Map Unit Description (MN)

Hennepin 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]

D1B--Anoka and Zimmerman soils, terrace, 2 to 6 percent slopes

Anoka, terrace

Extent: 30 to 60 percent of the unit
Landform(s): hills on 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): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .20
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loamy fine sand	rapid	1.28 to 1.57 in	5.1 to 6.5
E,E&Bt -- 10 to 60 in	fine sand	rapid	3.00 to 6.00 in	5.1 to 7.3

Zimmerman, terrace

Extent: 30 to 60 percent of the unit
Landform(s): hills on stream terraces
Slope gradient: 2 to 4 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 9 in	fine sand	rapid	0.63 to 0.81 in	5.1 to 6.5
E,E&Bt -- 9 to 60 in	fine sand	rapid	3.05 to 5.08 in	5.1 to 7.3

D1C--Anoka and Zimmerman soils, terrace, 6 to 12 percent slopes

Anoka, terrace

Extent: 35 to 65 percent of the unit
Landform(s): hills on 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): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loamy fine sand	rapid	1.28 to 1.57 in	5.1 to 6.5
E,E&Bt -- 10 to 60 in	fine sand	rapid	3.00 to 6.00 in	5.1 to 7.3

Zimmerman, terrace

Extent: 35 to 65 percent of the unit
Landform(s): hills on 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 9 in	fine sand	rapid	0.63 to 0.81 in	5.1 to 6.5
E,E&Bt -- 9 to 60 in	fine sand	rapid	3.05 to 5.08 in	5.1 to 7.3

D2A--Elkriver fine sandy loam, 0 to 2 percent slopes, rarely flooded

Elkriver, rarely flooded

Extent: 80 to 100 percent of the unit
Landform(s): flats on benches on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: rare
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
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 10 in	fine sandy loam	moderately rapid	1.57 to 1.97 in	5.1 to 7.3
A1,A3 -- 10 to 35 in	fine sandy loam	moderately rapid	3.78 to 5.04 in	5.1 to 7.3
Bw -- 35 to 39 in	fine sandy loam	moderately rapid	0.59 to 0.75 in	5.6 to 7.8
2C -- 39 to 80 in	sand	rapid	0.82 to 4.09 in	5.6 to 7.8

D3A--Elkriver fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Elkriver, occasionally flooded

Extent: 75 to 95 percent of the unit
Landform(s): alluvial flats 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: somewhat poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated: 2w
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	1.57 to 1.97 in	5.1 to 7.3
A1,A3 -- 10 to 26 in	fine sandy loam	moderately rapid	2.42 to 3.23 in	5.1 to 7.3
Bw -- 26 to 32 in	very fine sandy loam	moderately rapid	0.89 to 1.12 in	5.6 to 7.8
2C -- 32 to 80 in	sand	rapid	0.96 to 4.80 in	5.6 to 7.8

D4A--Dorset sandy loam, 0 to 2 percent slopes

Dorset

Extent: 80 to 100 percent of the unit
Landform(s): stream terraces, outwash plains
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): 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: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	5.6 to 7.3
Bt -- 12 to 20 in	coarse sandy loam	moderately rapid	0.99 to 1.57 in	5.6 to 7.3
2BC -- 20 to 27 in	gravelly coarse sand	rapid	0.43 to 0.71 in	6.6 to 8.4
2C -- 27 to 60 in	gravelly coarse sand	rapid	0.65 to 1.31 in	7.4 to 8.4

D4B--Dorset sandy loam, 2 to 6 percent slopes

Dorset

Extent: 75 to 95 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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): 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: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	5.6 to 7.3
Bt -- 12 to 20 in	coarse sandy loam	moderately rapid	0.99 to 1.57 in	5.6 to 7.3
2BC -- 20 to 27 in	gravelly coarse sand	rapid	0.43 to 0.71 in	6.6 to 8.4
2C -- 27 to 60 in	gravelly coarse sand	rapid	0.65 to 1.31 in	7.4 to 8.4

D4C--Dorset sandy loam, 6 to 12 percent slopes

Dorset

Extent: 70 to 85 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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): 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: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.65 in	5.6 to 7.3
Bt -- 11 to 19 in	sandy loam	moderately rapid	0.94 to 1.50 in	5.6 to 7.3
2BC -- 19 to 32 in	gravelly loamy sand	rapid	0.78 to 1.30 in	6.6 to 8.4
2C -- 32 to 80 in	gravelly coarse sand	rapid	0.96 to 1.92 in	7.4 to 8.4

D5B--Dorset-Two Inlets complex, 2 to 6 percent slopes

Dorset

Extent: 50 to 75 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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): 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
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.65 in	5.6 to 7.3
Bt -- 11 to 19 in	sandy loam	moderately rapid	0.94 to 1.50 in	5.6 to 7.3
2BC -- 19 to 32 in	gravelly loamy sand	rapid	0.78 to 1.30 in	6.6 to 8.4
2C -- 32 to 80 in	gravelly coarse sand	rapid	0.96 to 1.92 in	7.4 to 8.4

Two Inlets

Extent: 20 to 30 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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) .17
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 9 in	loamy sand	rapid	0.91 to 1.09 in	5.6 to 7.3
Bt -- 9 to 19 in	gravelly loamy sand	rapid	0.89 to 1.08 in	6.1 to 7.3
C -- 19 to 80 in	gravelly sand	very rapid	1.22 to 2.44 in	7.4 to 8.4

D5C--Dorset-Two Inlets complex, 6 to 12 percent slopes

Dorset

Extent: 50 to 65 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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): 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: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.65 in	5.6 to 7.3
Bt -- 11 to 19 in	sandy loam	moderately rapid	0.94 to 1.50 in	5.6 to 7.3
2BC -- 19 to 32 in	gravelly loamy sand	rapid	0.78 to 1.30 in	6.6 to 8.4
2C -- 32 to 80 in	gravelly coarse sand	rapid	0.96 to 1.92 in	7.4 to 8.4

Two Inlets

Extent: 20 to 40 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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) .17
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 9 in	loamy sand	rapid	0.91 to 1.09 in	5.6 to 7.3
Bt -- 9 to 19 in	gravelly loamy sand	rapid	0.89 to 1.08 in	6.1 to 7.3
C -- 19 to 80 in	gravelly sand	very rapid	1.22 to 2.44 in	7.4 to 8.4

D5D--Dorset-Two Inlets complex, 12 to 18 percent slopes

Dorset

Extent: 45 to 60 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

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 7.3
Bt -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt,2BC -- 14 to 25 in	gravelly loamy sand	rapid	0.66 to 1.10 in	6.6 to 8.4
2C -- 25 to 80 in	gravelly sand	rapid	1.09 to 2.19 in	7.4 to 8.4

Two Inlets

Extent: 25 to 40 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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) .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	loamy sand	rapid	0.91 to 1.09 in	5.6 to 7.3
Bt -- 9 to 19 in	gravelly loamy sand	rapid	0.89 to 1.08 in	6.1 to 7.3
C -- 19 to 80 in	gravelly sand	very rapid	1.22 to 2.44 in	7.4 to 8.4

D6A--Verndale sandy loam, acid substratum, 0 to 2 percent slopes

Verndale, acid substratum

Extent: 80 to 100 percent of the unit
Landform(s): stream terraces, outwash plains
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): 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: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.67 in	5.1 to 7.3
Bt -- 10 to 19 in	sandy loam	moderate	1.27 to 1.63 in	5.1 to 7.3
2Bw -- 19 to 28 in	sand	rapid	0.54 to 0.72 in	5.1 to 7.3
2C -- 28 to 80 in	sand	rapid	1.04 to 3.12 in	5.1 to 7.3

D6B--Verndale sandy loam, acid substratum, 2 to 6 percent slopes

Verndale, acid substratum

Extent: 75 to 100 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.67 in	5.1 to 7.3
Bt -- 10 to 19 in	sandy loam	moderate	1.27 to 1.63 in	5.1 to 7.3
2Bw -- 19 to 28 in	sand	rapid	0.54 to 0.72 in	5.1 to 7.3
2C -- 28 to 80 in	sand	rapid	1.04 to 3.12 in	5.1 to 7.3

D6C--Verndale sandy loam, acid substratum, 6 to 12 percent slopes

Verndale, acid substratum

Extent: 80 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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: 4e
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	sandy loam	moderately rapid	1.28 to 1.67 in	5.1 to 7.3
Bt -- 10 to 19 in	sandy loam	moderate	1.27 to 1.63 in	5.1 to 7.3
2Bw -- 19 to 28 in	sand	rapid	0.54 to 0.72 in	5.1 to 7.3
2C -- 28 to 80 in	sand	rapid	1.04 to 3.12 in	5.1 to 7.3

D7A--Hubbard loamy sand, 0 to 2 percent slopes

Hubbard

Extent: 85 to 100 percent of the unit
Landform(s): stream terraces, outwash plains
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) .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,AB -- 0 to 20 in	loamy sand	rapid	1.61 to 2.41 in	5.1 to 7.3
Bw -- 20 to 32 in	loamy sand	rapid	0.35 to 0.83 in	5.1 to 7.3
BC,C -- 32 to 80 in	sand	rapid	1.44 to 3.36 in	5.6 to 7.8

D7B--Hubbard loamy sand, 2 to 6 percent slopes

Hubbard

Extent: 85 to 100 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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) .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,A -- 0 to 18 in	loamy sand	rapid	1.45 to 2.17 in	5.1 to 7.3
Bw -- 18 to 23 in	loamy sand	rapid	0.14 to 0.33 in	5.1 to 7.3
BC,C -- 23 to 80 in	sand	rapid	1.71 to 4.00 in	5.6 to 7.8

D7C--Hubbard loamy sand, 6 to 12 percent slopes

Hubbard

Extent: 75 to 100 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
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,AB -- 0 to 12 in	loamy sand	rapid	0.94 to 1.42 in	5.1 to 7.3
Bw -- 12 to 33 in	coarse sand	rapid	0.64 to 1.49 in	5.1 to 7.3
C -- 33 to 80 in	coarse sand	rapid	1.41 to 3.28 in	5.6 to 7.8

D8B--Sandberg loamy coarse sand, 2 to 6 percent slopes

Sandberg

Extent: 90 to 100 percent of the unit
Landform(s): hills on 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) .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,A -- 0 to 14 in	loamy coarse sand	rapid	1.42 to 1.70 in	5.6 to 7.8
Bw -- 14 to 32 in	gravelly coarse sand	rapid	0.53 to 1.77 in	6.1 to 7.8
C -- 32 to 80 in	sand	very rapid	0.96 to 2.88 in	7.4 to 8.4

D8C--Sandberg loamy coarse sand, 6 to 12 percent slopes

Sandberg

Extent: 75 to 95 percent of the unit
Landform(s): hills on 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) .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,A -- 0 to 14 in	loamy coarse sand	rapid	1.42 to 1.70 in	5.6 to 7.8
Bw -- 14 to 32 in	gravelly coarse sand	rapid	0.53 to 1.77 in	6.1 to 7.8
C -- 32 to 80 in	sand	very rapid	0.96 to 2.88 in	7.4 to 8.4

D8D--Sandberg loamy coarse sand, 12 to 18 percent slopes

Sandberg

Extent: 75 to 90 percent of the unit
Landform(s): hills on stream terraces
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) .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 11 in	loamy coarse sand	rapid	1.10 to 1.32 in	5.6 to 7.8
Bw -- 11 to 27 in	coarse sand	rapid	0.48 to 1.61 in	6.1 to 7.8
C -- 27 to 80 in	gravelly coarse sand	very rapid	1.06 to 3.17 in	7.4 to 8.4

D8E--Sandberg loamy coarse sand, 18 to 35 percent slopes

Sandberg

Extent: 70 to 90 percent of the unit
Landform(s): escarpments on stream terraces
Slope gradient: 18 to 35 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) .10
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 11 in	loamy coarse sand	rapid	1.10 to 1.32 in	5.6 to 7.8
Bw -- 11 to 27 in	coarse sand	rapid	0.48 to 1.61 in	6.1 to 7.8
C -- 27 to 80 in	gravelly coarse sand	very rapid	1.06 to 3.17 in	7.4 to 8.4

D10A--Forada sandy loam, 0 to 2 percent slopes

Forada

Extent: 85 to 100 percent of the unit
Landform(s): drainageways 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: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .10
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.48 to 1.67 in	6.1 to 7.3
Bg -- 10 to 33 in	loam	moderately rapid	3.48 to 3.95 in	6.1 to 7.3
2Cg -- 33 to 60 in	sand	rapid	1.07 to 1.61 in	6.1 to 8.4

D11A--Lindaas silt loam, 0 to 2 percent slopes

Lindaas

Extent: 75 to 100 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
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,A -- 0 to 16 in	silt loam	moderate	2.91 to 3.71 in	6.6 to 7.3
Btg -- 16 to 32 in	silty clay	slow	1.57 to 2.20 in	6.6 to 7.3
Cg -- 32 to 80 in	silty clay loam	moderately slow	5.28 to 7.20 in	7.4 to 8.4

D12B--Bygland silt loam, map >25, 2 to 6 percent slopes

Bygland, MAP>25

Extent: 65 to 90 percent of the unit
Landform(s): hills on lake plains
Slope gradient: 2 to 6 percent
Parent material: glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	6.1 to 7.3
Bt -- 9 to 23 in	silty clay	moderately slow	1.38 to 2.62 in	6.1 to 7.8
BC -- 23 to 27 in	silt loam	moderately slow	0.69 to 0.95 in	7.4 to 8.4
C -- 27 to 80 in	stratified silt loam to silty clay loam	moderately slow	8.44 to 11.61 in	7.4 to 8.4

D12C2--Bygland silt loam, map >25, 6 to 12 percent slopes, eroded

Bygland, MAP>25

Extent: 65 to 90 percent of the unit
Landform(s): hills on lake plains
Slope gradient: 6 to 12 percent
Parent material: glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	silt loam	moderate	1.56 to 1.70 in	6.1 to 7.3
Bt -- 7 to 20 in	silty clay	moderately slow	1.30 to 2.47 in	6.1 to 7.8
BC -- 20 to 26 in	silt loam	moderately slow	0.94 to 1.30 in	7.4 to 8.4
C -- 26 to 80 in	stratified silt loam to silty clay loam	moderately slow	8.63 to 11.87 in	7.4 to 8.4

D13A--Langola loamy fine sand, terrace, 0 to 2 percent slopes

Langola, terrace

Extent: 75 to 100 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash over till
Restrictive feature(s): densic material at 25 to 45 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .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,AB -- 0 to 15 in	loamy fine sand	rapid	1.50 to 1.80 in	5.1 to 6.5
Bw -- 15 to 31 in	loamy sand	rapid	1.29 to 1.61 in	5.1 to 6.5
2Bt -- 31 to 39 in	sandy loam	moderate	0.79 to 1.18 in	5.1 to 6.5
2BC -- 39 to 43 in	sandy loam	slow	0.12 to 0.39 in	5.6 to 7.3
2Cd -- 43 to 60 in	sandy loam	slow	0.51 to 1.69 in	5.6 to 7.3

D13B--Langola loamy fine sand, terrace, 2 to 6 percent slopes

Langola, terrace

Extent: 80 to 100 percent of the unit
Landform(s): hills on stream terraces
Slope gradient: 2 to 6 percent
Parent material: outwash over till
Restrictive feature(s): densic material at 25 to 45 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .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,AB -- 0 to 15 in	loamy fine sand	rapid	1.50 to 1.80 in	5.1 to 6.5
Bw -- 15 to 31 in	loamy sand	rapid	1.29 to 1.61 in	5.1 to 6.5
2Bt -- 31 to 39 in	sandy loam	moderate	0.79 to 1.18 in	5.1 to 6.5
2BC -- 39 to 43 in	sandy loam	slow	0.12 to 0.39 in	5.6 to 7.3
2Cd -- 43 to 60 in	sandy loam	slow	0.51 to 1.69 in	5.6 to 7.3

D15A--Seelyeville-Markey complex, depressional, 0 to 1 percent slopes

Seelyeville, drained

Extent: 50 to 100 percent of the unit
Landform(s): depressions on stream terraces
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): 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	
Oa2,Oa5 -- 10 to 60 in	muck	moderately rapid	17.50 to 22.50 in	

Markey, drained

Extent: 15 to 30 percent of the unit
Landform(s): depressions on stream terraces
Slope gradient: 0 to 1 percent
Parent material: organic material over outwash
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: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oap,Oa2,Oa3 -- 0 to 28 in	muck	moderately rapid	9.78 to 12.58 in	
A -- 28 to 32 in	loamy sand	rapid	0.12 to 0.31 in	
Cg -- 32 to 80 in	sand	rapid	1.44 to 3.84 in	

D16A--Seelyeville and Markey soils, ponded, 0 to 1 percent slopes

Seelyeville, ponded

Extent: 0 to 100 percent of the unit
Landform(s): lake plains, outwash plains, stream terraces
Slope gradient: 0 to 1 percent
Parent material: highly decomposed 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 15 in	muck	moderately rapid	5.24 to 6.73 in	
Oa2,Oa5 -- 15 to 80 in	muck	moderately rapid	22.74 to 29.23 in	

Markey, ponded

Extent: 0 to 100 percent of the unit
Landform(s): lake plains, outwash plains, stream terraces
Slope gradient: 0 to 1 percent
Parent material: highly decomposed organic material over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .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*
Oa -- 0 to 27 in	muck	moderately rapid	9.51 to 12.22 in	
A -- 27 to 32 in	loamy sand	rapid	0.28 to 0.57 in	5.6 to 7.3
Cg -- 32 to 80 in	sand	rapid	1.92 to 3.36 in	5.6 to 7.3

D17A--Duelm loamy sand, 0 to 2 percent slopes

Duelm

Extent: 85 to 100 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: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 16 in	loamy sand	rapid	1.29 to 1.94 in	5.6 to 7.3
Bw -- 16 to 30 in	coarse sand	rapid	0.83 to 1.52 in	5.1 to 7.3
C -- 30 to 80 in	coarse sand	rapid	1.00 to 3.50 in	5.6 to 7.8

D18B--Braham loamy fine sand, terrace, 2 to 5 percent slopes

Braham, terrace

Extent: 80 to 100 percent of the unit
Landform(s): hills on stream terraces
Slope gradient: 2 to 5 percent
Parent material: outwash 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): 2
Wind erodibility index (WEI): 134
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 8 in	loamy fine sand	rapid	0.79 to 0.94 in	5.6 to 7.3
E -- 8 to 24 in	loamy fine sand	rapid	1.29 to 1.61 in	5.6 to 7.3
2Bt -- 24 to 42 in	sandy clay loam	moderate	2.72 to 3.26 in	5.1 to 7.3
2Bk -- 42 to 60 in	loam	moderate	2.66 to 3.19 in	7.4 to 8.4

D19A--Fordum-Winterfield complex, 0 to 2 percent slopes, frequently flooded

Fordum, frequently flooded

Extent: 50 to 80 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): 3
Wind erodibility group (WEG): 3
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: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 7 in	fine sandy loam	moderately rapid	0.99 to 1.28 in	5.1 to 7.3
Cg -- 7 to 28 in	sandy loam	moderately rapid	2.09 to 5.01 in	5.1 to 7.3
2Cg -- 28 to 80 in	sand	rapid	1.04 to 5.20 in	5.6 to 7.3

Winterfield, frequently flooded

Extent: 20 to 40 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: frequent
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .17
Land capability, nonirrigated: 5w
Hydric soil: no
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 8 in	loamy fine sand	rapid	0.79 to 0.94 in	5.6 to 7.3
C1,C2 -- 8 to 20 in	sand	rapid	0.61 to 1.34 in	5.6 to 7.3
C3,C4,C5 -- 20 to 80 in	sand	rapid	2.39 to 5.98 in	5.6 to 7.3

D20A--Isan sandy loam, 0 to 2 percent slopes

Isan

Extent: 80 to 100 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: 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: 3w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 14 in	sandy loam	moderately rapid	1.42 to 2.13 in	5.6 to 7.3
AB,Bg -- 14 to 34 in	loamy sand	rapid	1.18 to 1.97 in	5.1 to 6.5
Cg -- 34 to 80 in	coarse sand	rapid	1.84 to 2.76 in	5.6 to 7.3

D21A--Isan sandy loam, depressional, 0 to 1 percent slopes

Isan, depressional

Extent: 80 to 100 percent of the unit
Landform(s): depressions on stream terraces
Slope gradient: 0 to 1 percent
Parent material: outwash
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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 14 in	sandy loam	moderately rapid	1.42 to 2.13 in	5.6 to 7.3
AB,Bg -- 14 to 34 in	loamy sand	rapid	1.18 to 1.97 in	5.1 to 6.5
Cg -- 34 to 80 in	coarse sand	rapid	1.84 to 2.76 in	5.6 to 7.3

D23A--Southhaven loam, 0 to 2 percent slopes

Southhaven

Extent: 80 to 100 percent of the unit
Landform(s): swales on stream terraces, swales on outwash plains
Slope gradient: 0 to 2 percent
Parent material: colluvium over 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): 5
Wind erodibility index (WEI): 56
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,A3 --	0 to 48 in	loam	moderate	7.20 to 10.57 in	5.1 to 7.3
Bw --	48 to 62 in	loam	moderate	1.65 to 2.62 in	5.1 to 7.3
2Bw --	62 to 66 in	loamy sand	rapid	0.04 to 0.48 in	5.1 to 7.3
2C --	66 to 80 in	sand	rapid	0.28 to 0.96 in	5.6 to 7.8

D24A--Sedgeville loam, 0 to 2 percent slopes, occasionally flooded

Sedgeville, occasionally flooded

Extent: 80 to 100 percent of the unit
Landform(s): 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): 4
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
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,A -- 0 to 15 in	loam	moderate	2.54 to 3.59 in	6.1 to 7.8
Bg -- 15 to 45 in	loam	moderate	2.99 to 6.58 in	6.1 to 7.8
2Cg -- 45 to 80 in	sand	very rapid	1.40 to 5.61 in	6.6 to 8.4

D25A--Soderville loamy fine sand, terrace, 0 to 3 percent slopes

Soderville, terrace

Extent: 80 to 100 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 3 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .28
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loamy fine sand	rapid	0.91 to 1.09 in	5.1 to 6.5
E -- 9 to 24 in	loamy fine sand	rapid	0.90 to 1.20 in	5.1 to 6.5
Bt -- 24 to 31 in	stratified loamy fine sand to fine sandy loam	rapid	0.43 to 0.78 in	5.1 to 6.5
C -- 31 to 60 in	sand	rapid	1.44 to 2.87 in	5.1 to 6.5

D26A--Foldahl loamy sand, map >25, 0 to 3 percent slopes

Foldahl, MAP>25

Extent: 85 to 100 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 3 percent
Parent material: outwash over stratified sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
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,A -- 0 to 16 in	loamy sand	rapid	1.61 to 1.94 in	5.6 to 6.6
Bw -- 16 to 31 in	loamy sand	rapid	1.35 to 1.65 in	5.6 to 6.6
2Bw -- 31 to 40 in	loam	moderate	1.36 to 1.54 in	6.1 to 7.3
2Bk -- 40 to 60 in	loam	moderate	2.95 to 3.35 in	7.4 to 8.4

D27A--Dorset sandy loam, loamy substratum, 0 to 2 percent slopes

Dorset, loamy substratum

Extent: 70 to 100 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 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: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	5.6 to 7.3
Bt -- 12 to 20 in	coarse sandy loam	moderately rapid	0.99 to 1.57 in	5.6 to 7.3
2BC -- 20 to 60 in	gravelly coarse sand	rapid	2.39 to 3.98 in	6.6 to 8.4
3C -- 60 to 80 in	loam	moderate	2.01 to 3.21 in	6.6 to 7.8

D28B--Urban land-Bygland, map >25, complex, 1 to 6 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): lake plains
Slope gradient: 1 to 6 percent
Parent material: silty and clayey glaciolacustrine deposits
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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Bygland, MAP>25

Extent: 0 to 20 percent of the unit
Landform(s): hills on lake plains
Slope gradient: 1 to 6 percent
Parent material: glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap	0 to 9 in	silt loam	moderate	1.99 to 2.17 in	6.1 to 7.3
Bt	9 to 23 in	silty clay	moderately slow	1.38 to 2.62 in	6.1 to 7.8
BC	23 to 27 in	silt loam	moderately slow	0.69 to 0.95 in	7.4 to 8.4
C	27 to 80 in	stratified silt loam to silty clay loam	moderately slow	8.44 to 11.61 in	7.4 to 8.4

D29B--Urban land-Hubbard, bedrock substratum complex, 0 to 8 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 8 percent
Parent material: sandy outwash over bedrock
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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Hubbard, bedrock substratum

Extent: 0 to 20 percent of the unit
Landform(s): hills on stream terraces
Slope gradient: 0 to 8 percent
Parent material: outwash over limestone bedrock
Restrictive feature(s): lithic bedrock at 40 to 80 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

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

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap,A	0 to 18 in	loamy sand	rapid	1.45 to 2.17 in	5.1 to 7.3
Bw	18 to 23 in	loamy sand	rapid	0.14 to 0.33 in	5.1 to 7.3
BC,C	23 to 60 in	sand	rapid	1.11 to 2.59 in	5.6 to 7.8
2R	60 to 80 in	unweathered bedrock	impermeable		

D30A--Seelyeville and Markey soils, depressional, 0 to 1 percent slopes

Markey, surface drained

Extent: 0 to 100 percent of the unit
Landform(s): depressions on stream terraces
Slope gradient: 0 to 1 percent
Parent material: organic material over outwash
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: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
A -- 36 to 42 in	loamy sand	rapid	0.19 to 0.50 in	
Cg -- 42 to 80 in	sand	rapid	1.13 to 3.02 in	

Seelyeville, surface drained

Extent: 0 to 100 percent of the unit
Landform(s): depressions on stream terraces
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
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,Oa5 -- 10 to 80 in	muck	moderately rapid	24.53 to 31.54 in	

D31A--Urban land-Duelm complex, 0 to 2 percent slopes

Urban land

Extent: 35 to 80 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:

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

Duelm

Extent: 0 to 20 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: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap,AB --	0 to 16 in	loamy sand	rapid	1.29 to 1.94 in	5.6 to 7.3
Bw --	16 to 30 in	coarse sand	rapid	0.83 to 1.52 in	5.1 to 7.3
C --	30 to 80 in	coarse sand	rapid	1.00 to 3.50 in	5.6 to 7.8

D33B--Urban land-Dorset complex, 0 to 8 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 8 percent
Parent material: outwash
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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Dorset

Extent: 0 to 20 percent of the unit
Landform(s): hills on stream terraces
Slope gradient: 0 to 8 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): 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: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap,A	0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	5.6 to 7.3
Bt	12 to 20 in	coarse sandy loam	moderately rapid	0.99 to 1.57 in	5.6 to 7.3
2BC	20 to 27 in	gravelly coarse sand	rapid	0.43 to 0.71 in	6.6 to 8.4
2C	27 to 60 in	gravelly coarse sand	rapid	0.65 to 1.31 in	7.4 to 8.4

D33C--Urban land-Dorset complex, 8 to 18 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): stream terraces
Slope gradient: 8 to 18 percent
Parent material: outwash
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:
Hydrologic group:
Potential for frost action:

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

Dorset

Extent: 0 to 20 percent of the unit
Landform(s): hills on stream terraces
Slope gradient: 8 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): 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: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.65 in	5.6 to 7.3
Bt -- 11 to 19 in	sandy loam	moderately rapid	0.94 to 1.50 in	5.6 to 7.3
2BC -- 19 to 32 in	gravelly loamy sand	rapid	0.78 to 1.30 in	6.6 to 8.4
2C -- 32 to 80 in	gravelly coarse sand	rapid	0.96 to 1.92 in	7.4 to 8.4

D34B--Urban land-Hubbard complex, 0 to 8 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): stream terraces
Slope gradient: 0 to 8 percent
Parent material: outwash
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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Hubbard

Extent: 0 to 20 percent of the unit
Landform(s): hills on stream terraces
Slope gradient: 0 to 8 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) .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,A --	0 to 18 in	loamy sand	rapid	1.45 to 2.17 in	5.1 to 7.3
Bw --	18 to 23 in	loamy sand	rapid	0.14 to 0.33 in	5.1 to 7.3
BC,C --	23 to 80 in	sand	rapid	1.71 to 4.00 in	5.6 to 7.8

D35A--Elkriver-Fordum complex, 0 to 2 percent slopes, occasionally flooded

Elkriver, occasionally flooded

Extent: 70 to 100 percent of the unit
Landform(s): benches 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: somewhat poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated: 2w
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	1.57 to 1.97 in	5.1 to 7.3
A1,A3 -- 10 to 26 in	fine sandy loam	moderately rapid	2.42 to 3.23 in	5.1 to 7.3
Bw -- 26 to 32 in	very fine sandy loam	moderately rapid	0.89 to 1.12 in	5.6 to 7.8
2C -- 32 to 80 in	sand	rapid	0.96 to 4.80 in	5.6 to 7.8

Fordum, occasionally flooded

Extent: 5 to 25 percent of the unit
Landform(s): drainageways on flood plains
Slope gradient: 0 to 1 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
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*
A -- 0 to 7 in	fine sandy loam	moderately rapid	0.78 to 1.28 in	5.1 to 7.3
Cg -- 7 to 28 in	sandy loam	moderately rapid	2.09 to 4.59 in	5.1 to 7.3
2Cg -- 28 to 80 in	sand	rapid	2.08 to 5.20 in	5.6 to 7.3

D37F--Dorset, bedrock substratum-Rock outcrop complex, 25 to 65 percent slopes

Dorset, bedrock substratum

Extent: 65 to 95 percent of the unit
Landform(s): escarpments on stream terraces
Slope gradient: 25 to 65 percent
Parent material: outwash over limestone bedrock
Restrictive feature(s): lithic bedrock at 40 to 80 inches
Flooding: none
Ponding: none
Drainage class: well 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: 8s
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	5.6 to 7.3
Bt -- 12 to 20 in	coarse sandy loam	moderately rapid	0.99 to 1.57 in	5.6 to 7.3
2BC -- 20 to 27 in	gravelly coarse sand	rapid	0.43 to 0.71 in	6.6 to 8.4
2C -- 27 to 60 in	gravelly coarse sand	rapid	0.65 to 1.31 in	7.4 to 8.4
3R -- 60 to 80 in	unweathered bedrock	impermeable		

Rock outcrop

Extent: 10 to 35 percent of the unit
Landform(s): escarpments on stream terraces
Slope gradient: 0 to 3 percent
Parent material: limestone bedrock
Restrictive feature(s): lithic bedrock at 0 to 0 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*

D40A--Kratka loamy fine sand, thick solum, 0 to 2 percent slopes

Kratka, thick solum

Extent: 75 to 90 percent of the unit
Landform(s): swales on stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash over 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .24
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loamy fine sand	rapid	0.98 to 1.18 in	5.6 to 7.3
Bg -- 10 to 30 in	fine sand	rapid	1.20 to 2.21 in	5.6 to 7.3
2Bg,2Cg -- 30 to 60 in	clay loam	moderate	3.29 to 5.69 in	6.1 to 7.3

D41C--Urban land-Waukon complex, 6 to 18 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): stream terraces
Slope gradient: 6 to 18 percent
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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Waukon

Extent: 0 to 20 percent of the unit
Landform(s): hills on stream terraces
Slope gradient: 6 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) .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 8 in	fine sandy loam	moderately rapid	1.02 to 1.18 in	6.1 to 7.3
E,BE,Bt	8 to 43 in	loam	moderate	5.26 to 6.66 in	6.1 to 8.4
Bk	43 to 80 in	loam	moderate	5.55 to 7.03 in	7.4 to 8.4

D43A--Gonvick loam, terrace, 1 to 3 percent slopes

Gonvick, terrace

Extent: 75 to 95 percent of the unit
Landform(s): stream terraces
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .24
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,A -- 0 to 12 in	loam	moderate	2.36 to 2.60 in	6.1 to 7.3
Bt -- 12 to 30 in	clay loam	moderate	2.72 to 3.44 in	6.6 to 7.3
Bk,C -- 30 to 60 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4

GP--Pits, gravel-Udipsamments complex

Pits, gravel

Extent: 70 to 90 percent of the unit
Landform(s): moraines, stream terraces, outwash plains
Slope gradient: 0 to 45 percent
Parent material: outwash
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:
Hydrologic group:
Potential for frost action:

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

Udipsamments

Extent: 10 to 30 percent of the unit
Landform(s): moraines, stream terraces, outwash plains
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):
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*

L2B--Malardi-Hawick complex, 1 to 6 percent slopes

Malardi

Extent: 60 to 80 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
Slope gradient: 1 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: moderate

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 7.3
Bt -- 10 to 15 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 15 to 29 in	loamy coarse sand	rapid	0.85 to 1.42 in	5.6 to 7.3
2C -- 29 to 80 in	gravelly sand	rapid	1.02 to 2.03 in	7.0 to 8.4

Hawick

Extent: 10 to 30 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
Slope gradient: 3 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): 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 7 in	sandy loam	moderately rapid	0.92 to 1.06 in	6.1 to 7.8
Bw -- 7 to 11 in	gravelly loamy coarse sand	rapid	0.12 to 0.39 in	6.1 to 7.8
C -- 11 to 80 in	gravelly coarse sand	very rapid	1.38 to 4.13 in	7.4 to 8.4

L2C--Malardi-Hawick complex, 6 to 12 percent slopes

Malardi

Extent: 60 to 90 percent of the unit
Landform(s): hills on outwash plains, hills on 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) .24
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

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 7.3
Bt -- 10 to 15 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 15 to 29 in	loamy coarse sand	rapid	0.85 to 1.42 in	5.6 to 7.3
2C -- 29 to 80 in	gravelly sand	rapid	1.02 to 2.03 in	7.0 to 8.4

Hawick

Extent: 10 to 30 percent of the unit
Landform(s): hills on outwash plains, hills on 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): 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 7 in	sandy loam	moderately rapid	0.92 to 1.06 in	6.1 to 7.8
Bw -- 7 to 11 in	gravelly loamy coarse sand	rapid	0.12 to 0.39 in	6.1 to 7.8
C -- 11 to 80 in	gravelly coarse sand	very rapid	1.38 to 4.13 in	7.4 to 8.4

L2D--Malardi-Hawick complex, 12 to 18 percent slopes

Malardi

Extent: 50 to 90 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
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): 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: moderate

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 7.3
Bt -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 14 to 21 in	gravelly loamy coarse sand	rapid	0.40 to 0.67 in	5.6 to 7.3
2C -- 21 to 80 in	gravelly sand	rapid	1.18 to 2.36 in	7.0 to 8.4

Hawick

Extent: 10 to 40 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
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): 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 7 in	sandy loam	moderately rapid	0.92 to 1.06 in	6.1 to 7.8
Bw -- 7 to 11 in	gravelly loamy coarse sand	rapid	0.12 to 0.39 in	6.1 to 7.8
C -- 11 to 80 in	gravelly coarse sand	very rapid	1.38 to 4.13 in	7.4 to 8.4

L2E--Malardi-Hawick complex, 18 to 35 percent slopes

Malardi

Extent: 50 to 90 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
Slope gradient: 18 to 35 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: 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	5.6 to 7.3
Bt -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 14 to 21 in	gravelly loamy coarse sand	rapid	0.40 to 0.67 in	5.6 to 7.3
2C -- 21 to 80 in	gravelly sand	rapid	1.18 to 2.36 in	7.0 to 8.4

Hawick

Extent: 10 to 40 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
Slope gradient: 18 to 35 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 7 in	sandy loam	moderately rapid	0.92 to 1.06 in	6.1 to 7.8
Bw -- 7 to 11 in	gravelly loamy coarse sand	rapid	0.12 to 0.39 in	6.1 to 7.8
C -- 11 to 80 in	gravelly coarse sand	very rapid	1.38 to 4.13 in	7.4 to 8.4

L3A--Rasset sandy loam, 0 to 2 percent slopes

Rasset

Extent: 80 to 100 percent of the unit
Landform(s): outwash plains, 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated: 2s
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 15 in	sandy loam	moderately rapid	1.94 to 2.24 in	5.1 to 7.3
Bt -- 15 to 28 in	sandy loam	moderately rapid	1.56 to 2.47 in	5.1 to 7.3
2BC -- 28 to 36 in	loamy sand	rapid	0.47 to 0.87 in	5.1 to 7.3
2C -- 36 to 80 in	sand	very rapid	0.88 to 3.09 in	5.1 to 7.8

L3B--Rasset sandy loam, 2 to 6 percent slopes

Rasset

Extent: 75 to 100 percent of the unit
Landform(s): hills on outwash plains, hills on 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 15 in	sandy loam	moderately rapid	1.94 to 2.24 in	5.1 to 7.3
Bt -- 15 to 28 in	sandy loam	moderately rapid	1.56 to 2.47 in	5.1 to 7.3
2BC -- 28 to 36 in	loamy sand	rapid	0.47 to 0.87 in	5.1 to 7.3
2C -- 36 to 80 in	sand	very rapid	0.88 to 3.09 in	5.1 to 7.8

L3C--Rasset sandy loam, 6 to 12 percent slopes

Rasset

Extent: 70 to 100 percent of the unit
Landform(s): hills on outwash plains, hills on 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 15 in	sandy loam	moderately rapid	1.94 to 2.24 in	5.1 to 7.3
Bt -- 15 to 28 in	sandy loam	moderately rapid	1.56 to 2.47 in	5.1 to 7.3
2BC -- 28 to 36 in	loamy sand	rapid	0.47 to 0.87 in	5.1 to 7.3
2C -- 36 to 80 in	sand	very rapid	0.88 to 3.09 in	5.1 to 7.8

L4B--Crowfork loamy sand, 1 to 6 percent slopes

Crowfork

Extent: 80 to 100 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
Slope gradient: 1 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) .20
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 11 in	loamy sand	rapid	1.10 to 1.32 in	5.6 to 7.3
E -- 11 to 20 in	loamy fine sand	rapid	0.54 to 1.00 in	5.1 to 6.5
E&Bt -- 20 to 76 in	loamy sand	rapid	3.35 to 6.15 in	5.6 to 7.3
C -- 76 to 80 in	sand	rapid	0.08 to 0.28 in	6.1 to 7.8

L4C--Crowfork loamy sand, 6 to 12 percent slopes

Crowfork

Extent: 80 to 100 percent of the unit
Landform(s): hills on outwash plains, hills on 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) .20
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 11 in	loamy sand	rapid	1.10 to 1.32 in	5.6 to 7.3
E -- 11 to 20 in	loamy fine sand	rapid	0.54 to 1.00 in	5.1 to 6.5
E&Bt -- 20 to 76 in	loamy sand	rapid	3.35 to 6.15 in	5.6 to 7.3
C -- 76 to 80 in	sand	rapid	0.08 to 0.28 in	6.1 to 7.8

L4D--Crowfork loamy sand, 12 to 18 percent slopes

Crowfork

Extent: 80 to 100 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
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) .20
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 11 in	loamy sand	rapid	1.10 to 1.32 in	5.6 to 7.3
E -- 11 to 20 in	loamy fine sand	rapid	0.54 to 1.00 in	5.1 to 6.5
E&Bt -- 20 to 76 in	loamy sand	rapid	3.35 to 6.15 in	5.6 to 7.3
C -- 76 to 80 in	sand	rapid	0.08 to 0.28 in	6.1 to 7.8

L6A--Biscay loam, 0 to 2 percent slopes

Biscay

Extent: 80 to 100 percent of the unit
Landform(s): flats on outwash plains, swales on outwash plains, flats on stream terraces, 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: poorly 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: 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 20 in	loam	moderate	4.02 to 4.42 in	6.1 to 7.8
Bg -- 20 to 28 in	loam	moderate	1.34 to 1.50 in	6.6 to 7.8
2BCg -- 28 to 36 in	gravelly loam	moderately rapid	0.87 to 1.34 in	6.6 to 7.8
2Cg -- 36 to 60 in	gravelly coarse sand	rapid	0.48 to 0.96 in	7.4 to 8.4

L7A--Biscay loam, depressional, 0 to 1 percent slopes

Biscay, depressional

Extent: 80 to 100 percent of the unit
Landform(s): depressions on outwash plains, stream terraces
Slope gradient: 0 to 1 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly 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: 6w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 23 in	loam	moderate	4.57 to 5.02 in	6.1 to 7.8
Bg -- 23 to 28 in	loam	moderate	0.87 to 0.97 in	6.6 to 7.8
2BCg -- 28 to 36 in	gravelly loam	moderately rapid	0.87 to 1.34 in	6.6 to 7.8
2Cg -- 36 to 60 in	stratified gravelly coarse sand to loamy sand	rapid	0.48 to 0.96 in	7.4 to 8.4

L8A--Darfur sandy loam, 0 to 2 percent slopes

Darfur

Extent: 80 to 100 percent of the unit
Landform(s): drainageways on outwash plains
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 16 in	sandy loam	moderately rapid	2.42 to 2.74 in	6.1 to 7.3
Bg -- 16 to 32 in	sandy clay loam	moderately rapid	2.36 to 2.68 in	6.6 to 7.3
Cg -- 32 to 80 in	sand	rapid	3.84 to 4.80 in	6.6 to 7.4

L9A--Minnetonka silty clay loam, 0 to 2 percent slopes

Minnetonka

Extent: 80 to 100 percent of the unit
Landform(s): flats on lake plains, moraines
Slope gradient: 0 to 2 percent
Parent material: lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
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,A -- 0 to 13 in	silty clay loam	moderately slow	2.34 to 2.86 in	5.6 to 7.3
Btg -- 13 to 35 in	silty clay	slow	2.87 to 4.19 in	5.6 to 7.3
Cg -- 35 to 60 in	silty clay loam	moderate	3.97 to 5.21 in	6.6 to 7.8

L10B--Kasota silty clay loam, 1 to 6 percent slopes

Kasota

Extent: 70 to 90 percent of the unit
Landform(s): hills on stream terraces, hills on outwash plains
Slope gradient: 1 to 6 percent
Parent material: glaciolacustrine 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) .32
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay loam	moderately slow	1.77 to 1.97 in	5.6 to 7.3
Bt -- 10 to 28 in	silty clay	moderately slow	2.17 to 3.26 in	5.6 to 6.5
2BC -- 28 to 32 in	sand	rapid	0.20 to 0.28 in	6.1 to 7.3
2C -- 32 to 60 in	coarse sand	rapid	0.56 to 1.68 in	7.4 to 8.4

L11B--Grays very fine sandy loam, 2 to 8 percent slopes

Grays

Extent: 80 to 100 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 2 to 8 percent
Parent material: glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .37
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	very fine sandy loam	moderate	1.56 to 1.70 in	5.6 to 6.5
Bt -- 7 to 25 in	silty clay loam	moderate	3.26 to 3.62 in	5.6 to 7.3
C -- 25 to 60 in	silt loam	moderate	4.85 to 7.62 in	7.4 to 8.4

L12A--Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes, frequently flooded

Muskego, frequently flooded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on flood plains
Slope gradient: 0 to 1 percent
Parent material: organic material over coprogenous earth
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: C/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 36 in	muck	moderately rapid	9.37 to 12.05 in	
Lco -- 36 to 60 in	coprogenous earth	slow	4.32 to 5.76 in	

Blue Earth, frequently flooded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on flood plains
Slope gradient: 0 to 1 percent
Parent material: coprogenous earth
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): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .28
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 50 in	silt loam	moderate	9.00 to 12.00 in	7.4 to 8.4
Cg -- 50 to 60 in	silt loam	moderate	1.77 to 2.36 in	7.4 to 8.4

L12A--Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes, frequently flooded

Houghton, frequently flooded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on flood plains
Slope gradient: 0 to 1 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: frequent
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*
Oa -- 0 to 80 in	muck	moderately rapid	27.97 to 35.96 in	

L13A--Klossner muck, depressional, 0 to 1 percent slopes

Klossner, drained

Extent: 65 to 85 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .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,Oa -- 0 to 26 in	muck	moderately rapid	9.09 to 12.47 in	
2A1 -- 26 to 36 in	mucky silty clay loam	moderate	2.17 to 2.56 in	
2A2 -- 36 to 48 in	silty clay loam	moderate	2.20 to 2.69 in	
2Cg -- 48 to 80 in	loam	moderate	4.78 to 6.06 in	

L14A--Houghton muck, depressional, 0 to 1 percent slopes

Houghton, drained

Extent: 65 to 85 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 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 80 in	muck	moderately rapid	24.53 to 31.54 in	

L15A--Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes

Klossner, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 26 in	muck	moderately rapid	9.09 to 12.47 in	
2A1 -- 26 to 33 in	silt loam	moderate	1.56 to 1.84 in	
2A2 -- 33 to 40 in	loam	moderate	1.28 to 1.56 in	
2Cg -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	

Glencoe, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes 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): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .32
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 42 in	silty clay loam	moderate	7.58 to 9.27 in	6.1 to 7.8
Bg -- 42 to 50 in	clay loam	moderate	1.18 to 1.50 in	6.6 to 7.8
Cg -- 50 to 60 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

L15A--Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes

Okoboji, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on moraines
Slope gradient: 0 to 1 percent
Parent material: alluvium or lacustrine sediments 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): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .28
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1 -- 0 to 10 in	mucky silty clay loam	moderate	2.17 to 2.46 in	6.1 to 7.8
A2 -- 10 to 52 in	silty clay loam	moderately slow	7.58 to 8.43 in	6.6 to 7.8
Bg -- 52 to 60 in	silty clay loam	moderately slow	1.42 to 1.57 in	6.6 to 7.8

L16A--Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes

Muskego, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over coprogenous earth
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: C/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 36 in	muck	moderately rapid	9.37 to 12.05 in	
Lco -- 36 to 60 in	coprogenous earth	slow	4.32 to 5.76 in	

Blue Earth, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on moraines
Slope gradient: 0 to 1 percent
Parent material: coprogenous earth
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .37
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 50 in	silt loam	moderate	9.00 to 12.00 in	7.4 to 8.4
Cg -- 50 to 60 in	silt loam	moderate	1.77 to 2.36 in	7.4 to 8.4

L16A--Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes

Houghton, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 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*
Oa -- 0 to 80 in	muck	moderately rapid	27.97 to 35.96 in	

L17B--Angus-Malardi complex, 2 to 6 percent slopes

Angus

Extent: 40 to 75 percent of the unit
Landform(s): hills on 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) .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	loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bt -- 8 to 35 in	clay loam	moderate	4.07 to 5.16 in	5.1 to 7.3
BC -- 35 to 40 in	clay loam	moderate	0.72 to 0.97 in	6.1 to 7.8
C -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	7.4 to 8.4

Malardi

Extent: 20 to 40 percent of the unit
Landform(s): hills on 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: moderate

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 7.3
Bt -- 10 to 15 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 15 to 29 in	loamy coarse sand	rapid	0.85 to 1.42 in	5.6 to 7.3
2C -- 29 to 80 in	gravelly sand	rapid	1.02 to 2.03 in	7.0 to 8.4

L18A--Shields silty clay loam, 0 to 3 percent slopes

Shields

Extent: 80 to 100 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 3 percent
Parent material: glaciofluvial and reworked till over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silty clay loam	moderate	1.42 to 1.73 in	5.6 to 6.5
BE,Btg -- 8 to 41 in	silty clay	slow	3.31 to 5.29 in	5.6 to 6.5
2Bk -- 41 to 80 in	silty clay loam	moderate	4.29 to 7.41 in	7.4 to 8.4

L19B--Moon loamy fine sand, 2 to 5 percent slopes

Moon

Extent: 75 to 95 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: outwash 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): 2
Wind erodibility index (WEI): 134
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 8 in	loamy fine sand	rapid	0.79 to 0.94 in	5.6 to 7.3
E -- 8 to 24 in	loamy fine sand	rapid	1.29 to 1.61 in	5.6 to 7.3
2Bt -- 24 to 46 in	sandy clay loam	moderate	3.31 to 3.97 in	5.1 to 7.3
2C -- 46 to 60 in	loam	moderate	2.07 to 2.62 in	7.4 to 8.4

L20B--Fedji loamy fine sand, silty substratum, 2 to 8 percent slopes

Fedji, silty substratum

Extent: 75 to 95 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 8 percent
Parent material: outwash over glaciolacustrine sediments
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loamy fine sand	rapid	0.98 to 1.28 in	5.6 to 6.5
Bw -- 10 to 30 in	loamy fine sand	rapid	1.81 to 2.21 in	6.1 to 7.3
2Bw -- 30 to 39 in	silty clay loam	moderate	1.45 to 1.99 in	6.1 to 7.3
2Bk -- 39 to 60 in	silt loam	moderate	3.34 to 4.59 in	7.4 to 8.4

L21A--Canisteo loam, 0 to 2 percent slopes

Canisteo

Extent: 75 to 90 percent of the unit
Landform(s): flats on moraines, rims on depressions 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): 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*
Ap,A -- 0 to 17 in	loam	moderate	3.05 to 3.72 in	7.4 to 8.4
Bkg -- 17 to 36 in	clay loam	moderate	2.27 to 3.40 in	7.4 to 8.4
Cg -- 36 to 80 in	loam	moderate	6.61 to 8.38 in	7.4 to 8.4

L22C2--Lester loam, morainic, 6 to 12 percent slopes, eroded

Lester, eroded

Extent: 60 to 80 percent of the unit
Landform(s): hills on 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 7 in	loam	moderate	1.42 to 1.56 in	5.6 to 7.3
Bt -- 7 to 38 in	clay loam	moderate	4.67 to 5.91 in	5.1 to 7.3
Bk -- 38 to 60 in	loam	moderate	3.25 to 4.11 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

L22D2--Lester loam, morainic, 12 to 18 percent slopes, eroded

Lester, eroded

Extent: 70 to 90 percent of the unit
Landform(s): hills on 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 7 in	loam	moderate	1.42 to 1.56 in	5.6 to 7.3
Bt -- 7 to 38 in	clay loam	moderate	4.67 to 5.91 in	5.1 to 7.3
Bk -- 38 to 60 in	loam	moderate	3.25 to 4.11 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

L22E--Lester loam, morainic, 18 to 25 percent slopes

Lester, morainic

Extent: 70 to 90 percent of the unit
Landform(s): hills on 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) .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*
A -- 0 to 5 in	loam	moderate	1.02 to 1.13 in	5.6 to 7.3
BE,Bt -- 5 to 34 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
Bk -- 34 to 60 in	loam	moderate	3.90 to 4.94 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

L22F--Lester loam, morainic, 25 to 35 percent slopes

Lester, morainic

Extent: 70 to 90 percent of the unit
Landform(s): escarpments on 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*
A -- 0 to 5 in	loam	moderate	1.02 to 1.13 in	5.6 to 7.3
BE,Bt -- 5 to 34 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
Bk -- 34 to 60 in	loam	moderate	3.90 to 4.94 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

L23A--Cordova loam, 0 to 2 percent slopes

Cordova

Extent: 80 to 95 percent of the unit
Landform(s): drainageways 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: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 13 in	loam	moderate	2.34 to 2.86 in	6.1 to 7.3
Btg -- 13 to 33 in	clay loam	moderately slow	3.01 to 3.81 in	5.1 to 6.5
Cg -- 33 to 80 in	loam	moderate	7.03 to 8.90 in	7.4 to 8.4

L24A--Glencoe loam, depressional, 0 to 1 percent slopes

Glencoe, depressional

Extent: 85 to 100 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: colluvium 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
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 -- 0 to 13 in	loam	moderate	2.34 to 2.86 in	6.1 to 7.8
A2,Bg1 -- 13 to 31 in	clay loam	moderate	3.26 to 3.98 in	6.1 to 7.8
Bg2 -- 31 to 45 in	loam	moderate	2.07 to 2.62 in	6.6 to 7.8
Cg -- 45 to 80 in	loam	moderate	5.26 to 6.66 in	7.4 to 8.4

L25A--Le Sueur loam, 1 to 3 percent slopes

Le Sueur

Extent: 75 to 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: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2,AB -- 0 to 17 in	loam	moderate	3.39 to 4.06 in	5.6 to 7.3
Bt -- 17 to 36 in	clay loam	moderate	2.83 to 3.59 in	5.1 to 7.3
Bk -- 36 to 46 in	loam	moderate	1.54 to 1.94 in	7.4 to 8.4
C -- 46 to 80 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4

L26A--Shorewood silty clay loam, 0 to 3 percent slopes

Shorewood

Extent: 70 to 90 percent of the unit
Landform(s): lake plains, moraines
Slope gradient: 0 to 3 percent
Parent material: laucstrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 1
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 17 in	silty clay loam	moderately slow	3.05 to 3.72 in	5.6 to 7.3
Bt -- 17 to 39 in	silty clay	moderately slow	2.87 to 3.53 in	5.1 to 7.3
2BCg,2Cg -- 39 to 60 in	loam	moderate	3.13 to 3.96 in	7.4 to 8.4

L26B--Shorewood silty clay loam, 3 to 6 percent slopes

Shorewood

Extent: 85 to 95 percent of the unit
Landform(s): hills on lake plains, hills on moraines
Slope gradient: 3 to 6 percent
Parent material: lacustrine sediments 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: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 17 in	silty clay loam	moderately slow	3.05 to 3.72 in	5.6 to 7.3
Bt -- 17 to 39 in	silty clay	moderately slow	2.87 to 3.53 in	5.1 to 7.3
2BCg,2Cg -- 39 to 60 in	loam	moderate	3.13 to 3.96 in	7.4 to 8.4

L26C2--Shorewood silty clay loam, 6 to 12 percent slopes, eroded

Shorewood, eroded

Extent: 80 to 100 percent of the unit
Landform(s): hills on lake plains, hills on moraines
Slope gradient: 6 to 12 percent
Parent material: laucstrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 17 in	silty clay loam	moderately slow	3.05 to 3.72 in	5.6 to 7.3
Bt -- 17 to 39 in	silty clay	moderately slow	2.87 to 3.53 in	5.1 to 7.3
2BCg,2Cg -- 39 to 60 in	loam	moderate	3.13 to 3.96 in	7.4 to 8.4

L27A--Suckercreek loam, 0 to 2 percent slopes, frequently flooded

Suckercreek, frequently flooded

Extent: 80 to 100 percent of the unit
Landform(s): drainageways on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 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: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 22 in	loam	moderately rapid	3.97 to 5.29 in	7.4 to 8.4
Cg -- 22 to 80 in	loamy fine sand	moderately rapid	4.63 to 11.57 in	7.4 to 8.4

L28A--Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Suckercreek, occasionally flooded

Extent: 70 to 100 percent of the unit
Landform(s): alluvial flats 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): 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: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 12 in	fine sandy loam	moderately rapid	2.13 to 2.83 in	7.4 to 8.4
Cg -- 12 to 80 in	fine sandy loam	moderately rapid	5.45 to 13.62 in	7.4 to 8.4

L29A--Hanlon fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Hanlon, occasionally flooded

Extent: 75 to 100 percent of the unit
Landform(s): rises 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: moderately 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: 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 40 in	fine sandy loam	moderately rapid	6.43 to 7.23 in	6.1 to 7.3
A3 -- 40 to 63 in	fine sandy loam	moderately rapid	3.65 to 4.11 in	6.1 to 7.3
Bw -- 63 to 70 in	sandy loam	moderately rapid	0.78 to 0.92 in	5.6 to 7.3
Cg -- 70 to 80 in	stratified sand to loamy fine sand to fine sandy loam	moderately rapid	1.18 to 1.87 in	5.6 to 7.8

L30A--Medo soils, depressional, 0 to 1 percent slopes

Medo, surface drained

Extent: 50 to 100 percent of the unit
Landform(s): depressions on outwash plains
Slope gradient: 0 to 1 percent
Parent material: organic material over outwash
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: 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 27 in	muck	moderately rapid	9.51 to 12.22 in	
2A -- 27 to 35 in	mucky loam	moderately rapid	1.02 to 1.57 in	
2Bg -- 35 to 39 in	sandy clay loam	moderately rapid	0.51 to 0.79 in	
2Cg -- 39 to 80 in	gravelly loamy coarse sand	rapid	1.23 to 4.09 in	

Medo, drained

Extent: 0 to 40 percent of the unit
Landform(s): depressions on outwash plains
Slope gradient: 0 to 1 percent
Parent material: organic material over outwash
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: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oap,Oa -- 0 to 27 in	muck	moderately rapid	9.51 to 12.22 in	
2A -- 27 to 35 in	mucky loam	moderately rapid	1.02 to 1.57 in	
2Bg -- 35 to 39 in	sandy clay loam	moderately rapid	0.51 to 0.79 in	
2Cg -- 39 to 80 in	gravelly loamy coarse sand	rapid	1.23 to 4.09 in	

L31A--Medo, Dassel, and Biscay soils, ponded, 0 to 1 percent slopes

Biscay, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on outwash plains
Slope gradient: 0 to 1 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .28
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,AB -- 0 to 24 in	loam	moderate	4.80 to 5.28 in	6.1 to 7.8
Bg -- 24 to 29 in	loam	moderate	0.87 to 0.97 in	6.6 to 7.8
2BCg,2Cg -- 29 to 60 in	stratified gravelly coarse sand to loamy sand	very rapid	0.61 to 1.23 in	7.4 to 8.4

Dassel, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on outwash plains
Slope gradient: 0 to 1 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .20
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*
A1,A3 -- 0 to 23 in	fine sandy loam	moderately rapid	3.65 to 4.57 in	5.6 to 7.3
Bg -- 23 to 31 in	stratified loamy fine sand to fine sandy loam	moderately rapid	0.99 to 1.41 in	5.6 to 7.3
2Cg -- 31 to 60 in	stratified coarse sand to loamy sand	rapid	0.57 to 2.30 in	6.1 to 7.8

L31A--Medo, Dassel, and Biscay soils, ponded, 0 to 1 percent slopes

Medo, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on outwash plains
Slope gradient: 0 to 1 percent
Parent material: organic material over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .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*
Oa -- 0 to 20 in	muck	moderately rapid	7.03 to 9.04 in	
2A -- 20 to 34 in	loam	moderately rapid	1.79 to 2.76 in	
2AC,2Cg -- 34 to 60 in	sand	rapid	0.78 to 2.60 in	

L32D--Hawick loamy sand, 12 to 18 percent slopes

Hawick

Extent: 70 to 100 percent of the unit
Landform(s): escarpments on outwash plains
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) .20
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 11 in	loamy sand	rapid	1.10 to 1.32 in	6.1 to 7.8
Bw -- 11 to 15 in	loamy sand	rapid	0.12 to 0.39 in	6.1 to 7.8
C -- 15 to 80 in	stratified gravelly coarse sand to sand	very rapid	1.30 to 3.90 in	7.4 to 8.4

L32F--Hawick loamy sand, 18 to 40 percent slopes

Hawick

Extent: 70 to 100 percent of the unit
Landform(s): escarpments on outwash plains
Slope gradient: 18 to 40 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) .20
Land capability, nonirrigated: 8s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 11 in	loamy sand	rapid	1.10 to 1.32 in	6.1 to 7.8
Bw -- 11 to 15 in	loamy sand	rapid	0.12 to 0.39 in	6.1 to 7.8
C -- 15 to 80 in	stratified gravelly coarse sand to sand	very rapid	1.30 to 3.90 in	7.4 to 8.4

L35A--Lerdal loam, 1 to 3 percent slopes

Lerdal

Extent: 75 to 85 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 3 percent
Parent material: glaciofluvial and reworked till over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 13 in	loam	moderate	2.34 to 2.86 in	5.6 to 6.5
Bt,Btg -- 13 to 47 in	clay loam	slow	4.40 to 6.43 in	4.5 to 7.4
Bk -- 47 to 60 in	loam	moderate	1.95 to 2.47 in	7.4 to 8.4

L36A--Hamel, overwash-Hamel complex, 1 to 4 percent slopes

Hamel, overwash

Extent: 40 to 60 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 1 to 4 percent
Parent material: colluvium over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: C/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
A -- 13 to 29 in	clay loam	moderate	3.23 to 3.87 in	5.6 to 7.3
Btg -- 29 to 50 in	clay loam	moderately slow	3.34 to 3.96 in	5.6 to 7.3
Cg -- 50 to 80 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4

Hamel

Extent: 30 to 55 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 1 to 3 percent
Parent material: colluvium over 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: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 24 in	loam	moderate	4.80 to 5.76 in	5.6 to 7.3
Btg -- 24 to 46 in	clay loam	moderately slow	3.53 to 4.19 in	5.6 to 7.3
Cg -- 46 to 80 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4

L37B--Angus loam, morainic, 2 to 5 percent slopes

Angus, morainic

Extent: 50 to 90 percent of the unit
Landform(s): hills on 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) .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	loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bt -- 8 to 35 in	clay loam	moderate	4.07 to 5.16 in	5.1 to 7.3
BC -- 35 to 40 in	clay loam	moderate	0.72 to 0.97 in	6.1 to 7.8
C -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	7.4 to 8.4

L38A--Rushriver very fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Rushriver, occasionally flooded

Extent: 70 to 85 percent of the unit
Landform(s): swales on flood plains, alluvial flats 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .43
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 46 in	very fine sandy loam	moderately rapid	5.07 to 7.83 in	7.4 to 8.4
C -- 46 to 80 in	stratified loamy very fine sand to silt loam to loamy fine sand	rapid	2.03 to 5.08 in	7.4 to 8.4

L39A--Minneiska fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Minneiska, occasionally flooded

Extent: 65 to 80 percent of the unit
Landform(s): rises 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: moderately 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: 2s
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	fine sandy loam	moderately rapid	1.48 to 1.77 in	7.4 to 8.4
C -- 10 to 60 in	stratified sand to silt loam	moderately rapid	6.50 to 9.00 in	7.4 to 8.4

L40B--Angus-Kilkenny complex, 2 to 6 percent slopes

Angus

Extent: 35 to 55 percent of the unit
Landform(s): hills on 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) .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	loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bt -- 8 to 35 in	clay loam	moderate	4.07 to 5.16 in	5.1 to 7.3
BC -- 35 to 40 in	clay loam	moderate	0.72 to 0.97 in	6.1 to 7.8
C -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	7.4 to 8.4

Kilkenny

Extent: 30 to 50 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: glaciofluvial sediments and reworked till 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: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	clay loam	moderately slow	1.87 to 2.09 in	5.6 to 7.3
Bt -- 11 to 35 in	clay loam	moderately slow	3.60 to 4.56 in	5.1 to 7.3
2Bk,2C -- 35 to 80 in	loam	moderate	6.73 to 8.53 in	7.4 to 8.4

L41C2--Lester-Kilkenny complex, 6 to 12 percent slopes, eroded

Lester, eroded

Extent: 40 to 50 percent of the unit
Landform(s): hills on 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 7 in	loam	moderate	1.42 to 1.56 in	5.6 to 7.3
Bt -- 7 to 38 in	clay loam	moderate	4.67 to 5.91 in	5.1 to 7.3
Bk -- 38 to 60 in	loam	moderate	3.25 to 4.11 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Kilkenny, eroded

Extent: 35 to 45 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: glaciofluvial sediments and reworked till 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) .32
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderately slow	1.54 to 1.72 in	5.6 to 7.3
Bt -- 9 to 53 in	clay loam	moderately slow	6.61 to 8.38 in	5.1 to 7.3
2BC,2C -- 53 to 80 in	loam	moderate	4.02 to 5.09 in	7.4 to 8.4

L41D2--Lester-Kilkenny complex, 12 to 18 percent slopes, eroded

Lester, eroded

Extent: 40 to 50 percent of the unit
Landform(s): hills on 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 7 in	loam	moderate	1.42 to 1.56 in	5.6 to 7.3
Bt -- 7 to 38 in	clay loam	moderate	4.67 to 5.91 in	5.1 to 7.3
Bk -- 38 to 60 in	loam	moderate	3.25 to 4.11 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Kilkenny, eroded

Extent: 25 to 45 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: glaciofluvial sediments and reworked till 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) .32
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderately slow	1.54 to 1.72 in	5.6 to 7.3
Bt -- 9 to 53 in	clay loam	moderately slow	6.61 to 8.38 in	5.1 to 7.3
2BC,2C -- 53 to 80 in	loam	moderate	4.02 to 5.09 in	7.4 to 8.4

L41E--Lester-Kilkenny complex, 18 to 25 percent slopes

Lester

Extent: 40 to 50 percent of the unit
Landform(s): hills on 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) .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*
A -- 0 to 5 in	loam	moderate	1.02 to 1.13 in	5.6 to 7.3
BE,Bt -- 5 to 34 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
Bk -- 34 to 60 in	loam	moderate	3.90 to 4.94 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Kilkenny

Extent: 35 to 45 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 25 percent
Parent material: glaciofluvial sediments and reworked till 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: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 7 in	clay loam	moderately slow	1.20 to 1.35 in	5.6 to 7.3
Bt -- 7 to 31 in	clay loam	moderately slow	3.60 to 4.56 in	5.1 to 7.3
2Bk,2C -- 31 to 80 in	loam	moderate	7.32 to 9.28 in	7.4 to 8.4

L41F--Lester-Kilkenny complex, 25 to 35 percent slopes

Lester

Extent: 40 to 50 percent of the unit
Landform(s): escarpments on 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*
A -- 0 to 5 in	loam	moderate	1.02 to 1.13 in	5.6 to 7.3
BE,Bt -- 5 to 34 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
Bk -- 34 to 60 in	loam	moderate	3.90 to 4.94 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Kilkenny

Extent: 25 to 45 percent of the unit
Landform(s): escarpments on moraines
Slope gradient: 25 to 35 percent
Parent material: glaciofluvial sediments and reworked till 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: 7e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 7 in	clay loam	moderately slow	1.20 to 1.35 in	5.6 to 7.3
Bt -- 7 to 31 in	clay loam	moderately slow	3.60 to 4.56 in	5.1 to 7.3
2Bk,2C -- 31 to 80 in	loam	moderate	7.32 to 9.28 in	7.4 to 8.4

L42B--Kingsley-Gotham complex, 2 to 6 percent slopes

Kingsley

Extent: 60 to 85 percent of the unit
Landform(s): hills on 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

Gotham

Extent: 20 to 35 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: glaciofluvial sediments
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) .17
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 9 in	loamy sand	rapid	0.91 to 1.09 in	5.6 to 7.3
Bt -- 9 to 18 in	loamy sand	rapid	0.54 to 1.00 in	5.1 to 7.3
Bw,BC -- 18 to 40 in	sand	rapid	1.98 to 2.43 in	5.1 to 7.3
C -- 40 to 80 in	sand	rapid	1.99 to 3.98 in	5.1 to 7.3

L42C--Kingsley-Gotham complex, 6 to 12 percent slopes

Kingsley

Extent: 60 to 85 percent of the unit
Landform(s): hills on 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) .28
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

Gotham

Extent: 20 to 35 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: glaciofluvial sediments
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) .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*
A -- 0 to 9 in	loamy sand	rapid	0.91 to 1.09 in	5.6 to 7.3
Bt -- 9 to 18 in	loamy sand	rapid	0.54 to 1.00 in	5.1 to 7.3
Bw,BC -- 18 to 40 in	sand	rapid	1.98 to 2.43 in	5.1 to 7.3
C -- 40 to 80 in	sand	rapid	1.99 to 3.98 in	5.1 to 7.3

L42D--Kingsley-Gotham complex, 12 to 18 percent slopes

Kingsley

Extent: 60 to 85 percent of the unit
Landform(s): hills on 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) .28
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

Gotham

Extent: 20 to 35 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: glaciofluvial sediments
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) .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*
A -- 0 to 9 in	loamy sand	rapid	0.91 to 1.09 in	5.6 to 7.3
Bt -- 9 to 18 in	loamy sand	rapid	0.54 to 1.00 in	5.1 to 7.3
Bw,BC -- 18 to 40 in	sand	rapid	1.98 to 2.43 in	5.1 to 7.3
C -- 40 to 80 in	sand	rapid	1.99 to 3.98 in	5.1 to 7.3

L42E--Kingsley-Gotham complex, 18 to 25 percent slopes

Kingsley

Extent: 60 to 85 percent of the unit
Landform(s): hills on 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) .28
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

Gotham

Extent: 20 to 35 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 25 percent
Parent material: glaciofluvial sediments
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) .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*
A -- 0 to 9 in	loamy sand	rapid	0.91 to 1.09 in	5.6 to 7.3
Bt -- 9 to 18 in	loamy sand	rapid	0.54 to 1.00 in	5.1 to 7.3
Bw,BC -- 18 to 40 in	sand	rapid	1.98 to 2.43 in	5.1 to 7.3
C -- 40 to 80 in	sand	rapid	1.99 to 3.98 in	5.1 to 7.3

L42F--Kingsley-Gotham complex, 25 to 35 percent slopes

Kingsley

Extent: 60 to 85 percent of the unit
Landform(s): escarpments on 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) .28
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 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

Gotham

Extent: 20 to 35 percent of the unit
Landform(s): escarpments on moraines
Slope gradient: 25 to 35 percent
Parent material: glaciofluvial sediments
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) .17
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 9 in	loamy sand	rapid	0.91 to 1.09 in	5.6 to 7.3
Bt -- 9 to 18 in	loamy sand	rapid	0.54 to 1.00 in	5.1 to 7.3
Bw,BC -- 18 to 40 in	sand	rapid	1.98 to 2.43 in	5.1 to 7.3
C -- 40 to 80 in	sand	rapid	1.99 to 3.98 in	5.1 to 7.3

L43A--Brouillett loam, 0 to 2 percent slopes, occasionally flooded

Brouillett, occasionally flooded

Extent: 70 to 90 percent of the unit
Landform(s): alluvial flats 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: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .24
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 14 in	loam	moderate	2.69 to 3.40 in	6.1 to 7.8
A -- 14 to 36 in	loam	moderate	3.46 to 4.76 in	6.1 to 7.8
Bg -- 36 to 44 in	loam	moderate	1.24 to 1.65 in	6.1 to 7.8
Cg -- 44 to 60 in	stratified loam to loamy very fine sand	moderately rapid	0.79 to 2.83 in	6.1 to 8.4

L44A--Nessel loam, 1 to 3 percent slopes

Nessel

Extent: 75 to 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated: 1
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 6 in	loam	moderate	1.18 to 1.30 in	5.6 to 7.3
Bt -- 6 to 38 in	clay loam	moderate	4.84 to 6.13 in	5.1 to 7.3
C -- 38 to 80 in	loam	moderate	6.26 to 7.93 in	7.4 to 8.4

L45A--Dundas-Cordova complex, 0 to 3 percent slopes

Dundas

Extent: 50 to 75 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: high

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
E -- 9 to 15 in	loam	moderate	0.89 to 1.12 in	5.6 to 7.3
Btg -- 15 to 40 in	clay loam	moderately slow	3.78 to 4.79 in	5.1 to 7.3
Cg -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	7.4 to 8.4

Cordova

Extent: 15 to 30 percent of the unit
Landform(s): drainageways 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: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 13 in	loam	moderate	2.34 to 2.86 in	6.1 to 7.3
Btg -- 13 to 33 in	clay loam	moderately slow	3.01 to 3.81 in	5.1 to 6.5
Cg -- 33 to 80 in	loam	moderate	7.03 to 8.90 in	7.4 to 8.4

L46A--Tomall loam, 0 to 2 percent slopes

Tomall

Extent: 70 to 100 percent of the unit
Landform(s): outwash plains, stream terraces
Slope gradient: 0 to 2 percent
Parent material: colluvium over outwash
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) .32
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,A,AB -- 0 to 33 in	loam	moderate	6.61 to 7.94 in	6.1 to 7.3
Bw -- 33 to 42 in	sandy loam	moderate	1.36 to 1.72 in	6.1 to 7.3
2Bw -- 42 to 47 in	loamy coarse sand	very rapid	0.09 to 0.24 in	6.1 to 7.3
2C -- 47 to 80 in	gravelly loamy coarse sand	very rapid	0.66 to 1.65 in	7.4 to 7.8

L47A--Eden Prairie sandy loam, 0 to 2 percent slopes

Eden Prairie

Extent: 80 to 100 percent of the unit
Landform(s): outwash plains, 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): 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: moderate

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
Bt -- 10 to 16 in	sandy loam	moderately rapid	0.76 to 0.88 in	5.6 to 6.5
2Bt -- 16 to 26 in	loamy sand	rapid	0.20 to 0.98 in	5.6 to 7.3
2Bw,2C1,2C2 -- 26 to 80 in	sand	rapid	1.08 to 3.78 in	5.6 to 7.8

L47B--Eden Prairie sandy loam, 2 to 6 percent slopes

Eden Prairie

Extent: 75 to 95 percent of the unit
Landform(s): hills on outwash plains, hills on 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) .24
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

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
Bt -- 10 to 16 in	sandy loam	moderately rapid	0.76 to 0.88 in	5.6 to 6.5
2Bt -- 16 to 26 in	loamy sand	rapid	0.20 to 0.98 in	5.6 to 7.3
2Bw,2C1,2C2 -- 26 to 80 in	sand	rapid	1.08 to 3.78 in	5.6 to 7.8

L47C--Eden Prairie sandy loam, 6 to 12 percent slopes

Eden Prairie

Extent: 60 to 85 percent of the unit
Landform(s): hills on outwash plains, hills on 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) .24
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

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
Bt -- 10 to 16 in	sandy loam	moderately rapid	0.76 to 0.88 in	5.6 to 6.5
2Bt -- 16 to 26 in	loamy sand	rapid	0.20 to 0.98 in	5.6 to 7.3
2Bw,2C1,2C2 -- 26 to 80 in	sand	rapid	1.08 to 3.78 in	5.6 to 7.8

L49A--Klossner soils, depressional, 0 to 1 percent slopes

Klossner, surface drained

Extent: 50 to 100 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated: 6w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 26 in	muck	moderately rapid	9.09 to 12.47 in	
2A1 -- 26 to 33 in	silt loam	moderate	1.56 to 1.84 in	
2A2 -- 33 to 40 in	loam	moderate	1.28 to 1.56 in	
2Cg -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	

Klossner, drained

Extent: 0 to 40 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .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,Oa -- 0 to 26 in	muck	moderately rapid	9.09 to 12.47 in	
2A1 -- 26 to 36 in	mucky silty clay loam	moderate	2.17 to 2.56 in	
2A2 -- 36 to 48 in	silty clay loam	moderate	2.20 to 2.69 in	
2Cg -- 48 to 80 in	loam	moderate	4.78 to 6.06 in	

L50A--Houghton and Muskego soils, depressional, 0 to 1 percent slopes

Houghton, surface drained

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

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 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*
Oa -- 0 to 80 in	muck	moderately rapid	27.97 to 35.96 in	

Muskego, surface drained

Extent: 20 to 60 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over coprogenous earth
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: 6w
Hydric soil: yes
Hydrologic group: C/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 36 in	muck	moderately rapid	9.37 to 12.05 in	
Lco -- 36 to 60 in	coprogenous earth	slow	4.32 to 5.76 in	

L52C--Urban land-Lester complex, 2 to 18 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 18 percent
Parent material: loamy 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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Lester

Extent: 0 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 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: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap --	0 to 7 in	loam	moderate	1.42 to 1.56 in	5.6 to 7.3
Bt --	7 to 38 in	clay loam	moderate	4.67 to 5.91 in	5.1 to 7.3
Bk --	38 to 60 in	loam	moderate	3.25 to 4.11 in	7.4 to 8.4
C --	60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

L52E--Urban land-Lester complex, 18 to 35 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 35 percent
Parent material: loamy 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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Lester

Extent: 0 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 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
A --	0 to 5 in	loam	moderate	1.02 to 1.13 in	5.6 to 7.3
BE,Bt --	5 to 34 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
Bk --	34 to 60 in	loam	moderate	3.90 to 4.94 in	7.4 to 8.4
C --	60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

L53B--Urban land-Moon complex, 2 to 8 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 8 percent
Parent material: loamy 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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Moon

Extent: 15 to 25 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: outwash 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): 2
Wind erodibility index (WEI): 134
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 8 in	loamy fine sand	rapid	0.79 to 0.94 in	5.6 to 7.3
E	8 to 24 in	loamy fine sand	rapid	1.29 to 1.61 in	5.6 to 7.3
2Bt	24 to 46 in	sandy clay loam	moderate	3.31 to 3.97 in	5.1 to 7.3
2C	46 to 60 in	loam	moderate	2.07 to 2.62 in	7.4 to 8.4

L54A--Urban land-Dundas complex, 0 to 3 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 3 percent
Parent material: loamy 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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Dundas

Extent: 0 to 20 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: high

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
E	9 to 15 in	loam	moderate	0.89 to 1.12 in	5.6 to 7.3
Btg	15 to 40 in	clay loam	moderately slow	3.78 to 4.79 in	5.1 to 7.3
Cg	40 to 80 in	loam	moderate	5.96 to 7.56 in	7.4 to 8.4

L55B--Urban land-Malardi complex, 0 to 8 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): outwash plains, stream terraces
Slope gradient: 0 to 8 percent
Parent material: sandy and gravelly outwash
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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Malardi

Extent: 0 to 20 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
Slope gradient: 2 to 8 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: moderate

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 7.3
Bt	10 to 15 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt	15 to 29 in	loamy coarse sand	rapid	0.85 to 1.42 in	5.6 to 7.3
2C	29 to 80 in	gravelly sand	rapid	1.02 to 2.03 in	7.0 to 8.4

L55C--Urban land-Malardi complex, 8 to 18 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): outwash plains, stream terraces
Slope gradient: 8 to 18 percent
Parent material: sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class:

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

Malardi

Extent: 0 to 20 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
Slope gradient: 8 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

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 7.3
Bt -- 10 to 15 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 15 to 29 in	loamy coarse sand	rapid	0.85 to 1.42 in	5.6 to 7.3
2C -- 29 to 80 in	gravelly sand	rapid	1.02 to 2.03 in	7.0 to 8.4

L56A--Muskego and Klossner soils, 0 to 1 percent slopes, frequently flooded

Klossner, frequently flooded

Extent: 30 to 100 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 1 percent
Parent material: organic material over till
Restrictive feature(s): greater than 60 inches
Flooding: frequent
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: 6w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 26 in	muck	moderately rapid	9.09 to 12.47 in	
2A1 -- 26 to 33 in	silt loam	moderate	1.56 to 1.84 in	
2A2 -- 33 to 40 in	loam	moderate	1.28 to 1.56 in	
2Cg -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	

Muskego, frequently flooded

Extent: 30 to 100 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 1 percent
Parent material: organic material over coprogenous earth
Restrictive feature(s): greater than 60 inches
Flooding: frequent
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: 6w
Hydric soil: yes
Hydrologic group: C/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 36 in	muck	moderately rapid	9.37 to 12.05 in	
Lco -- 36 to 60 in	coprogenous earth	slow	4.32 to 5.76 in	

L58B--Koronis-Kingsley complex, 2 to 6 percent slopes

Koronis

Extent: 50 to 85 percent of the unit
Landform(s): hills on 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.97 to 2.17 in	5.6 to 7.3
Bt -- 10 to 30 in	sandy clay loam	moderately rapid	3.01 to 3.81 in	5.6 to 7.3
Bk -- 30 to 60 in	loam	moderately rapid	3.29 to 4.79 in	7.4 to 8.4

Kingsley

Extent: 20 to 35 percent of the unit
Landform(s): hills on 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
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 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

L58C2--Koronis-Kingsley complex, 6 to 12 percent slopes, eroded

Koronis, eroded

Extent: 50 to 85 percent of the unit
Landform(s): hills on 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) .20
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.97 to 2.17 in	5.6 to 7.3
Bt -- 10 to 30 in	sandy clay loam	moderately rapid	3.01 to 3.81 in	5.6 to 7.3
Bk -- 30 to 60 in	loam	moderately rapid	3.29 to 4.79 in	7.4 to 8.4

Kingsley, eroded

Extent: 20 to 35 percent of the unit
Landform(s): hills on 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) .32
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 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

L58D2--Koronis-Kingsley complex, 12 to 18 percent slopes, eroded

Koronis, eroded

Extent: 50 to 85 percent of the unit
Landform(s): hills on 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) .20
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.97 to 2.17 in	5.6 to 7.3
Bt -- 10 to 30 in	sandy clay loam	moderately rapid	3.01 to 3.81 in	5.6 to 7.3
Bk -- 30 to 60 in	loam	moderately rapid	3.29 to 4.79 in	7.4 to 8.4

Kingsley, eroded

Extent: 20 to 35 percent of the unit
Landform(s): hills on 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) .32
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 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

L58E--Koronis-Kingsley complex, 18 to 25 percent slopes

Koronis

Extent: 50 to 85 percent of the unit
Landform(s): hills on 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) .20
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 10 in	sandy loam	moderately rapid	1.97 to 2.17 in	5.6 to 7.3
Bt -- 10 to 30 in	sandy clay loam	moderately rapid	3.01 to 3.81 in	5.6 to 7.3
Bk -- 30 to 60 in	loam	moderately rapid	3.29 to 4.79 in	7.4 to 8.4

Kingsley

Extent: 20 to 35 percent of the unit
Landform(s): hills on 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) .28
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 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

L59A--Forestcity-Lundlake, depressional, complex, 0 to 3 percent slopes

Forestcity

Extent: 60 to 90 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 0 to 3 percent
Parent material: colluvium over 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
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 22 in	fine sandy loam	moderately rapid	3.09 to 3.53 in	6.1 to 7.3
A2,AB -- 22 to 43 in	loam	moderate	2.92 to 3.55 in	6.1 to 7.3
2Btg -- 43 to 60 in	sandy clay loam	moderately rapid	1.86 to 2.88 in	5.6 to 7.3
2BCg -- 60 to 80 in	sandy loam	moderately rapid	2.01 to 3.01 in	7.4 to 7.8

Lundlake, depressional

Extent: 10 to 40 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: colluvium 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): 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 20 in	loam	moderate	3.41 to 4.42 in	6.6 to 7.3
A2,A3,AB -- 20 to 46 in	loam	moderate	4.42 to 5.72 in	6.6 to 7.3
Bg -- 46 to 54 in	sandy loam	moderate	1.18 to 1.50 in	6.6 to 7.8
Cg -- 54 to 60 in	sandy loam	moderately rapid	0.59 to 0.89 in	7.4 to 7.8

L60B--Angus-Moon complex, 2 to 5 percent slopes

Angus

Extent: 60 to 80 percent of the unit
Landform(s): hills on 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) .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	loam	moderate	1.57 to 1.73 in	5.6 to 7.3
Bt -- 8 to 35 in	clay loam	moderate	4.07 to 5.16 in	5.1 to 7.3
BC -- 35 to 40 in	clay loam	moderate	0.72 to 0.97 in	6.1 to 7.8
C -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	7.4 to 8.4

Moon

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: outwash 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): 2
Wind erodibility index (WEI): 134
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 8 in	loamy fine sand	rapid	0.79 to 0.94 in	5.6 to 7.3
E -- 8 to 24 in	loamy fine sand	rapid	1.29 to 1.61 in	5.6 to 7.3
2Bt -- 24 to 46 in	sandy clay loam	moderate	3.31 to 3.97 in	5.1 to 7.3
2C -- 46 to 60 in	loam	moderate	2.07 to 2.62 in	7.4 to 8.4

L61C2--Lester-Metea complex, 6 to 12 percent slopes, eroded

Lester, eroded

Extent: 50 to 80 percent of the unit
Landform(s): hills on 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 7 in	loam	moderate	1.42 to 1.56 in	5.6 to 7.3
Bt -- 7 to 38 in	clay loam	moderate	4.67 to 5.91 in	5.1 to 7.3
Bk -- 38 to 60 in	loam	moderate	3.25 to 4.11 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Metea, eroded

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: outwash over 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .28
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 8 in	loamy fine sand	rapid	0.79 to 0.94 in	5.6 to 7.3
E -- 8 to 24 in	loamy fine sand	rapid	1.29 to 1.61 in	5.6 to 7.3
2Bt -- 24 to 46 in	sandy clay loam	moderate	3.31 to 3.97 in	5.1 to 7.3
2C -- 46 to 60 in	loam	moderate	2.07 to 2.62 in	7.4 to 8.4

L61D2--Lester-Metea complex, 12 to 18 percent slopes, eroded

Lester, eroded

Extent: 50 to 80 percent of the unit
Landform(s): hills on 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 7 in	loam	moderate	1.42 to 1.56 in	5.6 to 7.3
Bt -- 7 to 38 in	clay loam	moderate	4.67 to 5.91 in	5.1 to 7.3
Bk -- 38 to 60 in	loam	moderate	3.25 to 4.11 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Metea, eroded

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: outwash over 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .28
Land capability, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loamy fine sand	rapid	0.79 to 0.94 in	5.6 to 7.3
E -- 8 to 24 in	loamy fine sand	rapid	1.29 to 1.61 in	5.6 to 7.3
2Bt -- 24 to 46 in	sandy clay loam	moderate	3.31 to 3.97 in	5.1 to 7.3
2C -- 46 to 60 in	loam	moderate	2.07 to 2.62 in	7.4 to 8.4

L61E--Lester-Metea complex, 18 to 25 percent slopes

Lester

Extent: 50 to 80 percent of the unit
Landform(s): hills on 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) .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*
A -- 0 to 5 in	loam	moderate	1.02 to 1.13 in	5.6 to 7.3
BE,Bt -- 5 to 34 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
Bk -- 34 to 60 in	loam	moderate	3.90 to 4.94 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Metea

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 25 percent
Parent material: outwash over 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .24
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 8 in	loamy fine sand	rapid	0.79 to 0.94 in	5.6 to 7.3
E -- 8 to 24 in	loamy fine sand	rapid	1.29 to 1.61 in	5.6 to 7.3
2Bt -- 24 to 46 in	sandy clay loam	moderate	3.31 to 3.97 in	5.1 to 7.3
2C -- 46 to 60 in	loam	moderate	2.07 to 2.62 in	7.4 to 8.4

L62B--Koronis-Kingsley-Malardi complex, 2 to 6 percent slopes

Koronis

Extent: 30 to 70 percent of the unit
Landform(s): hills on 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.97 to 2.17 in	5.6 to 7.3
Bt -- 10 to 30 in	sandy clay loam	moderately rapid	3.01 to 3.81 in	5.6 to 7.3
Bk -- 30 to 60 in	loam	moderately rapid	3.29 to 4.79 in	7.4 to 8.4

Kingsley

Extent: 10 to 40 percent of the unit
Landform(s): hills on 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
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 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

L62B--Koronis-Kingsley-Malardi complex, 2 to 6 percent slopes

Malardi

Extent: 10 to 40 percent of the unit
Landform(s): hills on 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: moderate

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 7.3
Bt -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 14 to 21 in	gravelly loamy coarse sand	rapid	0.40 to 0.67 in	5.6 to 7.3
2C -- 21 to 80 in	gravelly sand	rapid	1.18 to 2.36 in	7.0 to 8.4

L62C2--Koronis-Kingsley-Malardi complex, 6 to 12 percent slopes, eroded

Koronis, eroded

Extent: 30 to 70 percent of the unit
Landform(s): hills on 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) .20
Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.97 to 2.17 in	5.6 to 7.3
Bt -- 10 to 30 in	sandy clay loam	moderately rapid	3.01 to 3.81 in	5.6 to 7.3
Bk -- 30 to 60 in	loam	moderately rapid	3.29 to 4.79 in	7.4 to 8.4

Kingsley, eroded

Extent: 10 to 40 percent of the unit
Landform(s): hills on 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) .32
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 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

L62C2--Koronis-Kingsley-Malardi complex, 6 to 12 percent slopes, eroded

Malardi, eroded

Extent: 10 to 40 percent of the unit
Landform(s): hills on 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: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

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 7.3
Bt -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 14 to 21 in	gravelly loamy coarse sand	rapid	0.40 to 0.67 in	5.6 to 7.3
2C -- 21 to 80 in	gravelly sand	rapid	1.18 to 2.36 in	7.0 to 8.4

L62D2--Koronis-Kingsley-Malardi complex, 12 to 18 percent slopes, eroded

Koronis, eroded

Extent: 30 to 70 percent of the unit
Landform(s): hills on 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) .20
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.97 to 2.17 in	5.6 to 7.3
Bt -- 10 to 30 in	sandy clay loam	moderately rapid	3.01 to 3.81 in	5.6 to 7.3
Bk -- 30 to 60 in	loam	moderately rapid	3.29 to 4.79 in	7.4 to 8.4

Kingsley, eroded

Extent: 10 to 40 percent of the unit
Landform(s): hills on 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) .32
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 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

L62D2--Koronis-Kingsley-Malardi complex, 12 to 18 percent slopes, eroded

Malardi, eroded

Extent: 10 to 40 percent of the unit
Landform(s): hills on 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

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 7.3
Bt -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 14 to 21 in	gravelly loamy coarse sand	rapid	0.40 to 0.67 in	5.6 to 7.3
2C -- 21 to 80 in	gravelly sand	rapid	1.18 to 2.36 in	7.0 to 8.4

L62E--Koronis-Kingsley-Malardi complex, 18 to 35 percent slopes

Koronis

Extent: 30 to 70 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 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) .20
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 10 in	sandy loam	moderately rapid	1.97 to 2.17 in	5.6 to 7.3
Bt -- 10 to 30 in	sandy clay loam	moderately rapid	3.01 to 3.81 in	5.6 to 7.3
Bk -- 30 to 60 in	loam	moderately rapid	3.29 to 4.79 in	7.4 to 8.4

Kingsley

Extent: 10 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 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) .28
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 7 in	sandy loam	moderate	0.71 to 1.28 in	5.6 to 6.5
E -- 7 to 14 in	sandy loam	moderate	0.71 to 1.06 in	5.6 to 6.5
Bt -- 14 to 34 in	sandy loam	moderately slow	2.56 to 3.15 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	moderately slow	2.86 to 3.64 in	5.6 to 7.8

L62E--Koronis-Kingsley-Malardi complex, 18 to 35 percent slopes

Malardi

Extent: 10 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 35 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: 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	5.6 to 7.3
Bt -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 14 to 21 in	gravelly loamy coarse sand	rapid	0.40 to 0.67 in	5.6 to 7.3
2C -- 21 to 80 in	gravelly sand	rapid	1.18 to 2.36 in	7.0 to 8.4

L64A--Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes

Tadkee

Extent: 20 to 70 percent of the unit
Landform(s): beaches on moraines
Slope gradient: 0 to 2 percent
Parent material: beach sand over 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
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*
A -- 0 to 6 in	loamy fine sand	rapid	0.59 to 0.71 in	6.1 to 7.8
Bg -- 6 to 34 in	sand	rapid	1.40 to 3.35 in	6.1 to 7.8
2Cg -- 34 to 80 in	loam	moderate	6.91 to 8.75 in	7.4 to 8.4

Tadkee, depressional

Extent: 20 to 70 percent of the unit
Landform(s): shores on beaches on moraines
Slope gradient: 0 to 1 percent
Parent material: beach sand 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .17
Land capability, nonirrigated: 6w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	mucky loamy fine sand	moderately rapid	2.07 to 2.66 in	6.1 to 7.8
Bg -- 6 to 27 in	sand	rapid	1.06 to 2.55 in	6.1 to 7.8
2Cg -- 27 to 80 in	loam	moderate	7.91 to 10.02 in	7.4 to 8.4

L70C2--Lester-Malardi complex, 6 to 12 percent slopes, eroded

Lester, eroded

Extent: 50 to 80 percent of the unit
Landform(s): hills on 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 7 in	loam	moderate	1.42 to 1.56 in	5.6 to 7.3
Bt -- 7 to 38 in	clay loam	moderate	4.67 to 5.91 in	5.1 to 7.3
Bk -- 38 to 60 in	loam	moderate	3.25 to 4.11 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Malardi, eroded

Extent: 20 to 40 percent of the unit
Landform(s): hills on 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: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

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 7.3
Bt -- 10 to 15 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 15 to 29 in	loamy coarse sand	rapid	0.85 to 1.42 in	5.6 to 7.3
2C -- 29 to 80 in	gravelly sand	rapid	1.02 to 2.03 in	7.0 to 8.4

L70D2--Lester-Malardi complex, 12 to 18 percent slopes, eroded

Lester, eroded

Extent: 50 to 80 percent of the unit
Landform(s): hills on 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 7 in	loam	moderate	1.42 to 1.56 in	5.6 to 7.3
Bt -- 7 to 38 in	clay loam	moderate	4.67 to 5.91 in	5.1 to 7.3
Bk -- 38 to 60 in	loam	moderate	3.25 to 4.11 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Malardi, eroded

Extent: 20 to 40 percent of the unit
Landform(s): hills on 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): 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: moderate

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 7.3
Bt -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 14 to 21 in	gravelly loamy coarse sand	rapid	0.40 to 0.67 in	5.6 to 7.3
2C -- 21 to 80 in	gravelly sand	rapid	1.18 to 2.36 in	7.0 to 8.4

L70E--Lester-Malardi complex, 18 to 35 percent slopes

Lester

Extent: 50 to 80 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 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: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	loam	moderate	1.02 to 1.13 in	5.6 to 7.3
BE,Bt -- 5 to 34 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
Bk -- 34 to 60 in	loam	moderate	3.90 to 4.94 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Malardi

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 35 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: 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	5.6 to 7.3
Bt -- 9 to 14 in	sandy loam	moderately rapid	0.61 to 0.97 in	5.6 to 7.3
2Bt -- 14 to 21 in	gravelly loamy coarse sand	rapid	0.40 to 0.67 in	5.6 to 7.3
2C -- 21 to 80 in	gravelly sand	rapid	1.18 to 2.36 in	7.0 to 8.4

L71C--Metea loamy fine sand, 6 to 12 percent slopes

Metea

Extent: 70 to 90 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: outwash over 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .28
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 8 in	loamy fine sand	rapid	0.79 to 0.94 in	5.6 to 7.3
E -- 8 to 24 in	loamy fine sand	rapid	1.29 to 1.61 in	5.6 to 7.3
2Bt -- 24 to 46 in	sandy clay loam	moderate	3.31 to 3.97 in	5.1 to 7.3
2C -- 46 to 60 in	loam	moderate	2.07 to 2.62 in	7.4 to 8.4

L72A--Lundlake loam, depressional, 0 to 1 percent slopes

Lundlake, depressional

Extent: 85 to 100 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: colluvium 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): 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 20 in	loam	moderate	3.41 to 4.42 in	6.6 to 7.3
A2,A3,AB -- 20 to 46 in	loam	moderate	4.42 to 5.72 in	6.6 to 7.3
Bg -- 46 to 54 in	sandy loam	moderate	1.18 to 1.50 in	6.6 to 7.8
Cg -- 54 to 60 in	sandy loam	moderately rapid	0.59 to 0.89 in	7.4 to 7.8

L110E--Lester-Ridgeton complex, 18 to 25 percent slopes

Lester

Extent: 45 to 65 percent of the unit
Landform(s): escarpments on 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) .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*
A -- 0 to 5 in	loam	moderate	1.02 to 1.13 in	5.6 to 7.3
BE,Bt -- 5 to 34 in	clay loam	moderate	4.31 to 5.46 in	5.1 to 7.3
Bk -- 34 to 60 in	loam	moderate	3.90 to 4.94 in	7.4 to 8.4
C -- 60 to 80 in	loam	moderate	3.01 to 3.81 in	7.4 to 8.4

Ridgeton

Extent: 20 to 40 percent of the unit
Landform(s): escarpments on moraines
Slope gradient: 12 to 25 percent
Parent material: colluvium over 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: 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2,A3 -- 0 to 32 in	loam	moderate	6.38 to 7.02 in	6.1 to 7.3
Bw -- 32 to 40 in	loam	moderate	1.32 to 1.49 in	6.1 to 7.3
C1,C2 -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	7.4 to 8.4

L110F--Lester-Ridgeton complex, 25 to 45 percent slopes

Lester

Extent: 45 to 65 percent of the unit
Landform(s): escarpments on moraines
Slope gradient: 25 to 45 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*
A -- 0 to 6 in	loam	moderate	1.18 to 1.30 in	5.6 to 7.3
Bt -- 6 to 25 in	clay loam	moderate	2.83 to 3.59 in	5.1 to 7.3
C -- 25 to 60 in	loam	moderate	5.26 to 6.66 in	7.4 to 8.4

Ridgeton

Extent: 20 to 40 percent of the unit
Landform(s): escarpments on moraines
Slope gradient: 18 to 25 percent
Parent material: colluvium over 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: 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2,A3 -- 0 to 32 in	loam	moderate	6.38 to 7.02 in	6.1 to 7.3
Bw -- 32 to 40 in	loam	moderate	1.32 to 1.49 in	6.1 to 7.3
C1,C2 -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	7.4 to 8.4

L131A--Litchfield loamy fine sand, 0 to 3 percent slopes

Litchfield

Extent: 75 to 95 percent of the unit
Landform(s): outwash plains, stream terraces
Slope gradient: 0 to 3 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): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .20
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 20 in	loamy fine sand	rapid	2.01 to 2.41 in	5.1 to 7.3
Bw -- 20 to 33 in	fine sand	moderately rapid	0.91 to 2.08 in	5.1 to 7.3
BC -- 33 to 40 in	very fine sandy loam	moderate	1.56 to 1.70 in	5.1 to 7.3
C -- 40 to 80 in	loamy fine sand	rapid	3.18 to 3.98 in	6.1 to 7.8

L132A--Hamel-Glencoe, depressional, complex, 0 to 3 percent slopes

Hamel

Extent: 40 to 80 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 1 to 3 percent
Parent material: colluvium over 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: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 24 in	loam	moderate	4.80 to 5.76 in	5.6 to 7.3
Btg -- 24 to 46 in	clay loam	moderately slow	3.53 to 4.19 in	5.6 to 7.3
Cg -- 46 to 80 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4

Glencoe, depressional

Extent: 20 to 40 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: colluvium over loamy 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) .24
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 -- 0 to 13 in	loam	moderate	2.34 to 2.86 in	6.1 to 7.8
A2,Bg1 -- 13 to 31 in	clay loam	moderate	3.26 to 3.98 in	6.1 to 7.8
Bg2 -- 31 to 45 in	loam	moderate	2.07 to 2.62 in	6.6 to 7.8
Cg -- 45 to 80 in	loam	moderate	5.26 to 6.66 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*

U1A--Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes

Urban land

Extent: 65 to 90 percent of the unit
Landform(s): moraines, outwash plains, stream terraces
Slope gradient: 0 to 2 percent
Parent material:
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:
Hydrologic group:
Potential for frost action:

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

Udorthents, wet substratum

Extent: 10 to 35 percent of the unit
Landform(s): moraines, outwash plains, stream terraces
Slope gradient: 0 to 2 percent
Parent material: variable soil material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

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

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

U2A--Udorthents, wet substratum, 0 to 2 percent slopes

Udorthents, wet substratum

Extent: 100 percent of the unit
Landform(s): moraines, outwash plains, stream terraces
Slope gradient: 0 to 2 percent
Parent material: variable soil material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

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

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

U3B--Udorthents (cut and fill land), 0 to 6 percent slopes

Udorthents, loamy (cut and fill land)

Extent: 100 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 6 percent
Parent material: variable loamy material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

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

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

U4A--Urban land-Udipsamments (cut and fill land) complex, 0 to 2 percent slopes

Urban land

Extent: 65 to 85 percent of the unit
Landform(s): stream terraces, outwash plains
Slope gradient: 0 to 2 percent
Parent material:
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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Udipsamments, cut and fill land

Extent: 15 to 50 percent of the unit
Landform(s): stream terraces, outwash plains
Slope gradient: 0 to 2 percent
Parent material: variable sandy material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

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

U5A--Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes, rarely flooded

Urban land, rarely flooded

Extent: 35 to 85 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding: rare
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:
Hydrologic group:
Potential for frost action:

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

Udorthents, wet substratum, rarely flooded

Extent: 15 to 50 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: variable soil material
Restrictive feature(s): greater than 60 inches
Flooding: rare
Ponding: none
Drainage class: well drained

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

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

U6B--Urban land-Udorthents (cut and fill land) complex, 0 to 6 percent slopes

Urban land

Extent: 35 to 80 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 6 percent
Parent material:
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:
Hydrologic group:
Potential for frost action:

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

Udorthents, cut and fill land

Extent: 20 to 65 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 6 percent
Parent material: variable loamy material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

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

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

Map Unit Description (MN)

Hennepin County, Minnesota

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*

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.