Map Unit Description (MN)

Scott County, Minnesota

[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]

AaA--Alluvial land, 0 to 2 percent slopes

Alluvial land, occasionally flooded

Extent: 90 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderately rapid	1.97 to 2.17 in	7.4 to 8.4
A1 -- 10 to 60 in	stratified silt loam to sand	moderately rapid	6.50 to 9.00 in	7.4 to 8.4

AaB--Alluvial land, 2 to 6 percent slopes

Alluvial land, occasionally flooded

Extent: 90 percent of the unit
Landform(s): flood plains
Slope gradient: 2 to 6 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderately rapid	1.97 to 2.17 in	7.4 to 8.4
A1 -- 10 to 60 in	stratified silt loam to sand	moderately rapid	6.50 to 9.00 in	7.4 to 8.4

Ab--Alluvial land, frequent overflow, 0 to 6 percent slopes

Alluvial land, frequent overflow

Extent: 90 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 6 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated: 5w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1 -- 0 to 10 in	loam	moderately rapid	1.97 to 2.17 in	7.4 to 8.4
A2 -- 10 to 60 in	stratified silt loam to sand	moderately rapid	6.50 to 9.00 in	7.4 to 8.4

Ba--Beach materials, sandy

Beaches, sandy

Extent: 90 percent of the unit
Landform(s): beaches on lakes
Slope gradient: 0 to 3 percent
Parent material: beach 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): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .02
Land capability, nonirrigated: 5s
Hydric soil: no
Hydrologic group:
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	sand	rapid	0.20 to 0.36 in	6.1 to 7.8
C -- 5 to 60 in	gravelly sand	rapid	1.09 to 5.47 in	6.7 to 8.4

Bb--Beach materials and muck

Beaches, sandy

Extent: 45 percent of the unit
Landform(s): shorelines on marshes
Slope gradient: 0 to 2 percent
Parent material: beach sand
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): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .02
Land capability, nonirrigated: 5w
Hydric soil: yes
Hydrologic group:
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 11 in	sand	rapid	0.88 to 1.10 in	6.1 to 7.8
C -- 11 to 60 in	fine sand	rapid	2.93 to 4.88 in	6.1 to 8.4

Muck soil

Extent: 45 percent of the unit
Landform(s): shorelines on marshes
Slope gradient: 0 to 2 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated: 5w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa1 -- 0 to 10 in	muck	moderately rapid	3.44 to 4.43 in	
Oa2 -- 10 to 60 in	muck	moderately rapid	17.50 to 22.50 in	

Bc--Blue Earth mucky silty clay loam, 0 to 1 percent slopes

Blue Earth

Extent: 90 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: coprogenous earth over 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): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1 -- 0 to 12 in	mucky silty clay loam	moderate	2.13 to 2.83 in	7.4 to 8.4
Cg -- 12 to 40 in	clay loam	moderate	5.10 to 6.80 in	7.4 to 8.4
2Cg -- 40 to 60 in	clay loam	moderate	2.76 to 3.15 in	7.4 to 8.4

BdB--Kingsley, Mahtomedi and Hayden complex, 2 to 6 percent slopes

Kingsley

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: till
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) .37
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.63 to 1.99 in	5.6 to 6.5
Bt -- 9 to 31 in	sandy loam	moderately slow	2.87 to 3.53 in	5.1 to 7.3
C -- 31 to 60 in	sandy loam	moderately slow	3.16 to 4.02 in	5.6 to 7.8

Mahtomedi

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: 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) .15
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	gravelly loamy sand	rapid	0.47 to 0.79 in	5.1 to 6.5
Bw -- 8 to 30 in	sand	rapid	1.32 to 1.76 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

BdB--Kingsley, Mahtomedi and Hayden complex, 2 to 6 percent slopes

Hayden

Extent: 20 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: till
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: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 26 in	loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C -- 26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

BdC--Kingsley, Mahtomedi and Hayden complex, 6 to 12 percent slopes

Kingsley

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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) .37
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.63 to 1.99 in	5.6 to 6.5
Bt -- 9 to 31 in	sandy loam	moderately slow	2.87 to 3.53 in	5.1 to 7.3
C -- 31 to 60 in	sandy loam	moderately slow	3.16 to 4.02 in	5.6 to 7.8

Mahtomedi

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: 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) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	gravelly loamy sand	rapid	0.47 to 0.79 in	5.1 to 6.5
Bw -- 8 to 30 in	sand	rapid	1.32 to 1.76 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

BdC--Kingsley, Mahtomedi and Hayden complex, 6 to 12 percent slopes

Hayden

Extent: 20 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 26 in	loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C -- 26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

BdC2--Kingsley, Mahtomedi and Hayden complex, 6 to 12 percent slopes, moderately eroded

Kingsley, moderately eroded

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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) .37
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:

	Texture	Permeability	Available water capacity	pH
Ap -- 0 to 9 in	loam	moderate	1.63 to 1.99 in	5.6 to 6.5
Bt -- 9 to 31 in	sandy loam	moderately slow	2.87 to 3.53 in	5.1 to 7.3
C -- 31 to 60 in	sandy loam	moderately slow	3.16 to 4.02 in	5.6 to 7.8

Mahtomedi, moderately eroded

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: 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) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

	Texture	Permeability	Available water capacity	pH
Ap -- 0 to 8 in	gravelly loamy sand	rapid	0.47 to 0.79 in	5.1 to 6.5
Bw -- 8 to 30 in	sand	rapid	1.32 to 1.76 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

BdC2--Kingsley, Mahtomedi and Hayden complex, 6 to 12 percent slopes, moderately eroded

Hayden, moderately eroded

Extent: 20 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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: B
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap --	0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt --	9 to 26 in	loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C --	26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

BdD--Kingsley, Mahtomedi and Hayden complex, 12 to 18 percent slopes

Kingsley

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
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) .37
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.63 to 1.99 in	5.6 to 6.5
Bt -- 9 to 31 in	sandy loam	moderately slow	2.87 to 3.53 in	5.1 to 7.3
C -- 31 to 60 in	sandy loam	moderately slow	3.16 to 4.02 in	5.6 to 7.8

Mahtomedi

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: 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) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	gravelly loamy sand	rapid	0.47 to 0.79 in	5.1 to 6.5
Bw -- 8 to 30 in	sand	rapid	1.32 to 1.76 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

BdD--Kingsley, Mahtomedi and Hayden complex, 12 to 18 percent slopes

Hayden

Extent: 20 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
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: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 26 in	loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C -- 26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

BdD2--Kingsley, Mahtomedi and Hayden complex, 12 to 18 percent slopes, moderately eroded

Kingsley, moderately eroded

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
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) .37
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.63 to 1.99 in	5.6 to 6.5
Bt -- 9 to 31 in	sandy loam	moderately slow	2.87 to 3.53 in	5.1 to 7.3
C -- 31 to 60 in	sandy loam	moderately slow	3.16 to 4.02 in	5.6 to 7.8

Mahtomedi, moderately eroded

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: 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) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	gravelly loamy sand	rapid	0.47 to 0.79 in	5.1 to 6.5
Bw -- 8 to 30 in	sand	rapid	1.32 to 1.76 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

BdD2--Kingsley, Mahtomedi and Hayden complex, 12 to 18 percent slopes, moderately eroded

Hayden, moderately eroded

Extent: 20 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
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: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap --	0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt --	9 to 26 in	loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C --	26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

BdE2--Kingsley, Mahtomedi and Hayden complex, 18 to 25 percent slopes

Kingsley, moderately eroded

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: till
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) .37
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.63 to 1.99 in	5.6 to 6.5
Bt -- 9 to 31 in	sandy loam	moderately slow	2.87 to 3.53 in	5.1 to 7.3
C -- 31 to 60 in	sandy loam	moderately slow	3.16 to 4.02 in	5.6 to 7.8

Mahtomedi, moderately eroded

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: 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) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	gravelly loamy sand	rapid	0.47 to 0.79 in	5.1 to 6.5
Bw -- 8 to 30 in	sand	rapid	1.32 to 1.76 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

BdE2--Kingsley, Mahtomedi and Hayden complex, 18 to 25 percent slopes

Hayden, moderately eroded

Extent: 20 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: till
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: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 26 in	loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C -- 26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

BdF--Kingsley, Mahtomedi and Hayden complex, 25 to 50 percent slopes

Kingsley

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 25 to 40 percent
Parent material: till
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) .37
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 9 in	loam	moderate	1.63 to 1.99 in	5.6 to 6.5
Bt -- 9 to 31 in	sandy loam	moderately slow	2.87 to 3.53 in	5.1 to 7.3
C -- 31 to 60 in	sandy loam	moderately slow	3.16 to 4.02 in	5.6 to 7.8

Mahtomedi

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 25 to 45 percent
Parent material: 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) .15
Land capability, nonirrigated: 7s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 8 in	gravelly loamy sand	rapid	0.47 to 0.79 in	5.1 to 6.5
Bw -- 8 to 30 in	sand	rapid	1.32 to 1.76 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

BdF--Kingsley, Mahtomedi and Hayden complex, 25 to 50 percent slopes

Hayden

Extent: 20 percent of the unit
Landform(s): moraines
Slope gradient: 25 to 50 percent
Parent material: till
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: 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 26 in	loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C -- 26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

BeD3--Kingsley, Mahtomedi and Hayden complex, 12 to 18 percent slopes, severely eroded

Kingsley, severely eroded

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:

	Texture	Permeability	Available water capacity	pH
Ap -- 0 to 9 in	loam	moderate	1.63 to 1.99 in	5.6 to 6.5
Bt -- 9 to 31 in	sandy loam	moderately slow	2.87 to 3.53 in	5.1 to 7.3
C -- 31 to 60 in	sandy loam	moderately slow	3.16 to 4.02 in	5.6 to 7.8

Mahtomedi, severely eroded

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

	Texture	Permeability	Available water capacity	pH
Ap -- 0 to 8 in	gravelly loamy sand	rapid	0.47 to 0.79 in	5.1 to 6.5
Bw -- 8 to 30 in	sand	rapid	1.32 to 1.76 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

BeD3--Kingsley, Mahtomedi and Hayden complex, 12 to 18 percent slopes, severely eroded

Hayden, severely eroded

Extent: 20 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap --	0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt --	9 to 26 in	loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C --	26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

BeE3--Kingsley, Mahtomedi and Hayden complex, 18 to 25 percent slopes

Kingsley, severely eroded

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.63 to 1.99 in	5.6 to 6.5
Bt -- 9 to 31 in	sandy loam	moderately slow	2.87 to 3.53 in	5.1 to 7.3
C -- 31 to 60 in	sandy loam	moderately slow	3.16 to 4.02 in	5.6 to 7.8

Mahtomedi, severely eroded

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	gravelly loamy sand	rapid	0.47 to 0.79 in	5.1 to 6.5
Bw -- 8 to 30 in	sand	rapid	1.32 to 1.76 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

BeE3--Kingsley, Mahtomedi and Hayden complex, 18 to 25 percent slopes

Hayden, severely eroded

Extent: 20 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 26 in	loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C -- 26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

CaB--Clarion loam, 2 to 6 percent slopes

Clarion

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 16 in	loam	moderate	3.23 to 3.55 in	5.6 to 7.3
Bw -- 16 to 38 in	clay loam	moderate	3.68 to 4.11 in	5.6 to 7.8
C -- 38 to 60 in	clay loam	moderate	3.75 to 4.19 in	7.4 to 8.4

CaB2--Clarion loam, 2 to 6 percent slopes, moderately eroded

Clarion, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	loam	moderate	2.20 to 2.43 in	5.6 to 7.3
Bw -- 11 to 16 in	clay loam	moderate	0.87 to 0.97 in	5.6 to 7.8
C -- 16 to 60 in	clay loam	moderate	7.43 to 8.30 in	7.4 to 8.4

CaC--Clarion loam, 6 to 12 percent slopes

Clarion

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 16 in	loam	moderate	3.23 to 3.55 in	5.6 to 7.3
Bw -- 16 to 38 in	clay loam	moderate	3.68 to 4.11 in	5.6 to 7.3
C -- 38 to 60 in	clay loam	moderate	3.75 to 4.19 in	7.4 to 8.4

CaC2--Clarion loam, 6 to 12 percent slopes, moderately eroded

Clarion, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	loam	moderate	2.20 to 2.43 in	5.6 to 7.3
Bw -- 11 to 16 in	clay loam	moderate	0.87 to 0.97 in	5.6 to 7.3
C -- 16 to 60 in	clay loam	moderate	7.43 to 8.30 in	7.4 to 8.4

CbC3--Clarion soils, 6 to 12 percent slopes, severely eroded

Clarion, severely eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 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) .28
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	loam	moderate	2.20 to 2.43 in	5.6 to 7.3
Bw -- 11 to 16 in	clay loam	moderate	0.87 to 0.97 in	5.6 to 7.3
C -- 16 to 60 in	clay loam	moderate	7.43 to 8.30 in	7.4 to 8.4

Cc--Comfrey silty clay loam

Comfrey

Extent: 95 percent of the unit
Landform(s): flats on flood plains, swales on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1 -- 0 to 14 in	silty clay loam	moderate	2.55 to 3.12 in	6.6 to 7.8
A2 -- 14 to 24 in	silty clay loam	moderate	1.57 to 1.97 in	6.6 to 7.8
Cg -- 24 to 60 in	clay loam	moderate	5.37 to 6.81 in	6.6 to 8.4

CdA--Copaston silt loam, 0 to 2 percent slopes

Copaston

Extent: 85 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 2 percent
Parent material: alluvial sediment over bedrock
Restrictive feature(s): lithic bedrock at 12 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) .32
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 13 in	silt loam	moderate	2.60 to 2.86 in	5.6 to 7.3
AB -- 13 to 20 in	silt loam	moderately rapid	1.06 to 1.20 in	5.6 to 7.3
Bw -- 20 to 26 in	loam	moderately rapid	0.71 to 0.83 in	5.6 to 7.8
2R -- 26 to 36 in	unweathered bedrock	moderate		

CdB--Copaston silt loam, 2 to 6 percent slopes

Copaston

Extent: 85 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: alluvial sediment over bedrock
Restrictive feature(s): lithic bedrock at 12 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) .32
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 13 in	silt loam	moderate	2.60 to 2.86 in	5.6 to 7.3
AB -- 13 to 20 in	silt loam	moderately rapid	1.06 to 1.20 in	5.6 to 7.3
Bw -- 20 to 26 in	loam	moderately rapid	0.71 to 0.83 in	5.6 to 7.8
2R -- 26 to 36 in	unweathered bedrock	moderate		

CdB2--Copaston silt loam, 2 to 6 percent slopes, moderately eroded

Copaston, moderately eroded

Extent: 85 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: alluvial sediment over bedrock
Restrictive feature(s): lithic bedrock at 12 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) .32
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 13 in	silt loam	moderate	2.60 to 2.86 in	5.6 to 7.3
AB -- 13 to 20 in	silt loam	moderately rapid	1.06 to 1.20 in	5.6 to 7.3
Bw -- 20 to 26 in	loam	moderately rapid	0.71 to 0.83 in	5.6 to 7.8
2R -- 26 to 36 in	unweathered bedrock	moderate		

DaA--Dakota loam, 0 to 2 percent slopes

Dakota

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 0 to 2 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 14 in	loam	moderate	2.83 to 3.12 in	5.1 to 7.3
Bt -- 14 to 24 in	loam	moderate	1.48 to 1.87 in	5.1 to 7.3
2C -- 24 to 60 in	sand	rapid	0.72 to 3.58 in	5.1 to 7.8

DaB--Dakota loam, 2 to 6 percent slopes

Dakota

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 2 to 6 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 14 in	loam	moderate	2.83 to 3.12 in	5.1 to 7.3
Bt -- 14 to 24 in	loam	moderate	1.48 to 1.87 in	5.1 to 7.3
2C -- 24 to 60 in	sand	rapid	0.72 to 3.58 in	5.1 to 7.8

DaB2--Dakota loam, 2 to 6 percent slopes, moderately eroded

Dakota, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 2 to 6 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 14 in	loam	moderate	2.83 to 3.12 in	5.1 to 7.3
Bt -- 14 to 24 in	loam	moderate	1.48 to 1.87 in	5.1 to 7.3
2C -- 24 to 60 in	sand	rapid	0.72 to 3.58 in	5.1 to 7.8

DaC2--Dakota loam, 6 to 12 percent slopes, moderately eroded

Dakota, moderately eroded

Extent: 100 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 14 in	loam	moderate	2.83 to 3.12 in	5.1 to 7.3
Bt -- 14 to 24 in	loam	moderate	1.48 to 1.87 in	5.1 to 7.3
2C -- 24 to 60 in	sand	rapid	0.72 to 3.58 in	5.1 to 7.8

DbA--Dickman sandy loam, 0 to 2 percent slopes

Dickman

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	5.6 to 6.5
Bw -- 12 to 21 in	sandy loam	moderately rapid	1.09 to 1.27 in	5.6 to 7.3
2C -- 21 to 60 in	sand	rapid	0.78 to 2.73 in	5.6 to 7.8

DbB--Dickman sandy loam, 2 to 6 percent slopes

Dickman

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	5.6 to 6.5
Bw -- 12 to 20 in	sandy loam	moderately rapid	0.99 to 1.16 in	5.6 to 7.3
2C -- 20 to 60 in	sand	rapid	0.80 to 2.78 in	5.6 to 7.8

DbB2--Dickman sandy loam, 2 to 6 percent slopes, moderately eroded

Dickman, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: 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: 3e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.48 in	5.6 to 6.5
Bw -- 10 to 18 in	sandy loam	moderately rapid	0.99 to 1.16 in	5.6 to 7.3
2C -- 18 to 60 in	sand	rapid	0.83 to 2.92 in	5.6 to 7.8

DbC2--Dickman sandy loam, 6 to 12 percent slopes, moderately eroded

Dickman, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 6 to 12 percent
Parent material: 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: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	5.6 to 6.5
Bw -- 9 to 16 in	sandy loam	moderately rapid	0.85 to 0.99 in	5.6 to 7.3
2C -- 16 to 60 in	sand	rapid	0.87 to 3.06 in	5.6 to 7.8

Dc--Dorchester loam and silt loam

Dorchester

Extent: 85 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .49
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1 -- 0 to 30 in	silt loam	moderate	5.98 to 6.58 in	7.4 to 8.4
A2 -- 30 to 60 in	silty clay loam	moderate	6.58 to 7.18 in	6.6 to 8.4

Dd--Dorchester silty clay loam

Dorchester

Extent: 85 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .43
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1 -- 0 to 30 in	silty clay loam	moderate	5.98 to 6.58 in	7.4 to 8.4
A2 -- 30 to 60 in	silty clay loam	moderate	6.58 to 7.18 in	6.6 to 8.4

De--Duelm variant, fine sandy loam

Duelm, variant

Extent: 90 percent of the unit
Landform(s): flats on stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly 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: 3s
Hydric soil: no
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	fine sandy loam	moderately rapid	1.28 to 1.77 in	5.6 to 7.3
AB -- 10 to 17 in	sandy loam	moderately rapid	0.85 to 1.20 in	5.6 to 7.3
Bw -- 17 to 30 in	fine sand	rapid	1.17 to 1.43 in	5.6 to 7.3
C -- 30 to 60 in	sand	rapid	1.50 to 2.99 in	6.1 to 7.3

Df--Dundas silt loam, 0 to 2 percent slopes

Dundas

Extent: 85 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) .43
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 13 in	silt loam	moderate	2.86 to 3.12 in	5.6 to 7.3
Btg -- 13 to 44 in	silty clay loam	moderately slow	4.67 to 5.91 in	5.1 to 7.3
Cg -- 44 to 60 in	clay loam	moderately slow	2.20 to 2.99 in	7.4 to 8.4

Dg--Dune land

Dune land

Extent: 100 percent of the unit
Landform(s): dunes on stream terraces
Slope gradient:
Parent material: eolian sand
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively 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:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

EaA--Estherville loam and sandy loam, 0 to 2 percent slopes

Estherville

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	loam	moderately rapid	2.24 to 2.60 in	5.6 to 7.3
Bw -- 12 to 22 in	loam	moderately rapid	1.33 to 1.84 in	5.6 to 7.3
2C -- 22 to 60 in	gravelly coarse sand	rapid	0.76 to 1.51 in	6.6 to 8.4

EaB--Estherville loam and sandy loam, 2 to 6 percent slopes

Estherville

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	loam	moderately rapid	2.24 to 2.60 in	5.6 to 7.3
Bw -- 12 to 20 in	loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 20 to 60 in	gravelly coarse sand	rapid	0.80 to 1.59 in	6.6 to 8.4

EaB2--Estherville loam and sandy loam, 2 to 6 percent slopes, moderately eroded

Estherville, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 2 to 6 percent
Parent material: 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) .32
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderately rapid	1.87 to 2.17 in	5.6 to 7.3
Bw -- 10 to 18 in	loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 18 to 60 in	gravelly coarse sand	rapid	0.83 to 1.67 in	6.6 to 8.4

EaC--Estherville loam and sandy loam, 6 to 12 percent slopes

Estherville

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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) .32
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderately rapid	1.87 to 2.17 in	5.6 to 7.3
Bw -- 10 to 18 in	loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 18 to 60 in	gravelly coarse sand	rapid	0.83 to 1.67 in	6.6 to 8.4

EaC2--Estherville loam and sandy loam, 6 to 12 percent slopes ,moderately eroded

Estherville, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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) .32
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderately rapid	1.87 to 2.17 in	5.6 to 7.3
Bw -- 10 to 16 in	loam	moderately rapid	0.82 to 1.13 in	5.6 to 7.3
2C -- 16 to 60 in	gravelly coarse sand	rapid	0.87 to 1.75 in	6.6 to 8.4

EbB--Salida gravelly sandy loam, 0 to 6 percent slopes

Salida

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 0 to 6 percent
Parent material: 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	gravelly sandy loam	moderately rapid	0.98 to 1.18 in	6.1 to 8.4
Bw -- 10 to 20 in	gravelly loamy coarse sand	very rapid	0.20 to 0.41 in	7.4 to 8.4
C -- 20 to 60 in	very gravelly coarse sand	very rapid	0.80 to 1.59 in	7.4 to 8.4

EbB2--Salida gravelly sandy loam, 0 to 6 percent slopes, moderately eroded

Salida, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 0 to 6 percent
Parent material: 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	gravelly sandy loam	moderately rapid	0.91 to 1.09 in	6.1 to 8.4
Bw -- 9 to 18 in	gravelly loamy coarse sand	very rapid	0.18 to 0.36 in	7.4 to 8.4
C -- 18 to 60 in	very gravelly coarse sand	very rapid	0.83 to 1.67 in	7.4 to 8.4

EbC--Salida gravelly sandy loam, 6 to 12 percent slopes

Salida

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	gravelly sandy loam	moderately rapid	0.91 to 1.09 in	6.1 to 8.4
Bw -- 9 to 16 in	gravelly loamy coarse sand	very rapid	0.14 to 0.28 in	7.4 to 8.4
C -- 16 to 60 in	very gravelly coarse sand	very rapid	0.87 to 1.75 in	7.4 to 8.4

EbC2--Salida gravelly sandy loam, 6 to 12 percent slopes, moderately eroded

Salida, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces, outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	gravelly sandy loam	moderately rapid	0.91 to 1.09 in	6.1 to 8.4
Bw -- 9 to 15 in	gravelly loamy coarse sand	very rapid	0.12 to 0.24 in	7.4 to 8.4
C -- 15 to 60 in	very gravelly coarse sand	very rapid	0.90 to 1.80 in	7.4 to 8.4

Fa--Faxon silty clay loam, 0 to 2 percent slopes

Faxon

Extent: 85 percent of the unit
Landform(s): flats on stream terraces
Slope gradient: 0 to 2 percent
Parent material: alluvium over bedrock
Restrictive feature(s): lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
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 20 in	silty clay loam	moderate	4.02 to 4.82 in	6.6 to 7.8
Bg -- 20 to 29 in	clay loam	moderate	1.09 to 1.72 in	6.6 to 7.8
2R -- 29 to 33 in	unweathered bedrock	moderate		

Ga--Glencoe silty clay loam

Glencoe

Extent: 90 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 19 in	silty clay loam	moderate	3.40 to 4.16 in	6.1 to 7.8
Bg -- 19 to 33 in	clay loam	moderate	2.13 to 2.69 in	6.6 to 7.8
Cg -- 33 to 60 in	clay loam	moderate	4.02 to 5.09 in	6.6 to 7.8

Gp--Pits, gravel

Pits, gravel

Extent: 100 percent of the unit
Landform(s): outwash plains, stream terraces, moraines
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:
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

HaB--Hayden loam, 0 to 6 percent slopes

Hayden

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 6 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 45 in	clay loam	moderate	5.37 to 6.81 in	5.1 to 7.3
C -- 45 to 60 in	loam	moderate	2.09 to 2.84 in	7.4 to 8.4

HaB2--Hayden loam, 2 to 6 percent slopes, moderately eroded

Hayden, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 45 in	clay loam	moderate	5.37 to 6.81 in	5.1 to 7.3
C -- 45 to 60 in	loam	moderate	2.09 to 2.84 in	7.4 to 8.4

HaC--Hayden loam, 6 to 12 percent slopes

Hayden

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 45 in	clay loam	moderate	5.37 to 6.81 in	5.1 to 7.3
C -- 45 to 60 in	loam	moderate	2.09 to 2.84 in	7.4 to 8.4

HaC2--Hayden loam, 6 to 12 percent slopes, moderately eroded

Hayden, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 45 in	clay loam	moderate	5.37 to 6.81 in	5.1 to 7.3
C -- 45 to 60 in	loam	moderate	2.09 to 2.84 in	7.4 to 8.4

HaD--Hayden loam, 12 to 18 percent slopes

Hayden

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 45 in	clay loam	moderate	5.37 to 6.81 in	5.1 to 7.3
C -- 45 to 60 in	loam	moderate	2.09 to 2.84 in	7.4 to 8.4

HaD2--Hayden loam, 12 to 18 percent slopes, moderately eroded

Hayden, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 45 in	clay loam	moderate	5.37 to 6.81 in	5.1 to 7.3
C -- 45 to 60 in	loam	moderate	2.09 to 2.84 in	7.4 to 8.4

HaE2--Hayden loam, 18 to 25 percent slopes

Hayden, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 45 in	clay loam	moderate	5.37 to 6.81 in	5.1 to 7.3
C -- 45 to 60 in	loam	moderate	2.09 to 2.84 in	7.4 to 8.4

HaF2--Hayden loam, 25 to 35 percent slopes

Hayden

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 25 to 35 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 45 in	clay loam	moderate	5.37 to 6.81 in	5.1 to 7.3
C -- 45 to 60 in	loam	moderate	2.09 to 2.84 in	7.4 to 8.4

HbB--Hayden sandy loam, 0 to 6 percent slopes

Hayden

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 6 percent
Parent material: till
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) .24
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	sandy loam	moderately rapid	1.10 to 1.42 in	5.6 to 7.3
Bt -- 8 to 32 in	sandy clay loam	moderate	3.60 to 4.56 in	5.1 to 7.3
C -- 32 to 60 in	sandy loam	moderate	3.91 to 5.31 in	7.4 to 8.4

HbB2--Hayden sandy loam, 0 to 6 percent slopes, moderately eroded

Hayden, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 6 percent
Parent material: till
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) .24
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	sandy loam	moderately rapid	1.10 to 1.42 in	5.6 to 7.3
Bt -- 8 to 32 in	sandy clay loam	moderate	3.60 to 4.56 in	5.1 to 7.3
C -- 32 to 60 in	sandy loam	moderate	3.91 to 5.31 in	7.4 to 8.4

HbC--Hayden sandy loam, 6 to 12 percent slopes

Hayden

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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) .24
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	sandy loam	moderately rapid	1.10 to 1.42 in	5.6 to 7.3
Bt -- 8 to 32 in	sandy clay loam	moderate	3.60 to 4.56 in	5.1 to 7.3
C -- 32 to 60 in	sandy loam	moderate	3.91 to 5.31 in	7.4 to 8.4

HbC2--Hayden sandy loam, 6 to 12 percent slopes, moderately eroded

Hayden, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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) .24
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	sandy loam	moderately rapid	1.10 to 1.42 in	5.6 to 7.3
Bt -- 8 to 32 in	sandy clay loam	moderate	3.60 to 4.56 in	5.1 to 7.3
C -- 32 to 60 in	sandy loam	moderate	3.91 to 5.31 in	7.4 to 8.4

HbD--Hayden sandy loam, 12 to 18 percent slopes

Hayden

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
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) .24
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	sandy loam	moderately rapid	1.10 to 1.42 in	5.6 to 7.3
Bt -- 8 to 32 in	sandy clay loam	moderate	3.60 to 4.56 in	5.1 to 7.3
C -- 32 to 60 in	sandy loam	moderate	3.91 to 5.31 in	7.4 to 8.4

HbD2--Hayden sandy loam, 12 to 18 percent slopes, moderately eroded

Hayden, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
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) .24
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	sandy loam	moderately rapid	1.10 to 1.42 in	5.6 to 7.3
Bt -- 8 to 32 in	sandy clay loam	moderate	3.60 to 4.56 in	5.1 to 7.3
C -- 32 to 60 in	sandy loam	moderate	3.91 to 5.31 in	7.4 to 8.4

HbD3--Hayden sandy clay loam, 12 to 18 percent slopes, severely eroded

Hayden, severely eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .20
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	sandy clay loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bt -- 8 to 24 in	sandy clay loam	moderate	2.42 to 3.07 in	5.1 to 7.3
C -- 24 to 60 in	sandy loam	moderate	5.02 to 6.81 in	7.4 to 8.4

HbE2--Hayden sandy loam, 18 to 25 percent slopes

Hayden, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: till
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) .24
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	sandy loam	moderately rapid	1.10 to 1.42 in	5.6 to 7.3
Bt -- 8 to 32 in	sandy clay loam	moderate	3.60 to 4.56 in	5.1 to 7.3
C -- 32 to 60 in	sandy loam	moderate	3.91 to 5.31 in	7.4 to 8.4

HbE3--Hayden sandy clay loam, 18 to 25 percent slopes

Hayden, severely eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .17
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	sandy clay loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bt -- 8 to 24 in	sandy clay loam	moderate	2.42 to 3.07 in	5.1 to 7.3
C -- 24 to 60 in	sandy loam	moderate	5.02 to 6.81 in	7.4 to 8.4

HbF2--Hayden sandy loam, 25 to 35 percent slopes

Hayden

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 25 to 35 percent
Parent material: till
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) .24
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 8 in	sandy loam	moderately rapid	1.10 to 1.42 in	5.6 to 7.3
Bt -- 8 to 32 in	sandy clay loam	moderate	3.60 to 4.56 in	5.1 to 7.3
C -- 32 to 60 in	sandy loam	moderate	3.91 to 5.31 in	7.4 to 8.4

HcC3--Hayden soils, 6 to 12 percent slopes, severely eroded

Hayden, severely eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 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) .32
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bt -- 8 to 24 in	clay loam	moderate	2.42 to 3.07 in	5.1 to 7.3
C -- 24 to 60 in	loam	moderate	5.02 to 6.81 in	7.4 to 8.4

HcD3--Hayden soils, 12 to 18 percent slopes, severely eroded

Hayden, severely eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 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) .32
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bt -- 8 to 24 in	clay loam	moderate	2.42 to 3.07 in	5.1 to 7.3
C -- 24 to 60 in	loam	moderate	5.02 to 6.81 in	7.4 to 8.4

HcE3--Hayden soils, 18 to 25 percent slopes

Hayden, severely eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: till
Restrictive feature(s): greater than 60 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) .32
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bt -- 8 to 24 in	clay loam	moderate	2.42 to 3.07 in	5.1 to 7.3
C -- 24 to 60 in	loam	moderate	5.02 to 6.81 in	7.4 to 8.4

HdA--Sparta fine sand, 0 to 2 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 2 percent
Parent material: 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): 1
Wind erodibility index (WEI): 250
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	fine sand	rapid	0.71 to 1.06 in	5.1 to 7.3
Bw -- 12 to 38 in	fine sand	rapid	1.30 to 2.86 in	5.1 to 7.3
C -- 38 to 60 in	fine sand	rapid	0.88 to 1.54 in	5.1 to 7.8

HdB--Sparta fine sand, 2 to 6 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: 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): 1
Wind erodibility index (WEI): 250
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	fine sand	rapid	0.71 to 1.06 in	5.1 to 7.3
Bw -- 12 to 38 in	fine sand	rapid	1.30 to 2.86 in	5.1 to 7.3
C -- 38 to 60 in	fine sand	rapid	0.88 to 1.54 in	5.1 to 7.8

HdB2--Sparta fine sand, 2 to 6 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: 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): 1
Wind erodibility index (WEI): 250
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	fine sand	rapid	0.71 to 1.06 in	5.1 to 7.3
Bw -- 12 to 38 in	fine sand	rapid	1.30 to 2.86 in	5.1 to 7.3
C -- 38 to 60 in	fine sand	rapid	0.88 to 1.54 in	5.1 to 7.8

HdC--Sparta fine sand, 6 to 12 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 6 to 12 percent
Parent material: 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): 1
Wind erodibility index (WEI): 250
Kw factor (surface layer) .10
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	fine sand	rapid	0.71 to 1.06 in	5.1 to 7.3
Bw -- 12 to 38 in	fine sand	rapid	1.30 to 2.86 in	5.1 to 7.3
C -- 38 to 60 in	fine sand	rapid	0.88 to 1.54 in	5.1 to 7.8

HdC2--Sparta fine sand, 6 to 12 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 6 to 12 percent
Parent material: 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): 1
Wind erodibility index (WEI): 250
Kw factor (surface layer) .10
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	fine sand	rapid	0.71 to 1.06 in	5.1 to 7.3
Bw -- 12 to 38 in	fine sand	rapid	1.30 to 2.86 in	5.1 to 7.3
C -- 38 to 60 in	fine sand	rapid	0.88 to 1.54 in	5.1 to 7.8

HeA--Sparta loamy fine sand, 0 to 2 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 2 percent
Parent material: 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) .32
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 10 in	loamy fine sand	moderately rapid	0.89 to 1.18 in	5.1 to 7.3
Bw -- 10 to 38 in	fine sand	rapid	1.40 to 3.07 in	5.1 to 7.3
C -- 38 to 60 in	fine sand	rapid	0.88 to 1.54 in	5.1 to 7.8

HeB--Sparta loamy fine sand, 2 to 6 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: 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) .32
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loamy fine sand	moderately rapid	0.89 to 1.18 in	5.1 to 7.3
Bw -- 10 to 38 in	fine sand, fine sand	rapid	1.40 to 3.07 in	5.1 to 7.3
C -- 38 to 60 in	fine sand, fine sand	rapid	0.88 to 1.54 in	5.1 to 7.8

HeB2--Sparta loamy fine sand, 2 to 6 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: 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) .32
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loamy fine sand	moderately rapid	0.89 to 1.18 in	5.1 to 7.3
Bw -- 10 to 38 in	fine sand	rapid	1.40 to 3.07 in	5.1 to 7.3
C -- 38 to 60 in	fine sand	rapid	0.88 to 1.54 in	5.1 to 7.8

HeC--Sparta loamy fine sand, 6 to 12 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 6 to 12 percent
Parent material: 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) .32
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loamy fine sand	moderately rapid	0.89 to 1.18 in	5.1 to 7.3
Bw -- 10 to 38 in	fine sand	rapid	1.40 to 3.07 in	5.1 to 7.3
C -- 38 to 60 in	fine sand	rapid	0.88 to 1.54 in	5.1 to 7.8

HeC2--Sparta loamy fine sand, 6 to 12 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 6 to 12 percent
Parent material: 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) .32
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loamy fine sand	moderately rapid	0.89 to 1.18 in	5.1 to 7.3
Bw -- 10 to 38 in	fine sand	rapid	1.40 to 3.07 in	5.1 to 7.3
C -- 38 to 60 in	fine sand	rapid	0.88 to 1.54 in	5.1 to 7.8

Ia--Isanti fine sandy loam

Isanti

Extent: 85 percent of the unit
Landform(s): swales on stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: very 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: 4w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 26 in	fine sandy loam	rapid	3.38 to 4.68 in	5.1 to 6.5
Bg -- 26 to 31 in	loamy fine sand	rapid	0.31 to 0.41 in	5.1 to 6.5
Cg -- 31 to 60 in	fine sand	rapid	1.44 to 2.01 in	5.6 to 7.8

INT--Water, intermittent

Water, intermittent

Extent: 100 percent of the unit
Landform(s):
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

KaA--Kasota silt loam, 0 to 2 percent slopes

Kasota

Extent: 85 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 2 percent
Parent material: glaciofluvial sediments over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated: 2s
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:

	Texture	Permeability	Available water capacity	pH
Ap -- 0 to 14 in	silt loam	moderate	2.83 to 3.40 in	5.6 to 7.3
Bt -- 14 to 27 in	clay loam	moderately slow	1.51 to 2.27 in	5.6 to 6.5
2C -- 27 to 60 in	gravelly sand	rapid	0.66 to 1.98 in	7.4 to 8.4

KaB--Kasota silt loam, 2 to 6 percent slopes

Kasota

Extent: 85 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: glaciofluvial sediments over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 14 in	silt loam	moderate	2.83 to 3.40 in	5.6 to 7.3
Bt -- 14 to 27 in	clay loam	moderately slow	1.51 to 2.27 in	5.6 to 6.5
2C -- 27 to 60 in	gravelly sand	rapid	0.66 to 1.98 in	7.4 to 8.4

LaA--Wadena loam, 0 to 2 percent slopes

Wadena

Extent: 90 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 0 to 2 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 16 in	loam	moderate	3.23 to 3.55 in	6.1 to 7.3
Bw -- 16 to 25 in	loam	moderate	1.27 to 1.72 in	5.6 to 7.3
2C -- 25 to 60 in	gravelly coarse sand	very rapid	0.69 to 1.39 in	6.6 to 8.4

LaB--Estherville loam, 2 to 6 percent slopes

Estherville

Extent: 90 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	loam	moderately rapid	2.24 to 2.60 in	5.6 to 7.3
Bw -- 12 to 20 in	loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 20 to 60 in	gravelly coarse sand	rapid	0.80 to 1.59 in	6.6 to 8.4

LaB2--Estherville loam, 2 to 6 percent slopes, moderately eroded

Estherville, moderately eroded

Extent: 90 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 2 to 6 percent
Parent material: 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) .32
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderately rapid	1.87 to 2.17 in	5.6 to 7.3
Bw -- 10 to 18 in	loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 18 to 60 in	gravelly coarse sand	rapid	0.83 to 1.67 in	6.6 to 8.4

LaC--Estherville loam, 6 to 12 percent slopes

Estherville

Extent: 90 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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) .32
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderately rapid	1.87 to 2.17 in	5.6 to 7.3
Bw -- 10 to 18 in	loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 18 to 60 in	gravelly coarse sand	rapid	0.83 to 1.67 in	6.6 to 8.4

LaC2--Estherville loam, 6 to 12 percent slopes, moderately eroded

Estherville, moderately eroded

Extent: 90 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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) .32
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderately rapid	1.87 to 2.17 in	5.6 to 7.3
Bw -- 10 to 16 in	loam	moderately rapid	0.82 to 1.13 in	5.6 to 7.3
2C -- 16 to 60 in	gravelly coarse sand	rapid	0.87 to 1.75 in	6.6 to 8.4

LaD--Estherville loam, 12 to 18 percent slopes

Estherville

Extent: 90 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 12 to 18 percent
Parent material: 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) .32
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderately rapid	1.87 to 2.17 in	5.6 to 7.3
Bw -- 10 to 16 in	loam	moderately rapid	0.82 to 1.13 in	5.6 to 7.3
2C -- 16 to 60 in	gravelly coarse sand	rapid	0.87 to 1.75 in	6.6 to 8.4

LaD2--Estherville loam, 12 to 18 percent slopes, moderately eroded

Estherville, moderately eroded

Extent: 90 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 12 to 18 percent
Parent material: 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) .32
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderately rapid	1.50 to 1.73 in	5.6 to 7.3
Bw -- 8 to 14 in	loam	moderately rapid	0.82 to 1.13 in	5.6 to 7.3
2C -- 14 to 60 in	gravelly coarse sand	rapid	0.91 to 1.83 in	6.6 to 8.4

LbB--Estherville-Burnsville complex, 2 to 6 percent slopes

Estherville

Extent: 55 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 2 to 6 percent
Parent material: 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) .24
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.77 in	5.6 to 7.3
Bw -- 10 to 18 in	sandy loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 18 to 60 in	gravelly coarse sand	rapid	0.83 to 1.67 in	6.6 to 8.4

Burnsville

Extent: 40 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 2 to 6 percent
Parent material: 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) .28
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.82 in	5.6 to 7.3
Bt -- 5 to 21 in	sandy loam	moderately rapid	1.89 to 2.20 in	5.6 to 7.3
2C -- 21 to 60 in	gravelly coarse sand	rapid	0.78 to 1.56 in	6.6 to 8.4

LbB2--Estherville-Burnsville complex, 2 to 6 percent slopes, moderately eroded

Estherville, moderately eroded

Extent: 55 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 2 to 6 percent
Parent material: 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) .24
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.77 in	5.6 to 7.3
Bw -- 10 to 18 in	sandy loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 18 to 60 in	gravelly coarse sand	rapid	0.83 to 1.67 in	6.6 to 8.4

Burnsville, moderately eroded

Extent: 40 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 2 to 6 percent
Parent material: 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) .28
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.82 in	5.6 to 7.3
Bt -- 5 to 21 in	sandy loam	moderately rapid	1.89 to 2.20 in	5.6 to 7.3
2C -- 21 to 60 in	gravelly coarse sand	rapid	0.78 to 1.56 in	6.6 to 8.4

LbC--Estherville-Burnsville complex, 6 to 12 percent slopes

Estherville

Extent: 55 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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) .24
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.77 in	5.6 to 7.3
Bw -- 10 to 18 in	sandy loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 18 to 60 in	gravelly coarse sand	rapid	0.83 to 1.67 in	6.6 to 8.4

Burnsville

Extent: 40 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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) .28
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.82 in	5.6 to 7.3
Bt -- 5 to 21 in	sandy loam	moderately rapid	1.89 to 2.20 in	5.6 to 7.3
2C -- 21 to 60 in	gravelly coarse sand	rapid	0.78 to 1.56 in	6.6 to 8.4

LbC2--Estherville-Burnsville complex, 6 to 12 percent slopes, moderately eroded

Estherville, moderately eroded

Extent: 55 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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) .24
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.77 in	5.6 to 7.3
Bw -- 10 to 18 in	sandy loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 18 to 60 in	gravelly coarse sand	rapid	0.83 to 1.67 in	6.6 to 8.4

Burnsville, moderately eroded

Extent: 40 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 6 to 12 percent
Parent material: 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) .28
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.82 in	5.6 to 7.3
Bt -- 5 to 21 in	sandy loam	moderately rapid	1.89 to 2.20 in	5.6 to 7.3
2C -- 21 to 60 in	gravelly coarse sand	rapid	0.78 to 1.56 in	6.6 to 8.4

LbD--Estherville-Burnsville complex, 12 to 50 percent slopes

Estherville

Extent: 55 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 12 to 50 percent
Parent material: 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) .24
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.77 in	5.6 to 7.3
Bw -- 10 to 18 in	sandy loam	moderately rapid	1.07 to 1.49 in	5.6 to 7.3
2C -- 18 to 60 in	gravelly coarse sand	rapid	0.83 to 1.67 in	6.6 to 8.4

Burnsville

Extent: 40 percent of the unit
Landform(s): outwash plains, moraines
Slope gradient: 12 to 50 percent
Parent material: 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) .28
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.82 in	5.6 to 7.3
Bt -- 5 to 21 in	sandy loam	moderately rapid	1.89 to 2.20 in	5.6 to 7.3
2C -- 21 to 60 in	gravelly coarse sand	rapid	0.78 to 1.56 in	6.6 to 8.4

LcB--Lester loam, 2 to 6 percent slopes

Lester

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 38 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
C -- 38 to 60 in	loam	moderate	3.09 to 4.19 in	7.4 to 8.4

LcB2--Lester loam, 2 to 6 percent slopes, moderately eroded

Lester, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 38 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
C -- 38 to 60 in	loam	moderate	3.09 to 4.19 in	7.4 to 8.4

LcC--Lester loam, 6 to 12 percent slopes

Lester

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 38 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
C -- 38 to 60 in	loam	moderate	3.09 to 4.19 in	7.4 to 8.4

LcC2--Lester loam, 6 to 12 percent slopes, moderately eroded

Lester, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 38 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
C -- 38 to 60 in	loam	moderate	3.09 to 4.19 in	7.4 to 8.4

LcD--Lester loam, 12 to 18 percent slopes

Lester

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 38 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
C -- 38 to 60 in	loam	moderate	3.09 to 4.19 in	7.4 to 8.4

LcD2--Lester loam, 12 to 18 percent slopes, moderately eroded

Lester, moderately eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 38 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
C -- 38 to 60 in	loam	moderate	3.09 to 4.19 in	7.4 to 8.4

LcE2--Lester loam, 18 to 25 percent slopes

Lester, moderately eroded

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 38 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
C -- 38 to 60 in	loam	moderate	3.09 to 4.19 in	7.4 to 8.4

LcF2--Lester loam, 25 to 35 percent slopes

Lester

Extent: 100 percent of the unit
Landform(s): moraines
Slope gradient: 25 to 35 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 38 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
C -- 38 to 60 in	loam	moderate	3.09 to 4.19 in	7.4 to 8.4

LdC3--Lester soils, 6 to 12 percent slopes, severely eroded

Lester, severely eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 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) .28
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderate	1.54 to 1.72 in	5.6 to 7.3
Bt -- 9 to 26 in	clay loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C -- 26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

LdD3--Lester soils, 12 to 18 percent slopes, severely eroded

Lester, severely eroded

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 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) .28
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderate	1.54 to 1.72 in	5.6 to 7.3
Bt -- 9 to 26 in	clay loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C -- 26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

LdE3--Lester soils, 18 to 25 percent slopes

Lester, severely eroded

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 25 percent
Parent material: till
Restrictive feature(s): greater than 60 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) .28
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderate	1.54 to 1.72 in	5.6 to 7.3
Bt -- 9 to 26 in	clay loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C -- 26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

LdF3--Lester soils, 25 to 35 percent slopes

Lester

Extent: 100 percent of the unit
Landform(s): moraines
Slope gradient: 25 to 35 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderate	1.54 to 1.72 in	5.6 to 7.3
Bt -- 9 to 26 in	clay loam	moderate	2.54 to 3.22 in	5.1 to 7.3
C -- 26 to 60 in	loam	moderate	4.74 to 6.43 in	7.4 to 8.4

Le--Le Sueur loam

Le Sueur

Extent: 90 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: moderately well 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: 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 17 in	loam	moderate	3.39 to 4.06 in	5.6 to 7.3
Bt -- 17 to 35 in	clay loam	moderate	2.72 to 3.44 in	5.1 to 7.3
C -- 35 to 60 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

Lf--Le Sueur-Lester complex

Le Sueur

Extent: 55 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: moderately well 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: 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 13 in	loam	moderate	2.60 to 3.12 in	5.6 to 7.3
Bt -- 13 to 50 in	clay loam	moderate	5.55 to 7.03 in	5.1 to 7.3
C -- 50 to 60 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

Lester

Extent: 35 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 5 percent
Parent material: till
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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam, loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bt -- 9 to 38 in	clay loam, clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
C -- 38 to 60 in	loam	moderate	3.09 to 4.19 in	7.4 to 8.4

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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Ma--Marsh

Marsh

Extent: 100 percent of the unit
Landform(s): marshes
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): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Oa1 --	0 to 9 in	muck	moderately rapid	3.17 to 4.07 in	
Oa2 --	9 to 60 in	muck	moderately rapid	17.78 to 22.85 in	

Oa--Oshawa silty clay loam

Oshawa

Extent: 95 percent of the unit
Landform(s): oxbows on flood plains
Slope gradient: 0 to 1 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated: 6w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 20 in	silty clay loam	moderately slow	3.61 to 4.42 in	7.4 to 7.8
Cg -- 20 to 60 in	silty clay loam	moderately slow	6.76 to 7.56 in	7.4 to 7.8

PaA--Palms muck, 0 to 2 percent slopes

Palms

Extent: 85 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 2 percent
Parent material: organic material over loamy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oap -- 0 to 24 in	muck	moderately rapid	8.41 to 10.81 in	
Cg -- 24 to 60 in	clay loam	moderate	5.02 to 7.88 in	

PaB--Palms muck, sloping, 2 to 12 percent slopes

Palms, sloping

Extent: 85 percent of the unit
Landform(s): toes on bluffs
Slope gradient: 2 to 12 percent
Parent material: organic material over loamy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
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 24 in	muck	moderately rapid	8.41 to 10.81 in	
Cg -- 24 to 60 in	clay loam	moderate	5.02 to 7.88 in	

PbA--Houghton muck, 0 to 2 percent slopes

Houghton

Extent: 90 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 2 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oap -- 0 to 10 in	muck	moderately rapid	3.44 to 4.43 in	
Oa -- 10 to 60 in	muck	moderately rapid	17.50 to 22.50 in	

PbB--Houghton muck, sloping, 2 to 6 percent slopes

Houghton, sloping

Extent: 90 percent of the unit
Landform(s): toes on bluffs
Slope gradient: 2 to 6 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated: 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa1 -- 0 to 10 in	muck	moderately rapid	3.44 to 4.43 in	
Oa2 -- 10 to 60 in	muck	moderately rapid	17.50 to 22.50 in	

Ra--Oshawa silty clay loam

Oshawa

Extent: 90 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 1 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): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated: 6w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 20 in	silty clay loam	moderately slow	3.61 to 4.42 in	7.4 to 7.8
Cg -- 20 to 60 in	silty clay loam	moderately slow	6.76 to 7.56 in	7.4 to 7.8

Sa--Sandstone outcrops

Rock outcrop, sandstone

Extent: 100 percent of the unit
Landform(s): terraces
Slope gradient:
Parent material: residuum
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: no
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

Sb--Steep land, Hayden-Lester materials

Steep land

Extent: 100 percent of the unit
Landform(s): escarpments
Slope gradient:
Parent material: till
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: no
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

Sc--Stony land

Stony land

Extent: 100 percent of the unit
Landform(s): terraces
Slope gradient:
Parent material: till
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: no
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

Ta--Terrace escarpments

Terrace escarpments

Extent: 100 percent of the unit
Landform(s): escarpments on terraces
Slope gradient:
Parent material: variable glacial sediments
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: no
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

TbB--Terril loam, 2 to 6 percent slopes

Terril

Extent: 90 percent of the unit
Landform(s): moraines, stream terraces
Slope gradient: 2 to 6 percent
Parent material: colluvium over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 39 in	loam	moderate	7.80 to 8.57 in	6.1 to 7.3
Bw -- 39 to 47 in	loam	moderate	1.02 to 1.50 in	6.1 to 7.3
C -- 47 to 60 in	loam	moderate	1.43 to 2.34 in	6.1 to 7.8

TbC--Terril loam, 6 to 12 percent slopes

Terril

Extent: 90 percent of the unit
Landform(s): moraines, stream terraces
Slope gradient: 6 to 12 percent
Parent material: colluvium over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 39 in	loam	moderate	7.80 to 8.57 in	6.1 to 7.3
Bw -- 39 to 47 in	loam	moderate	1.02 to 1.50 in	6.1 to 7.3
C -- 47 to 60 in	loam	moderate	1.43 to 2.34 in	6.1 to 7.8

TbD--Terril loam, 12 to 18 percent slopes

Terril

Extent: 100 percent of the unit
Landform(s): moraines, stream terraces
Slope gradient: 12 to 18 percent
Parent material: colluvium over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 39 in	loam	moderate	7.80 to 8.57 in	6.1 to 7.3
Bw -- 39 to 47 in	loam	moderate	1.02 to 1.50 in	6.1 to 7.3
C -- 47 to 60 in	loam	moderate	1.43 to 2.34 in	6.1 to 7.8

TbE--Terril loam, 18 to 25 percent slopes

Terril

Extent: 100 percent of the unit
Landform(s): moraines, stream terraces
Slope gradient: 18 to 25 percent
Parent material: colluvium over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 39 in	loam	moderate	7.80 to 8.57 in	6.1 to 7.3
Bw -- 39 to 47 in	loam	moderate	1.02 to 1.50 in	6.1 to 7.3
C -- 47 to 60 in	loam	moderate	1.43 to 2.34 in	6.1 to 7.8

TcA--Terril loam, 0 to 2 percent slopes

Terril

Extent: 85 percent of the unit
Landform(s): moraines, stream terraces
Slope gradient: 0 to 2 percent
Parent material: colluvium over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 39 in	loam	moderate	7.80 to 8.57 in	6.1 to 7.3
Bw -- 39 to 47 in	loam	moderate	1.34 to 1.50 in	6.1 to 7.3
C -- 47 to 60 in	loam	moderate	2.08 to 2.34 in	6.1 to 7.8

TcB--Terril loam, 2 to 6 percent slopes

Terril

Extent: 85 percent of the unit
Landform(s): moraines, stream terraces
Slope gradient: 2 to 6 percent
Parent material: colluvium over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 39 in	loam	moderate	7.80 to 8.57 in	6.1 to 7.3
Bw -- 39 to 47 in	loam	moderate	1.34 to 1.50 in	6.1 to 7.3
C -- 47 to 60 in	loam	moderate	2.08 to 2.34 in	6.1 to 7.8

TcC--Terril loam, 6 to 12 percent slopes

Terril

Extent: 100 percent of the unit
Landform(s): moraines, stream terraces
Slope gradient: 6 to 12 percent
Parent material: colluvium over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 39 in	loam	moderate	7.80 to 8.57 in	6.1 to 7.3
Bw -- 39 to 47 in	loam	moderate	1.34 to 1.50 in	6.1 to 7.3
C -- 47 to 60 in	loam	moderate	2.08 to 2.34 in	6.1 to 7.8

TcD--Terril loam, 12 to 18 percent slopes

Terril

Extent: 100 percent of the unit
Landform(s): moraines, stream terraces
Slope gradient: 12 to 18 percent
Parent material: colluvium over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 39 in	loam	moderate	7.80 to 8.57 in	6.1 to 7.3
Bw -- 39 to 47 in	loam	moderate	1.34 to 1.50 in	6.1 to 7.3
C -- 47 to 60 in	loam	moderate	2.08 to 2.34 in	6.1 to 7.8

TcE--Terril loam, 18 to 25 percent slopes

Terril

Extent: 100 percent of the unit
Landform(s): moraines, stream terraces
Slope gradient: 18 to 25 percent
Parent material: colluvium over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 39 in	loam	moderate	7.80 to 8.57 in	6.1 to 7.3
Bw -- 39 to 47 in	loam	moderate	1.34 to 1.50 in	6.1 to 7.3
C -- 47 to 60 in	loam	moderate	2.08 to 2.34 in	6.1 to 7.8

W--Water

Water

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:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

WaA--Waukegan silt loam, 0 to 2 percent slopes

Waukegan

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 2 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated: 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	silt loam	moderate	2.43 to 2.65 in	5.6 to 7.3
Bw -- 11 to 31 in	silt loam	moderate	4.02 to 4.42 in	5.1 to 7.3
2C -- 31 to 60 in	gravelly sand	rapid	0.57 to 1.15 in	5.6 to 7.8

WaB--Waukegan silt loam, 2 to 6 percent slopes

Waukegan

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	silt loam	moderate	2.43 to 2.65 in	5.6 to 7.3
Bw -- 11 to 31 in	silt loam	moderate	4.02 to 4.42 in	5.1 to 7.3
2C -- 31 to 60 in	gravelly sand	rapid	0.57 to 1.15 in	5.6 to 7.8

WaB2--Waukegan silt loam, 2 to 6 percent slopes, moderately eroded

Waukegan, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.6 to 7.3
Bw -- 9 to 27 in	silt loam	moderate	3.54 to 3.90 in	5.1 to 7.3
2C -- 27 to 60 in	gravelly sand	rapid	0.66 to 1.32 in	5.6 to 7.8

WaC2--Waukegan silt loam, 6 to 12 percent slopes, moderately eroded

Waukegan, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 6 to 12 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.6 to 7.3
Bw -- 9 to 25 in	silt loam	moderate	3.23 to 3.55 in	5.1 to 7.3
2C -- 25 to 60 in	gravelly sand	rapid	0.69 to 1.39 in	5.6 to 7.8

WaD2--Waukegan silt loam, 12 to 18 percent slopes, moderately eroded

Waukegan, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 12 to 18 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.6 to 7.3
Bw -- 9 to 24 in	silt loam	moderate	2.99 to 3.29 in	5.1 to 7.3
2C -- 24 to 60 in	gravelly sand	rapid	0.72 to 1.43 in	5.6 to 7.8

Wb--Webster-Glencoe silty clay loams

Webster

Extent: 70 percent of the unit
Landform(s): swales 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 15 in	silty clay loam	moderate	2.84 to 3.14 in	6.6 to 7.3
Bg -- 15 to 30 in	clay loam	moderate	2.39 to 2.69 in	6.6 to 7.8
Cg -- 30 to 60 in	loam	moderate	4.19 to 5.69 in	7.4 to 8.4

Glencoe

Extent: 30 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 19 in	silty clay loam	moderate	3.40 to 4.16 in	6.1 to 7.8
Bg -- 19 to 33 in	clay loam	moderate	2.13 to 2.69 in	6.6 to 7.8
Cg -- 33 to 60 in	clay loam	moderate	4.02 to 5.09 in	6.6 to 7.8

Wc--Webster-Le Sueur silty clay loams

Webster

Extent: 70 percent of the unit
Landform(s): swales 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 15 in	silty clay loam	moderate	2.84 to 3.14 in	6.6 to 7.3
Bg -- 15 to 30 in	clay loam	moderate	2.39 to 2.69 in	6.6 to 7.8
Cg -- 30 to 60 in	loam	moderate	4.19 to 5.69 in	7.4 to 8.4

Le Sueur

Extent: 30 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: 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: 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 13 in	silty clay loam	moderate	2.21 to 2.60 in	5.6 to 7.3
Bt -- 13 to 50 in	clay loam	moderate	5.55 to 7.03 in	5.1 to 7.3
C -- 50 to 60 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

ZaA--Sartell fine sand, 0 to 2 percent slopes

Sartell

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 2 percent
Parent material: 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): 1
Wind erodibility index (WEI): 250
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	fine sand	rapid	0.89 to 1.08 in	5.1 to 6.0
Bw -- 10 to 26 in	sand	rapid	0.97 to 1.61 in	5.1 to 6.0
C -- 26 to 60 in	sand	rapid	1.69 to 3.05 in	5.6 to 7.3

ZaA2--Sartell fine sand, 0 to 2 percent slopes, moderately eroded

Sartell, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 2 percent
Parent material: 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): 1
Wind erodibility index (WEI): 250
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	fine sand	rapid	0.89 to 1.08 in	5.1 to 6.0
Bw -- 10 to 26 in	sand	rapid	0.97 to 1.61 in	5.1 to 6.0
C -- 26 to 60 in	sand	rapid	1.69 to 3.05 in	5.6 to 7.3

ZaB--Sartell fine sand, 2 to 6 percent slopes

Sartell

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: 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): 1
Wind erodibility index (WEI): 250
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	fine sand	rapid	0.89 to 1.08 in	5.1 to 6.0
Bw -- 10 to 26 in	sand	rapid	0.97 to 1.61 in	5.1 to 6.0
C -- 26 to 60 in	sand	rapid	1.69 to 3.05 in	5.6 to 7.3

ZaB2--Sartell fine sand, 2 to 6 percent slopes, moderately eroded

Sartell, moderately eroded

Extent: 90 percent of the unit
Landform(s): stream terraces
Slope gradient: 2 to 6 percent
Parent material: 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): 1
Wind erodibility index (WEI): 250
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	fine sand, fine sand	rapid	0.89 to 1.08 in	5.1 to 6.0
Bw -- 10 to 26 in	sand	rapid	0.97 to 1.61 in	5.1 to 6.0
C -- 26 to 60 in	sand	rapid	1.69 to 3.05 in	5.6 to 7.3

Map Unit Description (MN)

Scott County, Minnesota

ZaC2--Sartell fine sand, 6 to 12 percent slopes, moderately eroded

Sartell, moderately eroded

Extent: 100 percent of the unit
Landform(s): stream terraces
Slope gradient: 6 to 12 percent
Parent material: 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): 1
Wind erodibility index (WEI): 250
Kw factor (surface layer) .10
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	fine sand	rapid	0.89 to 1.08 in	5.1 to 6.0
Bw -- 10 to 26 in	sand	rapid	0.97 to 1.61 in	5.1 to 6.0
C -- 26 to 60 in	sand	rapid	1.69 to 3.05 in	5.6 to 7.3

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.