in	loamy sand	rapid	2.40 to 4.80 in	3.5 to 7.3

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B279A--Markey and Lougee soils, 0 to 1 percent slopes

#### Lougee

<p><i>Extent:</i> 35 to 60 percent of the unit</p> <p><i>Landform(s):</i> depressions on beach ridges, depressions on beach ridges, depressions on outwash plains, depressions on outwash plains</p> <p><i>Slope gradient:</i> 0 to 1 percent</p> <p><i>Parent material:</i> herbaceous organic material over sandy glaciofluvial deposits</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> frequent</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 1</p> <p><i>Wind erodibility group (WEG):</i> 8</p> <p><i>Wind erodibility index (WEI):</i> 0</p> <p><i>Kw factor (surface layer):</i></p> <p><i>Land capability, nonirrigated:</i> 7w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 3 in	peat	very rapid	1.73 to 2.05 in	
Oe -- 3 to 12 in	mucky peat	rapid	3.90 to 4.76 in	
Oa -- 12 to 28 in	muck	moderately rapid	5.51 to 7.09 in	
2A -- 28 to 31 in	mucky loamy fine sand	rapid	0.39 to 0.47 in	3.8 to 4.7
2Cg1 -- 31 to 43 in	fine sand	rapid	0.83 to 1.06 in	4.6 to 5.6
2Cg2 -- 43 to 55 in	fine sand	rapid	0.83 to 1.06 in	4.6 to 5.6
2Cg3 -- 55 to 80 in	fine sand	rapid	1.74 to 2.23 in	4.6 to 5.6

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### B281C--Thistledew-Pequaywan complex, 2 to 12 percent slopes

#### Thistledew

*Extent:* 40 to 80 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 4 to 12 percent

*Parent material:* sandy outwash and/or beach deposits over glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 3e

*Hydric soil:* no

*Hydrologic group:* B/D

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	5.1 to 6.5
Bw -- 3 to 29 in	loamy sand	rapid	1.56 to 2.86 in	5.1 to 6.5
2Bt1 -- 29 to 43 in	sandy clay loam	moderate	1.93 to 2.62 in	5.6 to 7.3
3Bt2 -- 43 to 50 in	clay	very slow	0.57 to 0.85 in	5.6 to 7.3
3C -- 50 to 80 in	clay	very slow	2.39 to 3.59 in	7.4 to 8.4

#### Pequaywan

*Extent:* 5 to 30 percent of the unit

*Landform(s):* drainageways on lake plains

*Slope gradient:* 2 to 4 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw1,Bw2 -- 2 to 20 in	loam	moderate	2.72 to 3.98 in	4.5 to 6.0
Bw3 -- 20 to 30 in	sandy loam	moderately rapid	0.79 to 1.77 in	4.5 to 6.0
2C -- 30 to 80 in	very gravelly sand	rapid	0.50 to 2.00 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### DA--Denied access

#### Denied Access

*Extent:* 100 percent of the unit

*Landform(s):*

*Slope gradient:*

*Parent material:*

*Restrictive feature(s):* greater than 60 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:*

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F2B--Eaglesnest-Wahlsten complex, 2 to 8 percent slopes, bouldery

#### Eaglesnest, bouldery

*Extent:* 30 to 60 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F2B--Eaglesnest-Wahlsten complex, 2 to 8 percent slopes, bouldery

#### Wahlsten, bouldery

*Extent:* 20 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 15 to 35 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 -- 9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd -- 17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R -- 37 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F3D--Eveleth-Eaglesnest-Conic complex, 6 to 18 percent slopes, bouldery

#### Eveleth, bouldery

*Extent:* 30 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 8 to 18 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 35 to 55 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC -- 23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd -- 43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

#### Eaglesnest, bouldery

*Extent:* 15 to 35 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 6 to 10 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F3D--Eveleth-Eaglesnest-Conic complex, 6 to 18 percent slopes, bouldery

#### Conic, bouldery

*Extent:* 15 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 8 to 18 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 12 to 30 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .24

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw --	3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC --	9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd --	18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R --	29 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F4E--Eveleth, bouldery-Conic, bouldery-Rock outcrop complex, 18 to 30 percent slopes

#### Eveleth, bouldery

*Extent:* 45 to 65 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 18 to 30 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 35 to 55 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 --	4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 --	13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC --	23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd --	43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F4E--Eveleth, bouldery-Conic, bouldery-Rock outcrop complex, 18 to 30 percent slopes

#### Conic, bouldery

*Extent:* 20 to 35 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 18 to 30 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 12 to 30 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .24

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

#### Rock outcrop

*Extent:* 10 to 20 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 18 to 30 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F5B--Babbitt, bouldery-Wahlsten, bouldery-Aquepts, rubbly, complex, 0 to 8 percent slopes

#### Babbitt, bouldery

*Extent:* 30 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 4 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 --	5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 --	14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC --	30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd --	50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F5B--Babbitt, bouldery-Wahlsten, bouldery-Aquepts, rubbly, complex, 0 to 8 percent slopes

#### Wahlsten, bouldery

<p><i>Extent:</i> 20 to 30 percent of the unit</p> <p><i>Landform(s):</i> moraines</p> <p><i>Slope gradient:</i> 3 to 8 percent</p> <p><i>Parent material:</i> loamy drift over dense gravelly lodgment till over bedrock</p> <p><i>Restrictive feature(s):</i> densic material at 15 to 35 inches lithic bedrock at 20 to 40 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> moderately well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 6</p> <p><i>Wind erodibility index (WEI):</i> 48</p> <p><i>Kw factor (surface layer)</i> .20</p> <p><i>Land capability, nonirrigated:</i> 6s</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> D</p> <p><i>Potential for frost action:</i> moderate</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 -- 9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd -- 17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R -- 37 to 80 in	bedrock	very slow		

#### Aquepts, rubbly, depressional

<p><i>Extent:</i> 10 to 20 percent of the unit</p> <p><i>Landform(s):</i> drainageways on moraines</p> <p><i>Slope gradient:</i> 0 to 1 percent</p> <p><i>Parent material:</i> glaciofluvial sediments</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> frequent</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 8</p> <p><i>Wind erodibility index (WEI):</i> 0</p> <p><i>Kw factor (surface layer)</i> .05</p> <p><i>Land capability, nonirrigated:</i> 8s</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> B/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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**F5B--Babbitt, bouldery-Wahlsten, bouldery-Aquepts, rubbly, complex, 0 to 8 percent slopes**

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F6B--Soudan-Eaglesnest-Babbitt complex, 1 to 8 percent slopes, bouldery

#### Soudan, bouldery

*Extent:* 35 to 55 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 8 percent

*Parent material:* sandy outwash and/or eloian material over dense lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	fine sandy loam	moderately rapid	0.44 to 0.57 in	4.5 to 6.0
Bw1 -- 3 to 17 in	sandy loam	moderately rapid	1.38 to 2.34 in	4.5 to 6.0
Bw2 -- 17 to 36 in	loamy sand	rapid	0.94 to 1.89 in	4.5 to 6.0
2BC -- 36 to 57 in	very cobbly sandy loam	moderately slow	0.85 to 1.91 in	5.1 to 6.5
2Cd -- 57 to 80 in	very cobbly sandy loam	slow	0.46 to 1.14 in	5.1 to 6.5

#### Eaglesnest, bouldery

*Extent:* 15 to 35 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F6B--Soudan-Eaglesnest-Babbitt complex, 1 to 8 percent slopes, bouldery

#### Babbitt, bouldery

*Extent:* 15 to 35 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 4 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC -- 30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd -- 50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F7B--Biwabik-Graycalm complex, 1 to 8 percent slopes

#### Biwabik

*Extent:* 40 to 70 percent of the unit

*Landform(s):* outwash plains

*Slope gradient:* 1 to 8 percent

*Parent material:* gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and Bt -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

#### Graycalm

*Extent:* 25 to 55 percent of the unit

*Landform(s):* outwash plains

*Slope gradient:* 1 to 8 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw -- 2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt -- 37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
C -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F8D--Biwabik-Graycalm-Friendship complex, pitted, 0 to 18 percent slopes

#### Biwabik

*Extent:* 30 to 60 percent of the unit

*Landform(s):* pitted outwash plains

*Slope gradient:* 8 to 18 percent

*Parent material:* gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and Bt -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

#### Graycalm

*Extent:* 30 to 60 percent of the unit

*Landform(s):* pitted outwash plains

*Slope gradient:* 8 to 18 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw -- 2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt -- 37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
C -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F8D--Biwabik-Graycalm-Friendship complex, pitted, 0 to 18 percent slopes

#### Friendship, depressional

*Extent:* 10 to 20 percent of the unit

*Landform(s):* depressions on pitted outwash plains

*Slope gradient:* 0 to 3 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw1 -- 3 to 24 in	sand	rapid	0.63 to 2.30 in	4.5 to 6.0
Bw2 -- 24 to 40 in	sand	rapid	0.32 to 1.13 in	4.5 to 6.0
C -- 40 to 80 in	sand	rapid	0.80 to 2.78 in	5.1 to 6.5

### F9B--Cloquet loam, 2 to 8 percent slopes

#### Cloquet

*Extent:* 75 to 90 percent of the unit

*Landform(s):* outwash plains

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw -- 2 to 22 in	loam	moderate	3.01 to 4.42 in	4.5 to 6.0
2C -- 22 to 80 in	very gravelly loamy coarse sand	rapid	0.58 to 2.31 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F10D--Cloquet-Pequaywan complex, pitted, 0 to 18 percent slopes

#### Cloquet

*Extent:* 65 to 80 percent of the unit

*Landform(s):* pitted outwash plains

*Slope gradient:* 8 to 18 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw -- 2 to 22 in	loam	moderate	3.01 to 4.42 in	4.5 to 6.0
2C -- 22 to 80 in	very gravelly loamy coarse sand	rapid	0.58 to 2.31 in	5.1 to 6.5

#### Pequaywan

*Extent:* 10 to 20 percent of the unit

*Landform(s):* depressions on pitted outwash plains

*Slope gradient:* 0 to 2 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw1,Bw2 -- 2 to 20 in	loam	moderate	2.72 to 3.98 in	4.5 to 6.0
Bw3 -- 20 to 30 in	sandy loam	moderately rapid	0.79 to 1.77 in	4.5 to 6.0
2C -- 30 to 80 in	very gravelly sand	rapid	0.50 to 2.00 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F10E--Cloquet-Pequaywan complex, pitted, 0 to 45 percent slopes

#### Cloquet

*Extent:* 60 to 80 percent of the unit

*Landform(s):* pitted outwash plains

*Slope gradient:* 18 to 45 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw -- 2 to 22 in	loam	moderate	3.01 to 4.42 in	4.5 to 6.0
2C -- 22 to 80 in	very gravelly loamy coarse sand	rapid	0.58 to 2.31 in	5.1 to 6.5

#### Pequaywan

*Extent:* 10 to 20 percent of the unit

*Landform(s):* depressions on pitted outwash plains

*Slope gradient:* 0 to 3 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw1,Bw2 -- 2 to 20 in	loam	moderate	2.72 to 3.98 in	4.5 to 6.0
Bw3 -- 20 to 30 in	sandy loam	moderately rapid	0.79 to 1.77 in	4.5 to 6.0
2C -- 30 to 80 in	very gravelly sand	rapid	0.50 to 2.00 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F11B--Eaglesnest stony loam, 2 to 8 percent slopes, bouldery

#### Eaglesnest, bouldery

*Extent:* 70 to 90 percent of the unit

*Landform(s):* till plains

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F12B--Eaglesnest-Babbitt complex, 1 to 8 percent slopes, bouldery

#### Eaglesnest, bouldery

*Extent:* 35 to 55 percent of the unit

*Landform(s):* rises on till plains

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

#### Babbitt, bouldery

*Extent:* 30 to 50 percent of the unit

*Landform(s):* flats on till plains

*Slope gradient:* 1 to 4 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC -- 30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd -- 50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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### F12B--Eaglesnest-Babbitt complex, 1 to 8 percent slopes, bouldery

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F13A--Babbitt, bouldery-Aquepts, rubbly, complex, 0 to 3 percent slopes

#### Babbitt, bouldery

*Extent:* 35 to 55 percent of the unit

*Landform(s):* rises on till plains

*Slope gradient:* 0 to 3 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC -- 30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd -- 50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

#### Aquepts, rubbly, depressional

*Extent:* 30 to 50 percent of the unit

*Landform(s):* depressions on till plains, drainageways on till plains

*Slope gradient:* 0 to 1 percent

*Parent material:* glaciofluvial sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)* .05

*Land capability, nonirrigated:* 8s

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F14D--Eveleth stony loam, 8 to 18 percent slopes, bouldery

#### Eveleth, bouldery

*Extent:* 80 to 95 percent of the unit

*Landform(s):* till plains

*Slope gradient:* 8 to 18 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 35 to 55 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC -- 23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd -- 43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F15E--Rollins cobbly sandy loam, 18 to 35 percent slopes, stony

#### Rollins, stony

*Extent:* 85 to 95 percent of the unit

*Landform(s):* eskers

*Slope gradient:* 18 to 35 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	cobbly sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

### F16B--Shawano loamy fine sand, 1 to 8 percent slopes

#### Shawano

*Extent:* 75 to 95 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 1 to 8 percent

*Parent material:* eolian sand

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw -- 5 to 21 in	loamy fine sand	rapid	1.10 to 1.73 in	5.1 to 6.5
C -- 21 to 80 in	fine sand	rapid	3.54 to 5.91 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F17A--Aquepts, 0 to 2 percent slopes, rubbly

#### Aquepts, rubbly, depressional

*Extent:* 65 to 90 percent of the unit

*Landform(s):* depressions on till plains, drainageways on till plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciofluvial sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)* .05

*Land capability, nonirrigated:* 8s

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

*Representative soil profile:*

	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F19A--Pequaywan loam, 0 to 3 percent slopes

#### Pequaywan

*Extent:* 75 to 95 percent of the unit

*Landform(s):* flats on outwash plains, rises on outwash plains

*Slope gradient:* 0 to 3 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw1,Bw2 -- 2 to 20 in	loam	moderate	2.72 to 3.98 in	4.5 to 6.0
Bw3 -- 20 to 30 in	sandy loam	moderately rapid	0.79 to 1.77 in	4.5 to 6.0
2C -- 30 to 80 in	very gravelly sand	rapid	0.50 to 2.00 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F21C--Quetico, stony-Rock outcrop complex, 2 to 15 percent slopes

#### Quetico, stony

*Extent:* 30 to 60 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 15 percent

*Parent material:* loamy drift over bedrock

*Restrictive feature(s):* lithic bedrock at 4 to 10 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 7s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 1 in	fine sandy loam	moderately rapid	0.11 to 0.17 in	4.5 to 6.0
Bw -- 1 to 7 in	gravelly fine sandy loam	moderately rapid	0.47 to 0.77 in	4.5 to 6.0
R -- 7 to 80 in	bedrock	very slow		

#### Rock outcrop

*Extent:* 20 to 40 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 15 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F21D--Quetico, stony-Rock outcrop complex, 15 to 35 percent slopes

#### Quetico, stony

*Extent:* 30 to 60 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 15 to 35 percent

*Parent material:* loamy drift over bedrock

*Restrictive feature(s):* lithic bedrock at 4 to 10 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 7s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 1 in	fine sandy loam	moderately rapid	0.11 to 0.17 in	4.5 to 6.0
Bw -- 1 to 7 in	gravelly fine sandy loam	moderately rapid	0.47 to 0.77 in	4.5 to 6.0
R -- 7 to 80 in	bedrock	very slow		

#### Rock outcrop

*Extent:* 20 to 40 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 15 to 35 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F21F--Quetico, stony-Rock outcrop complex, 35 to 60 percent slopes

#### Quetico, stony

*Extent:* 30 to 60 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 35 to 60 percent

*Parent material:* loamy drift over bedrock

*Restrictive feature(s):* lithic bedrock at 4 to 10 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 7e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 1 in	fine sandy loam	moderately rapid	0.11 to 0.17 in	4.5 to 6.0
Bw -- 1 to 7 in	gravelly fine sandy loam	moderately rapid	0.47 to 0.77 in	4.5 to 6.0
R -- 7 to 80 in	bedrock	very slow		

#### Rock outcrop

*Extent:* 25 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 35 to 60 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F23B--Rollins-Biwabik complex, 1 to 8 percent slopes

#### Rollins

*Extent:* 25 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 8 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

#### Biwabik

*Extent:* 20 to 40 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 8 percent

*Parent material:* gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F24A--Gnesen loam, 0 to 3 percent slopes

#### Gnesen

*Extent:* 75 to 90 percent of the unit

*Landform(s):* rises on outwash plains, flats on outwash plains

*Slope gradient:* 0 to 3 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .37

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* A/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loam	moderately rapid	0.63 to 0.69 in	4.5 to 6.0
Bw -- 3 to 30 in	sandy loam	moderately rapid	2.94 to 5.09 in	4.5 to 6.0
2C -- 30 to 80 in	gravelly sand	rapid	0.50 to 3.50 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F25D--Rollins-Cloquet complex, 8 to 18 percent slopes

#### Rollins

*Extent:* 45 to 65 percent of the unit

*Landform(s):* pitted outwash plains

*Slope gradient:* 8 to 18 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

#### Cloquet

*Extent:* 25 to 35 percent of the unit

*Landform(s):* pitted outwash plains

*Slope gradient:* 8 to 18 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw -- 2 to 22 in	loam	moderate	3.01 to 4.42 in	4.5 to 6.0
2C -- 22 to 80 in	very gravelly loamy coarse sand	rapid	0.58 to 2.31 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F26C--Shagawa-Beargrease complex, 2 to 15 percent slopes, extremely bouldery

#### Shagawa, extremely bouldery

*Extent:* 30 to 60 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 2 to 15 percent

*Parent material:* loamy material over glacial till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 7s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.44 to 0.57 in	4.5 to 6.0
Bw1 -- 3 to 13 in	stony loam	moderate	0.79 to 1.48 in	4.5 to 6.0
2Bw2 -- 13 to 32 in	very gravelly coarse sandy loam	moderately rapid	1.13 to 1.70 in	5.1 to 6.5
2C -- 32 to 80 in	extremely gravelly loamy coarse sand	rapid	1.44 to 3.84 in	5.1 to 6.5

#### Beargrease, extremely bouldery

*Extent:* 25 to 50 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 2 to 15 percent

*Parent material:* loamy material over sandy-skeletal outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 7

*Wind erodibility index (WEI):* 38

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 7s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F26E--Shagawa-Beargrease complex, 8 to 30 percent slopes, extremely bouldery

#### Shagawa, extremely bouldery

*Extent:* 30 to 60 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 8 to 30 percent

*Parent material:* loamy material over glacial till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 7e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.44 to 0.57 in	4.5 to 6.0
Bw1 -- 3 to 13 in	stony loam	moderate	0.79 to 1.48 in	4.5 to 6.0
2Bw2 -- 13 to 32 in	very gravelly coarse sandy loam	moderately rapid	1.13 to 1.70 in	5.1 to 6.5
2C -- 32 to 80 in	extremely gravelly loamy coarse sand	rapid	1.44 to 3.84 in	5.1 to 6.5

#### Beargrease, extremely bouldery

*Extent:* 25 to 45 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 8 to 30 percent

*Parent material:* loamy material over sandy-skeletal outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 7

*Wind erodibility index (WEI):* 38

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 7e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F26G--Shagawa-Beargrease complex, 35 to 60 percent slopes, extremely bouldery

#### Shagawa, extremely bouldery

*Extent:* 30 to 60 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 35 to 60 percent

*Parent material:* loamy material over glacial till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 7e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.44 to 0.57 in	4.5 to 6.0
Bw1 -- 3 to 13 in	stony loam	moderate	0.79 to 1.48 in	4.5 to 6.0
2Bw2 -- 13 to 32 in	very gravelly coarse sandy loam	moderately rapid	1.13 to 1.70 in	5.1 to 6.5
2C -- 32 to 80 in	extremely gravelly loamy coarse sand	rapid	1.44 to 3.84 in	5.1 to 6.5

#### Beargrease, extremely bouldery

*Extent:* 25 to 45 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 35 to 60 percent

*Parent material:* loamy material over sandy-skeletal outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 7

*Wind erodibility index (WEI):* 38

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 7e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F28B--Oysterlake complex, 0 to 4 percent slopes, extremely stony

#### Oysterlake, extremely stony

<i>Extent:</i> 40 to 65 percent of the unit	<i>Soil loss tolerance (T factor):</i> 3
<i>Landform(s):</i> rises on outwash plains	<i>Wind erodibility group (WEG):</i> 6
<i>Slope gradient:</i> 0 to 4 percent	<i>Wind erodibility index (WEI):</i> 48
<i>Parent material:</i> loamy material over sandy-skeletal outwash	<i>Kw factor (surface layer)</i> .15
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated:</i> 7s
<i>Flooding:</i> none	<i>Hydric soil:</i> no
<i>Ponding:</i> none	<i>Hydrologic group:</i> C
<i>Drainage class:</i> moderately well drained	<i>Potential for frost action:</i> moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	stony loam	moderate	0.55 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 16 in	stony loam	moderate	0.85 to 1.83 in	4.5 to 6.0
Bw2 -- 16 to 26 in	gravelly loam	moderate	0.59 to 1.38 in	4.5 to 6.5
2BC -- 26 to 42 in	extremely gravelly coarse sand	very rapid	0.16 to 0.65 in	5.1 to 6.5
2C -- 42 to 80 in	extremely cobbly coarse sand	very rapid	0.38 to 1.51 in	5.1 to 6.5

#### Oysterlake, wet, extremely stony

<i>Extent:</i> 20 to 45 percent of the unit	<i>Soil loss tolerance (T factor):</i> 3
<i>Landform(s):</i> flats on outwash plains, swales on outwash plains	<i>Wind erodibility group (WEG):</i> 6
<i>Slope gradient:</i> 0 to 2 percent	<i>Wind erodibility index (WEI):</i> 48
<i>Parent material:</i> loamy material over sandy-skeletal outwash	<i>Kw factor (surface layer)</i> .15
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated:</i> 7s
<i>Flooding:</i> none	<i>Hydric soil:</i> no
<i>Ponding:</i> none	<i>Hydrologic group:</i> B/D
<i>Drainage class:</i> somewhat poorly drained	<i>Potential for frost action:</i> moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	stony loam	moderate	0.55 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 16 in	stony loam	moderate	0.85 to 1.83 in	4.5 to 6.0
Bw2 -- 16 to 26 in	gravelly loam	moderate	0.59 to 1.38 in	4.5 to 6.5
2BC -- 26 to 42 in	extremely gravelly coarse sand	very rapid	0.16 to 0.65 in	5.1 to 6.5
2C -- 42 to 80 in	extremely cobbly coarse sand	very rapid	0.38 to 1.51 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F30G--Conic, very bouldery-Insula, very bouldery-Rock outcrop complex, 20 to 70 percent slopes

#### Conic, very bouldery

*Extent:* 30 to 60 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 20 to 50 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 12 to 30 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .24

*Land capability, nonirrigated:* 7e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

#### Insula, very bouldery

*Extent:* 15 to 40 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 20 to 50 percent

*Parent material:* loamy drift over bedrock

*Restrictive feature(s):* lithic bedrock at 10 to 20 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 7e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	gravelly sandy loam	moderately rapid	0.28 to 0.44 in	4.5 to 6.0
Bw1 -- 3 to 11 in	gravelly sandy loam	moderately rapid	0.63 to 1.26 in	4.5 to 6.0
Bw2 -- 11 to 17 in	gravelly fine sandy loam	moderately rapid	0.41 to 0.89 in	5.1 to 6.5
R -- 17 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F30G--Conic, very bouldery-Insula, very bouldery-Rock outcrop complex, 20 to 70 percent slopes

#### Rock outcrop

*Extent:* 10 to 40 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 20 to 70 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

Representative soil profile:	Texture	Permeability	Available water capacity	pH
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### F34A--Cathro muck, depressional, 0 to 1 percent slopes

#### Cathro, depressional

*Extent:* 60 to 90 percent of the unit

*Landform(s):* swamps on end moraines, swamps on outwash plains, swamps on till plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciofluvial sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

Representative soil profile:	Texture	Permeability	Available water capacity	pH
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
A -- 36 to 40 in	mucky silt loam	moderate	0.95 to 1.13 in	5.1 to 6.5
2Cg -- 40 to 80 in	stratified loamy fine sand to loam	moderate	5.17 to 7.56 in	5.1 to 7.3

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F35D--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 18 percent slopes

#### Eveleth, bouldery

*Extent:* 25 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 8 to 18 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 35 to 55 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 --	4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 --	13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC --	23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd --	43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F35D--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 18 percent slopes

#### Conic, bouldery

<p><i>Extent:</i> 15 to 30 percent of the unit</p> <p><i>Landform(s):</i> moraines</p> <p><i>Slope gradient:</i> 8 to 18 percent</p> <p><i>Parent material:</i> loamy drift over dense gravelly lodgment till over bedrock</p> <p><i>Restrictive feature(s):</i> densic material at 12 to 30 inches lithic bedrock at 20 to 40 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 6</p> <p><i>Wind erodibility index (WEI):</i> 48</p> <p><i>Kw factor (surface layer)</i> .24</p> <p><i>Land capability, nonirrigated:</i> 6e</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> D</p> <p><i>Potential for frost action:</i> moderate</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

#### Aquepts, rubbly, depressional

<p><i>Extent:</i> 15 to 30 percent of the unit</p> <p><i>Landform(s):</i> drainageways on moraines</p> <p><i>Slope gradient:</i> 0 to 2 percent</p> <p><i>Parent material:</i> glaciofluvial sediments</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> frequent</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 8</p> <p><i>Wind erodibility index (WEI):</i> 0</p> <p><i>Kw factor (surface layer)</i> .02</p> <p><i>Land capability, nonirrigated:</i> 8s</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> B/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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**F35D--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 18 percent slopes**

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F35E--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 30 percent slopes

#### Eveleth, bouldery

*Extent:* 25 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 18 to 30 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 35 to 55 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 --	4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 --	13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC --	23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd --	43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F35E--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 30 percent slopes

#### Conic, bouldery

*Extent:* 15 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 18 to 30 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 12 to 30 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .24

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

#### Aquepts, rubbly, depressional

*Extent:* 15 to 30 percent of the unit

*Landform(s):* drainageways on moraines

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciofluvial sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)* .02

*Land capability, nonirrigated:* 8s

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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**F35E--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 30 percent slopes**

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F36D--Conic, bouldery-Insula, bouldery-Rock outcrop complex, 8 to 25 percent slopes

#### Conic, bouldery

<p><i>Extent:</i> 30 to 50 percent of the unit</p> <p><i>Landform(s):</i> moraines</p> <p><i>Slope gradient:</i> 8 to 25 percent</p> <p><i>Parent material:</i> loamy drift over dense gravelly lodgment till over bedrock</p> <p><i>Restrictive feature(s):</i> densic material at 12 to 30 inches lithic bedrock at 20 to 40 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 6</p> <p><i>Wind erodibility index (WEI):</i> 48</p> <p><i>Kw factor (surface layer)</i> .24</p> <p><i>Land capability, nonirrigated:</i> 6e</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> D</p> <p><i>Potential for frost action:</i> moderate</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

#### Insula, bouldery

<p><i>Extent:</i> 20 to 40 percent of the unit</p> <p><i>Landform(s):</i> moraines</p> <p><i>Slope gradient:</i> 8 to 25 percent</p> <p><i>Parent material:</i> loamy drift over bedrock</p> <p><i>Restrictive feature(s):</i> lithic bedrock at 10 to 20 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 1</p> <p><i>Wind erodibility group (WEG):</i> 5</p> <p><i>Wind erodibility index (WEI):</i> 56</p> <p><i>Kw factor (surface layer)</i> .15</p> <p><i>Land capability, nonirrigated:</i> 6s</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> D</p> <p><i>Potential for frost action:</i> moderate</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	gravelly sandy loam	moderately rapid	0.28 to 0.44 in	4.5 to 6.0
Bw1 -- 3 to 11 in	gravelly sandy loam	moderately rapid	0.63 to 1.26 in	4.5 to 6.0
Bw2 -- 11 to 17 in	gravelly fine sandy loam	moderately rapid	0.41 to 0.89 in	5.1 to 6.5
R -- 17 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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### F36D--Conic, bouldery-Insula, bouldery-Rock outcrop complex, 8 to 25 percent slopes

#### Rock outcrop

*Extent:* 15 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 8 to 25 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F37B--Foglake-Babbitt, bouldery, complex, 0 to 4 percent slopes

#### Foglake

*Extent:* 40 to 60 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg, BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

#### Babbitt, bouldery

*Extent:* 20 to 45 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 1 to 4 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC -- 30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd -- 50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F38B--Longsiding-Eaglesnest, bouldery, complex, 1 to 8 percent slopes

#### Longsiding

*Extent:* 40 to 60 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 1 to 8 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 12 in	silty clay loam	moderately slow	0.30 to 0.55 in	5.1 to 7.3
Bt1, Bt3 -- 12 to 35 in	silty clay	slow	2.09 to 4.41 in	5.1 to 7.3
Bk, C -- 35 to 80 in	silty clay loam	moderately slow	8.08 to 9.87 in	7.4 to 8.4

#### Eaglesnest, bouldery

*Extent:* 25 to 45 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 3 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F39A--Foglake, bouldery-Aquepts, rubbly-Hassman, depressional, complex, 0 to 2 percent slopes

#### Foglake, bouldery

*Extent:* 30 to 50 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg, BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

#### Aquepts, rubbly, depressional

*Extent:* 20 to 40 percent of the unit

*Landform(s):* drainageways on lake plains, swales on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* glaciofluvial sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)* .02

*Land capability, nonirrigated:* 8s

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F39A--Foglake, bouldery-Aquepts, rubbly-Hassman, depressional, complex, 0 to 2 percent slopes

#### Hassman, depressional

*Extent:* 15 to 30 percent of the unit

*Landform(s):* drainageways on lake plains, swales on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 6w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 10 in	silty clay loam	moderately slow	2.07 to 2.26 in	5.1 to 6.5
Bg -- 10 to 32 in	silty clay	slow	1.98 to 4.19 in	5.1 to 7.3
BCg -- 32 to 45 in	silty clay	slow	1.17 to 2.47 in	5.6 to 7.8
Cg -- 45 to 80 in	silty clay	slow	3.15 to 6.66 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F40B--Rollins cobbly sandy loam, 2 to 8 percent slopes

#### Rollins

*Extent:* 70 to 90 percent of the unit

*Landform(s):* kames, outwash plains

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	cobbly sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F40D--Rollins cobbly sandy loam, 8 to 18 percent slopes

#### Rollins

*Extent:* 70 to 90 percent of the unit

*Landform(s):* kames, outwash plains

*Slope gradient:* 8 to 18 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	cobbly sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F41B--Wurtsmith-Friendship complex, MLRA 93, 1 to 4 percent slopes

#### Wurtsmith

*Extent:* 30 to 60 percent of the unit

*Landform(s):* outwash plains

*Slope gradient:* 1 to 4 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw -- 3 to 18 in	sand	rapid	0.45 to 1.65 in	4.5 to 6.0
BC -- 18 to 33 in	sand	rapid	0.30 to 1.05 in	4.5 to 6.0
C -- 33 to 80 in	sand	rapid	0.94 to 3.28 in	5.1 to 6.5

#### Friendship

*Extent:* 30 to 55 percent of the unit

*Landform(s):* outwash plains

*Slope gradient:* 1 to 4 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw1 -- 3 to 24 in	sand	rapid	0.63 to 2.30 in	4.5 to 6.0
Bw2 -- 24 to 40 in	sand	rapid	0.32 to 1.13 in	4.5 to 6.0
C -- 40 to 80 in	sand	rapid	0.80 to 2.78 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F116A--Mooselake muck, 0 to 1 percent slopes

#### Mooselake

<p><i>Extent:</i> 60 to 85 percent of the unit</p> <p><i>Landform(s):</i> swamps on end moraines, swamps on outwash plains, swamps on till plains</p> <p><i>Slope gradient:</i> 0 to 1 percent</p> <p><i>Parent material:</i> organic material</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> frequent</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 2</p> <p><i>Wind erodibility index (WEI):</i> 134</p> <p><i>Kw factor (surface layer):</i></p> <p><i>Land capability, nonirrigated:</i> 7w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
Oe -- 36 to 80 in	mucky peat	rapid	19.84 to 24.25 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F151A--Tacoosh mucky peat, dense substratum, 0 to 1 percent slopes

#### Tacoosh, dense substratum

*Extent:* 60 to 90 percent of the unit

*Landform(s):* swamps on moraines, swamps on interdrumlins

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over loamy material over dense loamy till

*Restrictive feature(s):* densic material at 40 to 80 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

#### Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 --	0 to 7 in	mucky peat	rapid	3.19 to 3.90 in	
Oe2 --	7 to 30 in	mucky peat	rapid	10.28 to 12.56 in	
Oa --	30 to 40 in	muck	moderately rapid	3.58 to 4.61 in	
2Cg --	40 to 48 in	stratified loamy fine sand to loam	moderate	1.02 to 1.50 in	5.1 to 7.3
3Cd --	48 to 80 in	gravelly sandy loam	very slow	1.28 to 2.87 in	5.6 to 6.8

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F164B--Beargrease-Biwabik-Rollins complex, 2 to 8 percent slopes, very stony

#### Beargrease, very stony

*Extent:* 35 to 60 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy material over sandy-skeletal outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 7

*Wind erodibility index (WEI):* 38

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

#### Rollins, very stony

*Extent:* 15 to 35 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy material over sandy-skeletal outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	cobbly sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F164B--Beargrease-Biwabik-Rollins complex, 2 to 8 percent slopes, very stony

#### Biwabik, very stony

*Extent:* 15 to 35 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 2 to 8 percent

*Parent material:* gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F164E--Beargrease-Biwabik-Rollins complex, 8 to 35 percent slopes, very stony

#### Beargrease, very stony

*Extent:* 35 to 60 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 8 to 35 percent

*Parent material:* loamy material over sandy-skeletal outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 7

*Wind erodibility index (WEI):* 38

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

#### Rollins, very stony

*Extent:* 15 to 35 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 8 to 35 percent

*Parent material:* loamy material over sandy-skeletal outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	cobbly sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F164E--Beargrease-Biwabik-Rollins complex, 8 to 35 percent slopes, very stony

#### Biwabik, very stony

*Extent:* 15 to 35 percent of the unit

*Landform(s):* end moraines

*Slope gradient:* 8 to 35 percent

*Parent material:* gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F165C--Insula, very bouldery-Rock outcrop-Wahlsten, very bouldery, complex, 2 to 12 percent slopes

#### Rock outcrop

*Extent:* 20 to 35 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 12 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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#### Insula, very bouldery

*Extent:* 20 to 35 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 12 percent

*Parent material:* loamy drift over bedrock

*Restrictive feature(s):* lithic bedrock at 10 to 20 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	gravelly sandy loam	moderately rapid	0.28 to 0.44 in	4.5 to 6.0
Bw1 -- 3 to 11 in	gravelly sandy loam	moderately rapid	0.63 to 1.26 in	4.5 to 6.0
Bw2 -- 11 to 17 in	gravelly fine sandy loam	moderately rapid	0.41 to 0.89 in	5.1 to 6.5
R -- 17 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F165C--Insula, very bouldery-Rock outcrop-Wahlsten, very bouldery, complex, 2 to 12 percent slopes

#### Wahlsten, very bouldery

*Extent:* 15 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 15 to 35 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 --	3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 --	9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd --	17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R --	37 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F166A--Aquepts, rubbly-Tacoosh-Rifle complex, 0 to 2 percent slopes

#### Aquepts, rubbly, depressional

*Extent:* 30 to 50 percent of the unit

*Landform(s):* drainageways on moraines

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciofluvial sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)* .05

*Land capability, nonirrigated:* 8s

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

#### Tacoosh, depressional

*Extent:* 15 to 30 percent of the unit

*Landform(s):* drainageways on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciofluvial sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 7 in	mucky peat	rapid	3.19 to 3.90 in	
Oe2 -- 7 to 30 in	mucky peat	rapid	10.28 to 12.56 in	
Oa -- 30 to 40 in	muck	moderately rapid	3.58 to 4.61 in	
2Bg -- 40 to 56 in	very stony loam	moderate	0.63 to 2.05 in	5.1 to 6.5
2Cg -- 56 to 80 in	cobbly sandy loam	moderately slow	1.68 to 3.84 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F166A--Aquepts, rubbly-Tacoosh-Rifle complex, 0 to 2 percent slopes

#### Rifle

*Extent:* 15 to 30 percent of the unit

*Landform(s):* drainageways on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F167B--Wahlsten, bouldery-Insula, bouldery-Rock outcrop complex, 1 to 10 percent slopes

#### Wahlsten, bouldery

*Extent:* 25 to 45 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 15 to 35 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 -- 9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd -- 17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R -- 37 to 80 in	bedrock	very slow		

#### Insula, bouldery

*Extent:* 15 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 10 percent

*Parent material:* loamy drift over bedrock

*Restrictive feature(s):* lithic bedrock at 10 to 20 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	gravelly sandy loam	moderately rapid	0.28 to 0.44 in	4.5 to 6.0
Bw1 -- 3 to 11 in	gravelly sandy loam	moderately rapid	0.63 to 1.26 in	4.5 to 6.0
Bw2 -- 11 to 17 in	gravelly fine sandy loam	moderately rapid	0.41 to 0.89 in	5.1 to 6.5
R -- 17 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F167B--Wahlsten, bouldery-Insula, bouldery-Rock outcrop complex, 1 to 10 percent slopes

#### Rock outcrop

*Extent:* 15 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 8 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F168A--Foglake-Hassman, depressional, complex, MLRA 93A, 0 to 2 percent slopes

#### Foglake

*Extent:* 35 to 60 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg,BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

#### Hassman, depressional

*Extent:* 25 to 50 percent of the unit

*Landform(s):* depressions

*Slope gradient:* 0 to 1 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 6w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 10 in	silty clay loam	moderately slow	2.07 to 2.26 in	5.1 to 6.5
Bg -- 10 to 32 in	silty clay	slow	1.98 to 4.19 in	5.1 to 7.3
BCg -- 32 to 45 in	silty clay	slow	1.17 to 2.47 in	5.6 to 7.8
Cg -- 45 to 80 in	silty clay	slow	3.15 to 6.66 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F169B--Longsiding-Grasston complex, 1 to 6 percent slopes

#### Longsiding

*Extent:* 35 to 55 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 4 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 12 in	silty clay loam	moderately slow	0.30 to 0.55 in	5.1 to 7.3
Bt1,Bt3 -- 12 to 35 in	silty clay	slow	2.09 to 4.41 in	5.1 to 7.3
Bk,C -- 35 to 80 in	silty clay loam	moderately slow	8.08 to 9.87 in	7.4 to 8.4

#### Grasston

*Extent:* 10 to 35 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 6 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .37

*Land capability, nonirrigated:* 2e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 14 in	silty clay loam	moderately slow	0.56 to 1.02 in	5.1 to 7.3
Bt1,Bt2 -- 14 to 42 in	silty clay	slow	2.52 to 5.31 in	5.1 to 7.3
Bk,C -- 42 to 80 in	silty clay loam	moderately slow	6.80 to 8.31 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F172B--Westoo-Barber-Vasso complex, MLRA 93A, 0 to 6 percent slopes

#### Westoo

<p><i>Extent:</i> 20 to 40 percent of the unit</p> <p><i>Landform(s):</i> lake plains</p> <p><i>Slope gradient:</i> 1 to 6 percent</p> <p><i>Parent material:</i> eolian deposits</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> moderately well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 2</p> <p><i>Wind erodibility index (WEI):</i> 134</p> <p><i>Kw factor (surface layer)</i> .20</p> <p><i>Land capability, nonirrigated:</i> 3s</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> A</p> <p><i>Potential for frost action:</i> low</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw1 -- 5 to 17 in	loamy fine sand	rapid	1.06 to 1.89 in	4.5 to 6.5
Bw2 -- 17 to 44 in	loamy fine sand	rapid	1.63 to 2.72 in	5.1 to 6.5
C -- 44 to 74 in	fine sand	rapid	1.80 to 2.99 in	5.1 to 6.5
Cg -- 74 to 80 in	fine sand	rapid	0.35 to 0.59 in	5.1 to 6.5

#### Barber

<p><i>Extent:</i> 20 to 40 percent of the unit</p> <p><i>Landform(s):</i> lake plains</p> <p><i>Slope gradient:</i> 0 to 4 percent</p> <p><i>Parent material:</i> eolian deposits and/or glaciolacustrine deposits</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> somewhat poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 3</p> <p><i>Wind erodibility index (WEI):</i> 86</p> <p><i>Kw factor (surface layer)</i> .20</p> <p><i>Land capability, nonirrigated:</i> 3w</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> low</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	fine sandy loam	moderately rapid	0.82 to 0.92 in	4.5 to 6.0
E -- 5 to 8 in	fine sandy loam	moderately rapid	0.28 to 0.47 in	4.5 to 6.0
Bw1 -- 8 to 19 in	loamy fine sand	rapid	1.10 to 1.76 in	4.5 to 6.5
Bw2 -- 19 to 27 in	loamy fine sand	rapid	0.50 to 0.83 in	5.1 to 6.5
Bg -- 27 to 53 in	fine sand	rapid	1.56 to 2.60 in	5.1 to 6.5
C -- 53 to 80 in	fine sand	rapid	1.61 to 2.68 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F172B--Westoo-Barber-Vasso complex, MLRA 93A, 0 to 6 percent slopes

#### Vasso

*Extent:* 15 to 25 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* sandy eolian or glaciolacustrine material and underlying loamy glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* A/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.75 in	4.5 to 6.0
E --	4 to 6 in	fine sandy loam	moderately rapid	0.18 to 0.33 in	4.5 to 6.0
Bw1 --	6 to 18 in	loamy fine sand	rapid	0.37 to 1.22 in	4.5 to 6.5
Bw2 --	18 to 38 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bg --	38 to 50 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	1.30 to 1.89 in	5.1 to 6.5
2Cg --	50 to 80 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	3.29 to 4.79 in	5.6 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F173A--Wabuse-Vasso complex, MLRA 93A, 0 to 3 percent slopes

#### Wabuse

*Extent:* 30 to 50 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap --	0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	4.5 to 6.0
Bg1 --	9 to 16 in	loamy fine sand	rapid	0.28 to 0.78 in	4.5 to 6.0
Bg2 --	16 to 27 in	loamy sand	rapid	0.44 to 1.21 in	5.1 to 6.5
Bg3 --	27 to 32 in	loamy coarse sand	rapid	0.19 to 0.52 in	5.1 to 6.5
2Bg4 --	32 to 54 in	silt loam	moderate	3.75 to 4.85 in	5.6 to 6.5
2Cg --	54 to 80 in	silt loam	moderate	4.42 to 5.20 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F173A--Wabuse-Vasso complex, MLRA 93A, 0 to 3 percent slopes

#### Vasso

*Extent:* 20 to 40 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 1 to 3 percent

*Parent material:* sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* B/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.75 in	4.5 to 6.0
E -- 4 to 6 in	fine sandy loam	moderately rapid	0.18 to 0.33 in	4.5 to 6.0
Bw1 -- 6 to 18 in	loamy fine sand	rapid	0.37 to 1.22 in	4.5 to 6.5
Bw2 -- 18 to 38 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bg -- 38 to 50 in	silt loam	moderate	2.01 to 2.60 in	5.6 to 6.5
2Cg -- 50 to 80 in	silt loam	moderate	5.09 to 5.98 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F176A--Sago muck, depressional, 0 to 1 percent slopes

#### Sago, depressional

*Extent:* 70 to 90 percent of the unit

*Soil loss tolerance (T factor):* 1

*Landform(s):* depressions on outwash plains, drainageways on outwash plains, flats on outwash plains, depressions on till plains, drainageways on till plains, flats on till plains

*Wind erodibility group (WEG):* 2

*Slope gradient:* 0 to 1 percent

*Wind erodibility index (WEI):* 134

*Parent material:* organic material over glaciofluvial sediments

*Kw factor (surface layer)*

*Restrictive feature(s):* greater than 60 inches

*Land capability, nonirrigated:* 6w

*Flooding:* none

*Hydric soil:* yes

*Ponding:* frequent

*Hydrologic group:* A/D

*Drainage class:* very poorly drained

*Potential for frost action:* high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa --	0 to 13 in	muck	moderately rapid	4.55 to 5.85 in	
A --	13 to 15 in	fine sandy loam	moderately rapid	0.22 to 0.41 in	4.5 to 6.0
Bg --	15 to 41 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	3.38 to 4.94 in	5.1 to 6.5
Cg --	41 to 80 in	stratified loamy fine sand to silt loam	moderately rapid	5.07 to 7.41 in	5.6 to 7.3

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F189B--Suomi-Ashlake complex, 1 to 8 percent slopes

#### Suomi

*Extent:* 30 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 3 to 8 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 2e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	5.1 to 7.3
E -- 4 to 7 in	silt loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 7 to 11 in	silty clay loam	slow	0.55 to 0.75 in	5.1 to 7.3
Bt -- 11 to 39 in	silty clay	slow	2.80 to 5.03 in	5.1 to 7.3
BC -- 39 to 80 in	clay loam	moderately slow	5.73 to 7.37 in	7.4 to 8.4

#### Ashlake

*Extent:* 30 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 4 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 1 in	loam	moderate	0.24 to 0.26 in	5.1 to 7.3
E -- 1 to 4 in	loam	moderate	0.36 to 0.52 in	5.1 to 7.3
E/B -- 4 to 9 in	loam	moderate	0.72 to 0.97 in	5.1 to 7.3
Bt -- 9 to 26 in	silty clay	slow	1.69 to 3.05 in	5.1 to 7.3
Bk -- 26 to 80 in	clay loam	moderately slow	7.55 to 9.71 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F190B--Ashlake-Effie complex, 0 to 4 percent slopes

#### Ashlake

*Extent:* 45 to 75 percent of the unit

*Landform(s):* rises on moraines

*Slope gradient:* 1 to 4 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 1 in	loam	moderate	0.24 to 0.26 in	5.1 to 7.3
E -- 1 to 4 in	loam	moderate	0.36 to 0.52 in	5.1 to 7.3
E/B -- 4 to 9 in	loam	moderate	0.72 to 0.97 in	5.1 to 7.3
Bt -- 9 to 26 in	silty clay	slow	1.69 to 3.05 in	5.1 to 7.3
Bk -- 26 to 80 in	clay loam	moderately slow	7.55 to 9.71 in	7.4 to 8.4

#### Effie

*Extent:* 15 to 35 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 0 to 2 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderate	0.39 to 0.43 in	5.1 to 7.3
Eg -- 2 to 5 in	loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 5 to 8 in	silty clay loam	slow	0.39 to 0.52 in	5.1 to 7.3
Btg -- 8 to 20 in	silty clay	slow	1.22 to 2.20 in	5.1 to 7.8
BCg -- 20 to 64 in	silty clay loam	moderately slow	6.17 to 7.94 in	7.4 to 8.4
Cg -- 64 to 80 in	clay loam	moderately slow	2.20 to 2.83 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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### F190B--Ashlake-Effie complex, 0 to 4 percent slopes

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F191A--Little Swan-Spooner complex, 0 to 3 percent slopes

#### Little Swan

*Extent:* 40 to 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 1 to 3 percent

*Parent material:* silty glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silt loam	moderate	0.87 to 0.94 in	5.6 to 7.3
E -- 4 to 11 in	silt loam	moderate	1.20 to 1.56 in	5.6 to 7.3
Bt -- 11 to 32 in	silty clay loam	moderately slow	3.76 to 4.59 in	6.1 to 7.3
Cg1 -- 32 to 41 in	silt loam	moderate	1.54 to 1.99 in	7.4 to 8.4
Cg2 -- 41 to 80 in	silt loam	moderate	6.63 to 8.57 in	7.4 to 8.4

#### Spooner

*Extent:* 20 to 40 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* silty glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 5 in	silt loam	moderate	1.13 to 1.23 in	5.6 to 7.3
Eg -- 5 to 9 in	very fine sandy loam	moderate	0.67 to 0.87 in	5.6 to 7.3
Btg -- 9 to 30 in	silty clay loam	moderately slow	3.76 to 4.59 in	6.1 to 7.3
Bkg -- 30 to 57 in	silt loam	moderate	4.62 to 5.98 in	7.4 to 8.4
Cg -- 57 to 80 in	silt loam	moderate	3.88 to 5.02 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F192B--Baudette-Littleswan complex, 1 to 8 percent slopes

#### Baudette

*Extent:* 40 to 65 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 3 to 8 percent

*Parent material:* silty glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 2e

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silt loam	moderate	0.87 to 0.94 in	5.6 to 7.3
E -- 4 to 8 in	silt loam	moderate	0.74 to 0.95 in	5.6 to 7.3
B/E -- 8 to 13 in	silty clay loam	moderately slow	0.80 to 1.04 in	6.1 to 7.3
Bt -- 13 to 39 in	silty clay loam	moderately slow	4.35 to 5.63 in	6.1 to 7.8
C -- 39 to 80 in	silt loam	moderate	7.03 to 9.09 in	7.4 to 8.4

#### Littleswan

*Extent:* 15 to 40 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 1 to 4 percent

*Parent material:* silty glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	silt loam	moderate	0.87 to 0.94 in	5.6 to 7.3
E -- 4 to 11 in	silt loam	moderate	1.20 to 1.56 in	5.6 to 7.3
Bt -- 11 to 32 in	silty clay loam	moderately slow	3.76 to 4.59 in	6.1 to 7.3
Cg1 -- 32 to 41 in	silt loam	moderate	1.54 to 1.99 in	7.4 to 8.4
Cg2 -- 41 to 80 in	silt loam	moderate	6.63 to 8.57 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F193A--Effie-Hamre complex, 0 to 2 percent slopes

#### Effie

*Extent:* 30 to 50 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 0 to 2 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loam	moderate	0.39 to 0.43 in	5.1 to 7.3
Eg -- 2 to 5 in	loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 5 to 8 in	silty clay loam	slow	0.39 to 0.52 in	5.1 to 7.3
Btg -- 8 to 20 in	silty clay	slow	1.22 to 2.20 in	5.1 to 7.8
BCg -- 20 to 64 in	silty clay loam	moderately slow	6.17 to 7.94 in	7.4 to 8.4
Cg -- 64 to 80 in	clay loam	moderately slow	2.20 to 2.83 in	7.4 to 8.4

#### Hamre

*Extent:* 15 to 40 percent of the unit

*Landform(s):* depressions on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 6w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 10 in	muck	moderately rapid	3.94 to 4.43 in	
A -- 10 to 15 in	loam	moderate	1.02 to 1.13 in	5.1 to 7.3
Bg -- 15 to 27 in	silty clay loam	moderately slow	1.71 to 2.20 in	6.1 to 7.8
BCg -- 27 to 35 in	silty clay loam	moderately slow	1.10 to 1.42 in	7.4 to 8.4
Cg -- 35 to 80 in	clay loam	moderately slow	6.28 to 8.08 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F193A--Effie-Hamre complex, 0 to 2 percent slopes

### F194D--Suomi loam, 8 to 18 percent slopes

#### Suomi

*Extent:* 55 to 75 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 8 to 18 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	5.1 to 7.3
E -- 4 to 7 in	silt loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 7 to 11 in	silty clay loam	slow	0.55 to 0.75 in	5.1 to 7.3
Bt -- 11 to 39 in	silty clay	slow	2.80 to 5.03 in	5.1 to 7.3
BC -- 39 to 80 in	clay loam	moderately slow	5.73 to 7.37 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F195B--Aquepts-Wahlsten-Rock outcrop complex, 1 to 8 percent slopes, very stony

#### Typic Epiaquepts, very stony, moderately deep

*Extent:* 15 to 40 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 5 percent

*Parent material:* loamy drift

*Restrictive feature(s):* lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
R -- 30 to 80 in	bedrock	very slow		

#### Wahlsten, very stony

*Extent:* 15 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 5 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 15 to 35 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 -- 9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd -- 17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R -- 37 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F195B--Aquepts-Wahlsten-Rock outcrop complex, 1 to 8 percent slopes, very stony

#### Rock outcrop

*Extent:* 10 to 20 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 8 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F196A--Spooner-Sax complex, 0 to 1 percent slopes

#### Spooner

*Extent:* 40 to 50 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* silty glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 5 in	silt loam	moderate	1.13 to 1.23 in	5.6 to 7.3
Eg -- 5 to 9 in	very fine sandy loam	moderate	0.67 to 0.87 in	5.6 to 7.3
Btg -- 9 to 30 in	silty clay loam	moderately slow	3.76 to 4.59 in	6.1 to 7.3
Bkg -- 30 to 57 in	silt loam	moderate	4.62 to 5.98 in	7.4 to 8.4
Cg -- 57 to 80 in	silt loam	moderate	3.88 to 5.02 in	7.4 to 8.4

#### Sax

*Extent:* 20 to 50 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over silty glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 6w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 13 in	muck	moderately rapid	4.55 to 6.24 in	
A -- 13 to 15 in	silt loam	moderate	0.43 to 0.51 in	5.6 to 7.3
Bg -- 15 to 36 in	silt loam	moderate	3.76 to 4.59 in	5.6 to 7.3
Cg -- 36 to 80 in	silt loam	moderate	7.50 to 9.70 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F197B--Cutaway-Biwabik complex, 1 to 8 percent slopes

#### Cutaway

<p><i>Extent:</i> 40 to 60 percent of the unit</p> <p><i>Landform(s):</i> moraines</p> <p><i>Slope gradient:</i> 1 to 8 percent</p> <p><i>Parent material:</i> sandy outwash over till</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> moderately well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 4</p> <p><i>Wind erodibility group (WEG):</i> 2</p> <p><i>Wind erodibility index (WEI):</i> 134</p> <p><i>Kw factor (surface layer)</i> .10</p> <p><i>Land capability, nonirrigated:</i> 3s</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> A</p> <p><i>Potential for frost action:</i> moderate</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
E -- 3 to 14 in	sand	very rapid	0.33 to 0.99 in	5.1 to 6.5
E/B -- 14 to 31 in	sand	rapid	0.51 to 1.86 in	4.5 to 6.0
2Bt -- 31 to 39 in	silty clay	slow	0.79 to 1.42 in	5.1 to 7.3
2Bk -- 39 to 50 in	clay loam	moderately slow	1.54 to 1.98 in	7.4 to 8.4
2C -- 50 to 80 in	clay loam	moderately slow	4.19 to 5.39 in	7.4 to 8.4

#### Biwabik

<p><i>Extent:</i> 20 to 40 percent of the unit</p> <p><i>Landform(s):</i> moraines</p> <p><i>Slope gradient:</i> 1 to 8 percent</p> <p><i>Parent material:</i> gravelly outwash</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> excessively drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 3</p> <p><i>Wind erodibility index (WEI):</i> 86</p> <p><i>Kw factor (surface layer)</i> .15</p> <p><i>Land capability, nonirrigated:</i> 4s</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> A</p> <p><i>Potential for frost action:</i> low</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and Bt -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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### F197B--Cutaway-Biwabik complex, 1 to 8 percent slopes

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F198D--Cutaway-Suomi-Conic, bouldery, complex, 6 to 25 percent slopes

#### Cutaway

*Extent:* 25 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 6 to 12 percent

*Parent material:* sandy outwash over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
E -- 3 to 14 in	sand	very rapid	0.33 to 0.99 in	5.1 to 6.5
E/B -- 14 to 31 in	sand	rapid	0.51 to 1.86 in	4.5 to 6.0
2Bt -- 31 to 39 in	silty clay	slow	0.79 to 1.42 in	5.1 to 7.3
2Bk -- 39 to 50 in	clay loam	moderately slow	1.54 to 1.98 in	7.4 to 8.4
2C -- 50 to 80 in	clay loam	moderately slow	4.19 to 5.39 in	7.4 to 8.4

#### Suomi

*Extent:* 20 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 8 to 18 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 3e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	5.1 to 7.3
E -- 4 to 7 in	silt loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 7 to 11 in	silty clay loam	slow	0.55 to 0.75 in	5.1 to 7.3
Bt -- 11 to 39 in	silty clay	slow	2.80 to 5.03 in	5.1 to 7.3
BC -- 39 to 80 in	clay loam	moderately slow	5.73 to 7.37 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F198D--Cutaway-Suomi-Conic, bouldery, complex, 6 to 25 percent slopes

#### Conic, bouldery

*Extent:* 10 to 20 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 8 to 25 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 12 to 30 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .24

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw --	3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC --	9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd --	18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R --	29 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F199B--Cutaway-Suomi complex, 1 to 8 percent slopes

#### Cutaway

*Extent:* 15 to 40 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 8 percent

*Parent material:* sandy outwash over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
E -- 3 to 14 in	sand	very rapid	0.33 to 0.99 in	5.1 to 6.5
E/B -- 14 to 31 in	sand	rapid	0.51 to 1.86 in	4.5 to 6.0
2Bt -- 31 to 39 in	silty clay	slow	0.79 to 1.42 in	5.1 to 7.3
2Bk -- 39 to 50 in	clay loam	moderately slow	1.54 to 1.98 in	7.4 to 8.4
2C -- 50 to 80 in	clay loam	moderately slow	4.19 to 5.39 in	7.4 to 8.4

#### Suomi

*Extent:* 10 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 8 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 2e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	5.1 to 7.3
E -- 4 to 7 in	silt loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 7 to 11 in	silty clay loam	slow	0.55 to 0.75 in	5.1 to 7.3
Bt -- 11 to 39 in	silty clay	slow	2.80 to 5.03 in	5.1 to 7.3
BC -- 39 to 80 in	clay loam	moderately slow	5.73 to 7.37 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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### F199B--Cutaway-Suomi complex, 1 to 8 percent slopes

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F200A--Northwood-Hassman-Cathro soils, 0 to 1 percent slopes

#### Northwood

*Extent:* 0 to 90 percent of the unit

*Landform(s):* depressions on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over sandy glaciolacustrine deposits over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 6w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 9 in	muck	moderately rapid	3.62 to 4.07 in	
A -- 9 to 14 in	sandy loam	moderately rapid	0.67 to 0.77 in	4.5 to 6.0
Bg -- 14 to 24 in	sand	very rapid	0.30 to 0.89 in	5.1 to 6.5
2BCkg -- 24 to 64 in	silty clay loam	moderately slow	5.62 to 7.23 in	7.4 to 8.4
2Cg -- 64 to 80 in	clay loam	moderately slow	2.20 to 2.83 in	7.4 to 8.4

#### Hassman, depressional

*Extent:* 0 to 90 percent of the unit

*Landform(s):* depressions on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 6w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 10 in	silty clay loam	moderately slow	2.07 to 2.26 in	5.1 to 6.5
Bg -- 10 to 32 in	silty clay	slow	1.98 to 4.19 in	5.1 to 7.3
BCg -- 32 to 45 in	silty clay	slow	1.17 to 2.47 in	5.6 to 7.8
Cg -- 45 to 80 in	silty clay	slow	3.15 to 6.66 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F200A--Northwood-Hassman-Cathro soils, 0 to 1 percent slopes

#### Cathro

*Extent:* 0 to 90 percent of the unit

*Landform(s):* depressions on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* herbaceous organic material over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 7w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
A -- 36 to 40 in	mucky silt loam	moderate	0.95 to 1.13 in	5.1 to 6.5
Cg -- 40 to 80 in	loam	moderate	5.17 to 7.56 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F201B--Rollins-Biwabik-Friendship complex, 0 to 8 percent slopes

#### Rollins

*Extent:* 30 to 50 percent of the unit  
*Landform(s):* moraines, outwash plains  
*Slope gradient:* 1 to 8 percent  
*Parent material:* loamy drift over gravelly outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2  
*Wind erodibility group (WEG):* 3  
*Wind erodibility index (WEI):* 86  
*Kw factor (surface layer)* .20  
*Land capability, nonirrigated:* 6s  
*Hydric soil:* no  
*Hydrologic group:* A  
*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

#### Biwabik

*Extent:* 30 to 50 percent of the unit  
*Landform(s):* moraines, outwash plains  
*Slope gradient:* 1 to 8 percent  
*Parent material:* gravelly outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* excessively drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 3  
*Wind erodibility index (WEI):* 86  
*Kw factor (surface layer)* .15  
*Land capability, nonirrigated:* 4s  
*Hydric soil:* no  
*Hydrologic group:* A  
*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and Bt -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F201B--Rollins-Biwabik-Friendship complex, 0 to 8 percent slopes

#### Friendship

*Extent:* 5 to 20 percent of the unit

*Landform(s):* moraines, outwash plains

*Slope gradient:* 0 to 4 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw1 -- 3 to 24 in	sand	rapid	0.63 to 2.30 in	4.5 to 6.0
Bw2 -- 24 to 40 in	sand	rapid	0.32 to 1.13 in	4.5 to 6.0
C -- 40 to 80 in	sand	rapid	0.80 to 2.78 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F202B--Ricelake-Cutaway complex, 1 to 4 percent slopes

#### Ricelake

*Extent:* 30 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 3 percent

*Parent material:* sandy outwash over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	loamy sand	rapid	0.16 to 0.24 in	5.1 to 6.5
E -- 2 to 23 in	sand	very rapid	0.63 to 1.88 in	5.1 to 6.5
Bt -- 23 to 30 in	sandy loam	moderately rapid	0.78 to 1.13 in	5.6 to 7.3
Bw -- 30 to 35 in	sand	very rapid	0.15 to 0.46 in	5.6 to 7.3
2C -- 35 to 80 in	clay loam	moderately slow	6.28 to 8.08 in	7.4 to 8.4

#### Cutaway

*Extent:* 20 to 40 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 4 percent

*Parent material:* sandy outwash over till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .10

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
E -- 3 to 14 in	sand	very rapid	0.33 to 0.99 in	5.1 to 6.5
E/B -- 14 to 31 in	sand	rapid	0.51 to 1.86 in	4.5 to 6.0
2Bt -- 31 to 39 in	silty clay	slow	0.79 to 1.42 in	5.1 to 7.3
2Bk -- 39 to 50 in	clay loam	moderately slow	1.54 to 1.98 in	7.4 to 8.4
2C -- 50 to 80 in	clay loam	moderately slow	4.19 to 5.39 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F202B--Ricelake-Cutaway complex, 1 to 4 percent slopes

### F204D--Debs silt loam, MLRA 93A, 8 to 18 percent slopes

#### Debs

*Extent:* 60 to 85 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 8 to 18 percent

*Parent material:* silty glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 3e

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	silt loam	moderate	0.69 to 0.76 in	5.6 to 7.3
E -- 3 to 5 in	silt loam	moderate	0.33 to 0.43 in	5.6 to 7.3
Bt -- 5 to 28 in	silty clay loam	moderately slow	3.88 to 5.02 in	6.1 to 7.8
Bk -- 28 to 45 in	silt loam	moderate	2.88 to 3.72 in	7.4 to 8.4
C -- 45 to 80 in	silt loam	moderate	5.96 to 7.71 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F205D--Rollins-Biwabik complex, suomi catena, 8 to 18 percent slopes

#### Rollins

*Extent:* 30 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 8 to 18 percent

*Parent material:* loamy material over gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

#### Biwabik

*Extent:* 30 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 8 to 18 percent

*Parent material:* gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* excessively drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and Bt -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F206B--Wahlsten, bouldery-Rock outcrop-Aquepts, rubbly, complex, 0 to 12 percent slopes

#### Wahlsten, bouldery

*Extent:* 30 to 60 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 3 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 15 to 35 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 -- 9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd -- 17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R -- 37 to 80 in	bedrock	very slow		

#### Rock outcrop

*Extent:* 10 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 0 to 12 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F206B--Wahlsten, bouldery-Rock outcrop-Aquepts, rubbly, complex, 0 to 12 percent slopes

#### Aquepts, rubbly, depressional

*Extent:* 5 to 20 percent of the unit  
*Landform(s):* drainageways on moraines  
*Slope gradient:* 0 to 1 percent  
*Parent material:* glaciofluvial sediments  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* frequent  
*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 8  
*Wind erodibility index (WEI):* 0  
*Kw factor (surface layer)* .05  
*Land capability, nonirrigated:* 8s  
*Hydric soil:* yes  
*Hydrologic group:* B/D  
*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F206D--Wahlsten, bouldery-Rock outcrop-Aquepts, rubbly, complex, 0 to 25 percent slopes

#### Rock outcrop

*Extent:* 20 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 0 to 25 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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#### Wahlsten, bouldery

*Extent:* 20 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 15 to 35 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 -- 9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd -- 17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R -- 37 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F206D--Wahlsten, bouldery-Rock outcrop-Aquepts, rubbly, complex, 0 to 25 percent slopes

#### Aquepts, rubbly, depressional

*Extent:* 5 to 25 percent of the unit

*Landform(s):* drainageways on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* glaciofluvial sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)* .05

*Land capability, nonirrigated:* 8s

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg --	4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg --	40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F207F--Insula, bouldery-Rock outcrop-Aquepts, rubbly, complex, 0 to 50 percent slopes

#### Insula, bouldery

*Extent:* 30 to 60 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 0 to 35 percent

*Parent material:* loamy drift over bedrock

*Restrictive feature(s):* lithic bedrock at 10 to 20 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	gravelly sandy loam	moderately rapid	0.28 to 0.44 in	4.5 to 6.0
Bw1 -- 3 to 11 in	gravelly sandy loam	moderately rapid	0.63 to 1.26 in	4.5 to 6.0
Bw2 -- 11 to 17 in	gravelly fine sandy loam	moderately rapid	0.41 to 0.89 in	5.1 to 6.5
R -- 17 to 80 in	bedrock	very slow		

#### Rock outcrop

*Extent:* 20 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 0 to 50 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F207F--Insula, bouldery-Rock outcrop-Aquepts, rubbly, complex, 0 to 50 percent slopes

#### Aquepts, rubbly, depressional

*Extent:* 5 to 25 percent of the unit

*Landform(s):* drainageways on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* glaciofluvial sediments

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)* .05

*Land capability, nonirrigated:* 8s

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg --	4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg --	40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F208B--Babbitt, bouldery-Wahlsten, bouldery-Canthook complex, 0 to 8 percent slopes

#### Babbitt, bouldery

*Extent:* 20 to 50 percent of the unit

*Landform(s):* -- error in exists on --

*Slope gradient:* 0 to 3 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 --	5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 --	14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC --	30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd --	50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F208B--Babbitt, bouldery-Wahlsten, bouldery-Canthook complex, 0 to 8 percent slopes

#### Wahlsten, bouldery

*Extent:* 20 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 1 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 15 to 35 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .20

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 --	3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 --	9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd --	17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R --	37 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F208B--Babbitt, bouldery-Wahlsten, bouldery-Canthook complex, 0 to 8 percent slopes

#### Canthook

*Extent:* 10 to 30 percent of the unit

*Landform(s):* depressions on moraines

*Slope gradient:* 2 to 6 percent

*Parent material:* sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

*Restrictive feature(s):* abrupt textural change at 20 to 39 i

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	sandy loam	moderately rapid	0.51 to 0.59 in	5.6 to 7.3
Eg,Bg --	4 to 26 in	loamy sand	rapid	1.10 to 1.76 in	5.6 to 7.3
2Bt --	26 to 38 in	stratified silty clay loam to clay loam to loam to fine sandy loam to sandy loam	moderately slow	1.71 to 1.95 in	5.6 to 7.3
2BC --	38 to 54 in	silty clay loam	slow	2.83 to 3.15 in	7.4 to 8.4
2C --	54 to 80 in	stratified silty clay loam to silty clay to silt loam	slow	4.68 to 5.20 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F209D--Conic, bouldery-Rock outcrop-Eaglesnest, bouldery, complex, 0 to 18 percent slopes

#### Conic, bouldery

*Extent:* 30 to 50 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 18 percent

*Parent material:* loamy drift over dense gravelly lodgment till over bedrock

*Restrictive feature(s):* densic material at 12 to 30 inches  
lithic bedrock at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .24

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

#### Rock outcrop

*Extent:* 10 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 0 to 18 percent

*Parent material:*

*Restrictive feature(s):* lithic bedrock at 0 to 0 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 8s

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F209D--Conic, bouldery-Rock outcrop-Eaglesnest, bouldery, complex, 0 to 18 percent slopes

#### Eaglesnest, bouldery

*Extent:* 15 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 10 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F209E--Conic, bouldery-Rock outcrop-Eveleth, bouldery, complex, 0 to 35 percent slopes

#### Conic, bouldery

<p><i>Extent:</i> 30 to 50 percent of the unit</p> <p><i>Landform(s):</i> moraines</p> <p><i>Slope gradient:</i> 2 to 18 percent</p> <p><i>Parent material:</i> loamy drift over dense gravelly lodgment till over bedrock</p> <p><i>Restrictive feature(s):</i> densic material at 12 to 30 inches lithic bedrock at 20 to 40 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 6</p> <p><i>Wind erodibility index (WEI):</i> 48</p> <p><i>Kw factor (surface layer)</i> .24</p> <p><i>Land capability, nonirrigated:</i> 6e</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> D</p> <p><i>Potential for frost action:</i> moderate</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

#### Rock outcrop

<p><i>Extent:</i> 10 to 30 percent of the unit</p> <p><i>Landform(s):</i> moraines</p> <p><i>Slope gradient:</i> 0 to 35 percent</p> <p><i>Parent material:</i></p> <p><i>Restrictive feature(s):</i> lithic bedrock at 0 to 0 inches</p> <p><i>Flooding:</i></p> <p><i>Ponding:</i></p> <p><i>Drainage class:</i></p>	<p><i>Soil loss tolerance (T factor):</i></p> <p><i>Wind erodibility group (WEG):</i></p> <p><i>Wind erodibility index (WEI):</i></p> <p><i>Kw factor (surface layer)</i></p> <p><i>Land capability, nonirrigated:</i> 8s</p> <p><i>Hydric soil:</i> unranked</p> <p><i>Hydrologic group:</i></p> <p><i>Potential for frost action:</i></p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F209E--Conic, bouldery-Rock outcrop-Eveleth, bouldery, complex, 0 to 35 percent slopes

#### Eveleth, bouldery

*Extent:* 15 to 30 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 8 to 35 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 35 to 55 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6e

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 4 in	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 --	4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 --	13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC --	23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd --	43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F210B--Babbitt-Lithic Endoaquepts-Eaglesnest complex, 0 to 8 percent slopes, bouldery

#### Babbitt, bouldery

*Extent:* 20 to 30 percent of the unit

*Landform(s):* depressions on moraines

*Slope gradient:* 0 to 3 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .17

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC -- 30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd -- 50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

#### Lithic Endoaquepts, bouldery

*Extent:* 5 to 15 percent of the unit

*Landform(s):* depressions on moraines

*Slope gradient:* 0 to 2 percent

*Parent material:* loamy drift over bedrock

*Restrictive feature(s):* lithic bedrock at 10 to 20 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 1

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)*

*Land capability, nonirrigated:* 6s

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe -- 0 to 3 in	mucky peat	rapid	1.42 to 1.73 in	
A -- 3 to 11 in	gravelly sandy loam	moderately rapid	0.71 to 1.10 in	4.5 to 6.0
Bg -- 11 to 18 in	gravelly fine sandy loam	moderately rapid	0.50 to 1.06 in	5.1 to 6.5
R -- 18 to 80 in	bedrock	very slow		

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F210B--Babbitt-Lithic Endoaquepts-Eaglesnest complex, 0 to 8 percent slopes, bouldery

#### Eaglesnest, bouldery

*Extent:* 10 to 20 percent of the unit

*Landform(s):* moraines

*Slope gradient:* 2 to 8 percent

*Parent material:* loamy drift over dense gravelly lodgment till

*Restrictive feature(s):* densic material at 40 to 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 6s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 --	3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 --	6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 --	20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC --	28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd --	41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F211B--Durkeelake-Canthook-Longsiding complex, 0 to 6 percent slopes

#### Durkeelake

*Extent:* 20 to 50 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 2 to 6 percent

*Parent material:* sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

*Restrictive feature(s):* abrupt textural change at 20 to 39 i

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 6 in	fine sandy loam	moderately rapid	0.77 to 0.89 in	5.6 to 7.3
E,Bw --	6 to 22 in	loamy sand	rapid	0.81 to 1.29 in	5.6 to 7.3
B/E --	22 to 31 in	loam, fine sandy loam	moderate	1.47 to 1.65 in	5.6 to 7.3
2Bt --	31 to 34 in	stratified silty clay loam to clay loam to loam to fine sandy loam to sandy loam	moderately slow	0.50 to 0.57 in	5.6 to 7.3
2BC --	34 to 37 in	silty clay loam	slow	0.50 to 0.55 in	7.4 to 8.4
2C --	37 to 80 in	stratified silty clay loam to silty clay to silt loam	slow	7.72 to 8.58 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F211B--Durkeelake-Canhook-Longsiding complex, 0 to 6 percent slopes

#### Canhook

*Extent:* 20 to 50 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 2 to 6 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* abrupt textural change at 20 to 39 i

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	sandy loam	moderately rapid	0.51 to 0.59 in	5.6 to 7.3
Eg,Bg -- 4 to 26 in	loamy sand	rapid	1.10 to 1.76 in	5.6 to 7.3
2Bt -- 26 to 38 in	stratified silty clay loam to clay loam to loam to fine sandy loam to sandy loam	moderately slow	1.71 to 1.95 in	5.6 to 7.3
2BC -- 38 to 54 in	silty clay loam	slow	2.83 to 3.15 in	7.4 to 8.4
2C -- 54 to 80 in	stratified silty clay loam to silty clay to silt loam	slow	4.68 to 5.20 in	7.4 to 8.4

#### Longsiding

*Extent:* 10 to 25 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 12 in	silty clay loam	moderately slow	0.30 to 0.55 in	5.1 to 7.3
Bt1,Bt3 -- 12 to 35 in	silty clay	slow	2.09 to 4.41 in	5.1 to 7.3
Bk,C -- 35 to 80 in	silty clay loam	moderately slow	8.08 to 9.87 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

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### F211B--Durkeelake-Canthook-Longsiding complex, 0 to 6 percent slopes

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F212A--Canthook-Bootleg-Foglake complex, 0 to 3 percent slopes

#### Canthook

*Extent:* 20 to 50 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 2 to 3 percent

*Parent material:* clayey glaciolacustrine deposits

*Restrictive feature(s):* abrupt textural change at 20 to 39 i

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	sandy loam	moderately rapid	0.51 to 0.59 in	5.6 to 7.3
Eg,Bg -- 4 to 26 in	loamy sand	rapid	1.10 to 1.76 in	5.6 to 7.3
2Bt -- 26 to 38 in	stratified silty clay loam to clay loam to loam to fine sandy loam to sandy loam	moderately slow	1.71 to 1.95 in	5.6 to 7.3
2BC -- 38 to 54 in	silty clay loam	slow	2.83 to 3.15 in	7.4 to 8.4
2C -- 54 to 80 in	stratified silty clay loam to silty clay to silt loam	slow	4.68 to 5.20 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F212A--Canthook-Bootleg-Foglake complex, 0 to 3 percent slopes

#### Bootleg

*Extent:* 20 to 50 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 0 to 2 percent

*Parent material:* sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

*Restrictive feature(s):* abrupt textural change at 20 to 39 i

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

#### Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 6 in	fine sandy loam	moderately rapid	0.77 to 0.89 in	5.6 to 7.3
Eg,Bg --	6 to 21 in	loamy sand	rapid	0.75 to 1.20 in	5.6 to 7.3
2Bt --	21 to 38 in	stratified silty clay loam to clay loam to loam to fine sandy loam to sandy loam	moderately slow	2.43 to 2.77 in	5.6 to 7.3
2BCtg --	38 to 48 in	silty clay loam	slow	1.77 to 1.97 in	7.4 to 8.4
2C --	48 to 80 in	stratified silty clay loam to silty clay to silt loam	slow	5.74 to 6.38 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F212A--Canthook-Bootleg-Foglake complex, 0 to 3 percent slopes

#### Foglake

*Extent:* 10 to 30 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg,BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F213B--Longsiding-Canthook-Foglake complex, 0 to 6 percent slopes

#### Longsiding

*Extent:* 30 to 50 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 12 in	silty clay loam	moderately slow	0.30 to 0.55 in	5.1 to 7.3
Bt1,Bt3 -- 12 to 35 in	silty clay	slow	2.09 to 4.41 in	5.1 to 7.3
Bk,C -- 35 to 80 in	silty clay loam	moderately slow	8.08 to 9.87 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F213B--Longsiding-Canthook-Foglake complex, 0 to 6 percent slopes

#### Canthook

*Extent:* 20 to 30 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 2 to 6 percent

*Parent material:* sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

*Restrictive feature(s):* abrupt textural change at 20 to 39 i

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .15

*Land capability, nonirrigated:* 3w

*Hydric soil:* no

*Hydrologic group:* C/D

*Potential for frost action:* moderate

#### Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 4 in	sandy loam	moderately rapid	0.51 to 0.59 in	5.6 to 7.3
Eg,Bg --	4 to 26 in	loamy sand	rapid	1.10 to 1.76 in	5.6 to 7.3
2Bt --	26 to 38 in	stratified silty clay loam to clay loam to loam to fine sandy loam to sandy loam	moderately slow	1.71 to 1.95 in	5.6 to 7.3
2BC --	38 to 54 in	silty clay loam	slow	2.83 to 3.15 in	7.4 to 8.4
2C --	54 to 80 in	stratified silty clay loam to silty clay to silt loam	slow	4.68 to 5.20 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F213B--Longsiding-Canthook-Foglake complex, 0 to 6 percent slopes

#### Foglake

*Extent:* 15 to 25 percent of the unit

*Landform(s):* flats on moraines

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .43

*Land capability, nonirrigated:* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg,BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F214A--Aquepts, rubbly-Foglake-Hassman, depressional, complex, 0 to 2 percent slopes

#### Aquepts, rubbly, depressional

*Extent:* 20 to 40 percent of the unit  
*Landform(s):* drainageways on moraines  
*Slope gradient:* 0 to 1 percent  
*Parent material:* glaciofluvial sediments  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* frequent  
*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 8  
*Wind erodibility index (WEI):* 0  
*Kw factor (surface layer)* .05  
*Land capability, nonirrigated:* 8s  
*Hydric soil:* yes  
*Hydrologic group:* B/D  
*Potential for frost action:* high

Representative soil profile:	Texture	Permeability	Available water capacity	pH
A -- 0 to 4 in	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

#### Foglake

*Extent:* 15 to 30 percent of the unit  
*Landform(s):* flats on moraines  
*Slope gradient:* 0 to 2 percent  
*Parent material:* glaciolacustrine deposits  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 6  
*Wind erodibility index (WEI):* 48  
*Kw factor (surface layer)* .43  
*Land capability, nonirrigated:* 4w  
*Hydric soil:* yes  
*Hydrologic group:* C/D  
*Potential for frost action:* high

Representative soil profile:	Texture	Permeability	Available water capacity	pH
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg,BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F214A--Aquepts, rubbly-Foglake-Hassman, depressional, complex, 0 to 2 percent slopes

#### Hassman, depressional

*Extent:* 10 to 30 percent of the unit

*Landform(s):* depressions on moraines

*Slope gradient:* 0 to 1 percent

*Parent material:* glaciolacustrine deposits

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .28

*Land capability, nonirrigated:* 6w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 10 in	silty clay loam	moderately slow	2.07 to 2.26 in	5.1 to 6.5
Bg --	10 to 32 in	silty clay	slow	1.98 to 4.19 in	5.1 to 7.3
BCg --	32 to 45 in	silty clay	slow	1.17 to 2.47 in	5.6 to 7.8
Cg --	45 to 80 in	silty clay	slow	3.15 to 6.66 in	7.4 to 8.4

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F215A--Greenwood soils, spooner catena, 0 to 1 percent slopes

#### Greenwood

<p><i>Extent:</i> 0 to 95 percent of the unit</p> <p><i>Landform(s):</i> bogs on end moraines, bogs on outwash plains, bogs on till plains</p> <p><i>Slope gradient:</i> 0 to 1 percent</p> <p><i>Parent material:</i> organic material</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 8</p> <p><i>Wind erodibility index (WEI):</i> 0</p> <p><i>Kw factor (surface layer):</i></p> <p><i>Land capability, nonirrigated:</i> 7w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

#### Greenwood, depressional

<p><i>Extent:</i> 0 to 95 percent of the unit</p> <p><i>Landform(s):</i> bogs on end moraines, bogs on outwash plains, bogs on till plains</p> <p><i>Slope gradient:</i> 0 to 1 percent</p> <p><i>Parent material:</i> organic material</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> frequent</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 8</p> <p><i>Wind erodibility index (WEI):</i> 0</p> <p><i>Kw factor (surface layer):</i></p> <p><i>Land capability, nonirrigated:</i> 7w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oi -- 0 to 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### F216A--Mooselake muck, suomi catena, 0 to 1 percent slopes

#### Mooselake

<p><i>Extent:</i> 60 to 85 percent of the unit</p> <p><i>Landform(s):</i> swamps on end moraines, swamps on outwash plains, swamps on till plains</p> <p><i>Slope gradient:</i> 0 to 1 percent</p> <p><i>Parent material:</i> organic material</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> frequent</p> <p><i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2</p> <p><i>Wind erodibility group (WEG):</i> 2</p> <p><i>Wind erodibility index (WEI):</i> 134</p> <p><i>Kw factor (surface layer):</i></p> <p><i>Land capability, nonirrigated:</i> 7w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
Oe -- 36 to 80 in	mucky peat	rapid	19.84 to 24.25 in	

## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### GP--Pits, gravel-Udipsamments complex

#### Pits, gravel

*Extent:* 60 to 95 percent of the unit

*Landform(s):* borrow pits on moraines, gravel pits on outwash plains, gravel pits on stream terraces

*Slope gradient:* 0 to 50 percent

*Parent material:* sandy and gravelly outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:*

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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#### Udipsamments

*Extent:* 5 to 40 percent of the unit

*Landform(s):* moraines, outwash plains, stream terraces, -- error in exists on --

*Slope gradient:* 0 to 25 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:*

*Ponding:*

*Drainage class:* well drained

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:*

*Hydric soil:* no

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### I-W--Water, intermittent

#### Water, intermittent

*Extent:* 100 percent of the unit

*Landform(s):* lakeshores on lakes

*Slope gradient:* 0 to 0 percent

*Parent material:*

*Restrictive feature(s):* greater than 60 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:*

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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### M-W--Water, miscellaneous

#### Water, miscellaneous

*Extent:* 100 percent of the unit

*Landform(s):*

*Slope gradient:*

*Parent material:*

*Restrictive feature(s):* greater than 60 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:*

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

St. Louis County, Minnesota, Crane Lake Part

### NOTCOM--No Digital Data Available

#### NOTCOM

*Extent:* 100 percent of the unit

*Landform(s):*

*Slope gradient:*

*Parent material:*

*Restrictive feature(s):* greater than 60 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:*

*Hydric soil:*

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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### W--Water

#### Water

*Extent:* 100 percent of the unit

*Landform(s):* lakes

*Slope gradient:* 0 to 0 percent

*Parent material:*

*Restrictive feature(s):* greater than 60 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:*

*Hydric soil:* unranked

*Hydrologic group:*

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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This report provides a semitabular listing of some soil and site properties and interpretations that are valuable in communicating the concept of a map unit. The report also provides easy access to the commonly used conservation planning information in one place. The major soil components in each map unit are displayed. Minor components may be displayed if they are included in the database and are selected at the time the report is generated.