

Soil Descriptions - Non Technical

---

27B--Dickinson Fine Sandy Loam, 1 To 6 Percent Slopes

Component Description

Dickinson and similar soils

Extent: 90 percent of the unit  
Slope range: 1 to 6 percent  
Surface layer texture: Fine sandy loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 5.5 inches  
Content of organic matter in the upper 10 inches: 1.5 percent  
Typical profile:  
    H1--0 to 17 inches; fine sandy loam  
    H2--17 to 34 inches; sandy loam  
    H3--34 to 60 inches; sand

35--Blue Earth Mucky Silty Clay Loam

Component Description

Blue earth and similar soils

Extent: 95 percent of the unit  
Geomorphic description:  
    Relict lakebed  
Slope range: 0 to 1 percent  
Surface layer texture: Mucky silty clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    At the surface                      March April  
Wet soil moisture status is lowest (depth, months):  
    2.0 feet                              February August  
Ponding does not occur (months):  
    January February May June July August September October  
    November December  
Ponding is deepest (depth, months):  
    1.0 foot                              April  
Available water capacity to a depth of 60 inches: 12.6 inches  
Content of organic matter in the upper 10 inches: 17.5 percent  
Typical profile:  
    H1--0 to 8 inches; mucky silty clay loam  
    H2--8 to 60 inches; mucky silty clay loam

39A--Wadena Loam, 0 To 2 Percent Slopes

Component Description

Wadena and similar soils

Extent: 90 percent of the unit  
Slope range: 0 to 2 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None

Available water capacity to a depth of 60 inches: 6.3 inches  
Content of organic matter in the upper 10 inches: 4.5 percent  
Typical profile:

H1--0 to 14 inches; loam  
H2--14 to 28 inches; loam  
H3--28 to 60 inches; gravelly coarse sand

#### 39B--Wadena Loam, 2 To 6 Percent Slopes

##### Component Description

###### Wadena and similar soils

Extent: 90 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 6.1 inches  
Content of organic matter in the upper 10 inches: 4.5 percent  
Typical profile:  
H1--0 to 13 inches; loam  
H2--13 to 27 inches; loam  
H3--27 to 60 inches; gravelly coarse sand

#### 41A--Estherville Loam, 0 To 2 Percent Slopes

##### Component Description

###### Estherville and similar soils

Extent: 90 percent of the unit  
Slope range: 0 to 2 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 5.0 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 12 inches; loam  
H2--12 to 20 inches; sandy loam  
H3--20 to 60 inches; gravelly coarse sand

#### 41B--Estherville Loam, 2 To 6 Percent Slopes

##### Component Description

###### Estherville and similar soils

Extent: 90 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 4.6 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 10 inches; loam  
H2--10 to 18 inches; sandy loam  
H3--18 to 60 inches; gravelly coarse sand

86--Canisteo Clay Loam

Component Description

Canisteo and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flat

Slope range: 0 to 2 percent

Surface layer texture: Clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 9.7 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

H1--0 to 10 inches; clay loam

H2--10 to 23 inches; clay loam

H3--23 to 60 inches; clay loam

94B--Terril Loam, 2 To 6 Percent Slopes

Component Description

Terril and similar soils

Extent: 90 percent of the unit

Slope range: 2 to 6 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet April

Wet soil moisture status is lowest (depth, months):

More than 5.0 feet January February July August  
September October December

Ponding: None

Available water capacity to a depth of 60 inches: 11.7 inches

Content of organic matter in the upper 10 inches: 4.0 percent

Typical profile:

H1--0 to 30 inches; loam

H2--30 to 60 inches; loam

102B--Clarion Loam, 2 To 6 Percent Slopes

Component Description

Clarion and similar soils

Extent: 90 percent of the unit

Slope range: 2 to 6 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet April

Wet soil moisture status is lowest (depth, months):

More than 5.0 feet January February July August  
September October December

Ponding: None

Available water capacity to a depth of 60 inches: 11.1 inches

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

H1--0 to 12 inches; loam

H2--12 to 27 inches; clay loam  
H3--27 to 60 inches; loam

106B--Lester Loam, 2 To 6 Percent Slopes

Component Description

Lester and similar soils

Extent: 90 percent of the unit  
Slope range: 2 to 5 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.2 inches  
Content of organic matter in the upper 10 inches: 3.8 percent  
Typical profile:  
    H1--0 to 9 inches; loam  
    H2--9 to 30 inches; clay loam  
    H3--30 to 60 inches; loam

109--Cordova Clay Loam

Component Description

Cordova and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
    Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    0.5 foot                      April  
Wet soil moisture status is lowest (depth, months):  
    3.3 feet                      February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.1 inches  
Content of organic matter in the upper 10 inches: 5.5 percent  
Typical profile:  
    H1--0 to 18 inches; clay loam  
    H2--18 to 30 inches; clay loam  
    H3--30 to 60 inches; clay loam

112--Harps Clay Loam

Component Description

Harps and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
    Rim  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    0.5 foot                      April  
Wet soil moisture status is lowest (depth, months):

3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.9 inches  
Content of organic matter in the upper 10 inches: 4.0 percent  
Typical profile:  
H1--0 to 20 inches; clay loam  
H2--20 to 32 inches; clay loam  
H3--32 to 60 inches; loam

#### 113--Webster Clay Loam

##### Component Description

Webster and similar soils  
Extent: 90 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.7 inches  
Content of organic matter in the upper 10 inches: 5.5 percent  
Typical profile:  
H1--0 to 18 inches; clay loam  
H2--18 to 25 inches; clay loam  
H3--25 to 60 inches; clay loam

#### 114--Glencoe Clay Loam

##### Component Description

Glencoe and similar soils  
Extent: 100 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
At the surface March April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet February August  
Ponding does not occur (months):  
January February May June July August September October  
November December  
Ponding is deepest (depth, months):  
1.0 foot April  
Available water capacity to a depth of 60 inches: 11.2 inches  
Content of organic matter in the upper 10 inches: 7.5 percent  
Typical profile:  
H1--0 to 10 inches; clay loam  
H2--10 to 34 inches; clay loam  
H3--34 to 60 inches; clay loam

#### 118--Crippin Loam

##### Component Description

Crippin and similar soils  
Extent: 90 percent of the unit

Slope range: 1 to 3 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    1.5 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.3 inches  
Content of organic matter in the upper 10 inches: 5.5 percent  
Typical profile:  
    H1--0 to 16 inches; loam  
    H2--16 to 30 inches; clay loam  
    H3--30 to 60 inches; loam

#### 130--Nicollet Clay Loam

##### Component Description

Nicollet and similar soils  
Extent: 90 percent of the unit  
Slope range: 1 to 3 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    1.5 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.7 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
    H1--0 to 16 inches; clay loam  
    H2--16 to 26 inches; clay loam  
    H3--26 to 60 inches; clay loam

#### 134--Okoboji Silty Clay Loam

##### Component Description

Okoboji and similar soils  
Extent: 100 percent of the unit  
Geomorphic description:  
    Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Silty clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    At the surface                March April  
Wet soil moisture status is lowest (depth, months):  
    2.0 feet                      February August  
Ponding does not occur (months):  
    January February May June July August September October  
    November December  
Ponding is deepest (depth, months):  
    1.0 foot                      April  
Available water capacity to a depth of 60 inches: 11.7 inches  
Content of organic matter in the upper 10 inches: 8.5 percent  
Typical profile:  
    H1--0 to 10 inches; silty clay loam  
    H2--10 to 45 inches; silty clay loam  
    H3--45 to 60 inches; silty clay loam

238B--Kilkenny Clay Loam, 2 To 6 Percent Slopes

Component Description

Kilkenny and similar soils

Extent: 90 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    2.5 feet                      April May June  
Wet soil moisture status is lowest (depth, months):  
    5.6 feet                      February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 9.5 inches  
Content of organic matter in the upper 10 inches: 2.6 percent  
Typical profile:  
    H1--0 to 7 inches; clay loam  
    H2--7 to 24 inches; clay loam  
    H3--24 to 60 inches; clay loam

239--Le Sueur Loam

Component Description

Le sueur and similar soils

Extent: 90 percent of the unit  
Slope range: 1 to 3 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Moderately well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    1.5 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.8 inches  
Content of organic matter in the upper 10 inches: 5.0 percent  
Typical profile:  
    H1--0 to 12 inches; loam  
    H2--12 to 30 inches; clay loam  
    H3--30 to 60 inches; loam

247--Linder Loam

Component Description

Linder and similar soils

Extent: 90 percent of the unit  
Slope range: 0 to 2 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    1.3 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    3.0 feet                      August  
Ponding: None  
Available water capacity to a depth of 60 inches: 5.9 inches  
Content of organic matter in the upper 10 inches: 3.5 percent  
Typical profile:  
    H1--0 to 16 inches; loam  
    H2--16 to 25 inches; sandy loam  
    H3--25 to 60 inches; gravelly sand

255--Mayer Loam

Component Description

Mayer and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flat

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 6.9 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

H1--0 to 22 inches; loam

H2--22 to 30 inches; loam

H3--30 to 60 inches; gravelly coarse sand

269--Millington Clay Loam, Occasionally Flooded

Component Description

Millington and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flood plain

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding does not occur (months):

January February September October November December

Flooding is most likely (frequency, months):

Occasional March April May June July August

Wet soil moisture status is highest (depth, months):

0.5 foot April

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 11.1 inches

Content of organic matter in the upper 10 inches: 5.0 percent

Typical profile:

H1--0 to 20 inches; loam

H2--20 to 36 inches; loam

H3--36 to 60 inches; loam

313--Spillville Loam, Occasionally Flooded

Component Description

Spillville and similar soils

Extent: 90 percent of the unit

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Flooding does not occur (months):

January February September October November December

Flooding is most likely (frequency, months):

Occasional March April May June July August

Wet soil moisture status is highest (depth, months):  
1.5 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.4 inches  
Content of organic matter in the upper 10 inches: 5.0 percent  
Typical profile:  
H1--0 to 40 inches; loam  
H2--40 to 60 inches; loam

### 327B--Dickman Sandy Loam, 1 To 6 Percent Slopes

#### Component Description

##### Dickman and similar soils

Extent: 90 percent of the unit  
Slope range: 1 to 6 percent  
Surface layer texture: Sandy loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 4.6 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 12 inches; sandy loam  
H2--12 to 19 inches; sandy loam  
H3--19 to 60 inches; sand

### 336--Delft Clay Loam

#### Component Description

##### Delft and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
Drainageway  
Slope range: 1 to 3 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 12.4 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 10 inches; clay loam  
H2--10 to 42 inches; clay loam  
H3--42 to 60 inches; loam

### 362--Millington Loam, Frequently Flooded

#### Component Description

##### Millington and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
Flood plain  
Slope range: 0 to 1 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained

Flooding does not occur (months):  
January February September October November December  
Flooding is most likely (frequency, months):  
Frequent March April May June  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.4 inches  
Content of organic matter in the upper 10 inches: 5.0 percent  
Typical profile:  
H1--0 to 15 inches; loam  
H2--15 to 38 inches; loam  
H3--38 to 60 inches; loam

### 386--Okoboji Mucky Silty Clay Loam

#### Component Description

Okoboji and similar soils  
Extent: 100 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Mucky silty clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
At the surface March April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet February August  
Ponding does not occur (months):  
January February May June July August September October  
November December  
Ponding is deepest (depth, months):  
1.0 foot April  
Available water capacity to a depth of 60 inches: 11.9 inches  
Content of organic matter in the upper 10 inches: 14.0 percent  
Typical profile:  
H1--0 to 10 inches; mucky silty clay loam  
H2--10 to 34 inches; silty clay loam  
H3--34 to 60 inches; silty clay loam

### 392--Biscay Clay Loam

#### Component Description

Biscay and similar soils  
Extent: 90 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 7.5 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 22 inches; clay loam  
H2--22 to 34 inches; clay loam  
H3--34 to 60 inches; gravelly coarse sand

414--Hamel Loam

Component Description

Hamel and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
  Drainageway  
Slope range: 1 to 3 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
  Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
  0.5 foot                   April  
Wet soil moisture status is lowest (depth, months):  
  3.3 feet                   February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.6 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
  H1--0 to 30 inches; loam  
  H2--30 to 42 inches; clay loam  
  H3--42 to 60 inches; loam

517--Shandep Clay Loam

Component Description

Shandep and similar soils

Extent: 100 percent of the unit  
Geomorphic description:  
  Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
  Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
  At the surface            March April  
Wet soil moisture status is lowest (depth, months):  
  2.0 feet                   February August  
Ponding does not occur (months):  
  January February May June July August September October  
  November December  
Ponding is deepest (depth, months):  
  1.0 foot                   April  
Available water capacity to a depth of 60 inches: 9.2 inches  
Content of organic matter in the upper 10 inches: 8.0 percent  
Typical profile:  
  H1--0 to 28 inches; clay loam  
  H2--28 to 41 inches; clay loam  
  H3--41 to 60 inches; loamy sand

525--Muskego Muck

Component Description

Muskego and similar soils

Extent: 100 percent of the unit  
Geomorphic description:  
  Depression  
Slope range: 0 to 2 percent  
Surface layer texture: Muck  
Depth to restrictive feature:  
  Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):

At the surface                      March April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet                              February August  
Ponding does not occur (months):  
January February May June July August September October  
November December  
Ponding is deepest (depth, months):  
1.0 foot                              April  
Available water capacity to a depth of 60 inches: 19.4 inches  
Content of organic matter in the upper 10 inches: 75.0 percent  
Typical profile:  
H1--0 to 9 inches; muck  
H2--9 to 36 inches;  
H3--36 to 60 inches; coprogenous earth

539--Klossner Muck

Component Description

Klossner and similar soils  
Extent: 100 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Muck  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
At the surface                      March April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet                              February August  
Ponding does not occur (months):  
January February May June July August September October  
November December  
Ponding is deepest (depth, months):  
1.0 foot                              April  
Available water capacity to a depth of 60 inches: 16.7 inches  
Content of organic matter in the upper 10 inches: 42.5 percent  
Typical profile:  
H1--0 to 24 inches; muck  
H2--24 to 42 inches; silty clay loam  
H3--42 to 60 inches; silty clay loam

611C--Hawick Coarse Sandy Loam, 4 To 12 Percent Slopes

Component Description

Hawick and similar soils  
Extent: 90 percent of the unit  
Slope range: 4 to 12 percent  
Surface layer texture: Coarse sandy loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 3.5 inches  
Content of organic matter in the upper 10 inches: 2.3 percent  
Typical profile:  
H1--0 to 9 inches; coarse sandy loam  
H2--9 to 16 inches; gravelly coarse sand  
H3--16 to 60 inches; gravelly coarse sand

887B--Clarion-Swanlake Complex, 2 To 6 Percent Slopes

Component Description

Clarion and similar soils

Extent: 60 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.1 inches  
Content of organic matter in the upper 10 inches: 4.5 percent  
Typical profile:  
    H1--0 to 10 inches; loam  
    H2--10 to 27 inches; loam  
    H3--27 to 60 inches; loam

#### Swanlake and similar soils

Extent: 25 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.1 inches  
Content of organic matter in the upper 10 inches: 2.5 percent  
Typical profile:  
    H1--0 to 8 inches; loam  
    H2--8 to 60 inches; loam

#### 920B--Clarion-Estherville Complex, 2 To 6 Percent Slopes

##### Component Description

#### Clarion and similar soils

Extent: 70 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.1 inches  
Content of organic matter in the upper 10 inches: 4.5 percent  
Typical profile:  
    H1--0 to 10 inches; loam  
    H2--10 to 32 inches; loam  
    H3--32 to 60 inches; loam

#### Estherville and similar soils

Extent: 20 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None

Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 4.4 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 10 inches; loam  
H2--10 to 16 inches; coarse sandy loam  
H3--16 to 60 inches; gravelly coarse sand

920C2--Clarion-Storden-Estherville Complex, 6 To 12 Percent Slopes, Eroded

Component Description

Clarion and similar soils

Extent: 40 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.0 inches  
Content of organic matter in the upper 10 inches: 2.6 percent  
Typical profile:  
H1--0 to 8 inches; loam  
H2--8 to 24 inches; loam  
H3--24 to 60 inches; loam

Storden and similar soils

Extent: 25 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.2 percent  
Typical profile:  
H1--0 to 7 inches; loam  
H2--7 to 60 inches; loam

Estherville and similar soils

Extent: 20 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 4.3 inches  
Content of organic matter in the upper 10 inches: 2.4 percent  
Typical profile:  
H1--0 to 8 inches; loam  
H2--8 to 16 inches; coarse sandy loam  
H3--16 to 60 inches; gravelly coarse sand

920D2--Clarion-Storden-Estherville Complex, 12 To 18 Percent Slopes, Eroded

Component Description

Clarion and similar soils

Extent: 45 percent of the unit  
Slope range: 12 to 18 percent  
Surface layer texture: Loam  
Depth to restrictive feature:

Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.0 inches  
Content of organic matter in the upper 10 inches: 2.6 percent  
Typical profile:  
H1--0 to 8 inches; loam  
H2--8 to 20 inches; loam  
H3--20 to 60 inches; loam

#### Storden and similar soils

Extent: 30 percent of the unit  
Slope range: 12 to 18 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.2 percent  
Typical profile:  
H1--0 to 7 inches; loam  
H2--7 to 60 inches; loam

#### Estherville and similar soils

Extent: 15 percent of the unit  
Slope range: 12 to 18 percent  
Surface layer texture: Sandy loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 3.7 inches  
Content of organic matter in the upper 10 inches: 2.2 percent  
Typical profile:  
H1--0 to 7 inches; sandy loam  
H2--7 to 12 inches; sandy loam  
H3--12 to 60 inches; gravelly coarse sand

### 921C2--Clarion-Storden Complex, 6 To 12 Percent Slopes, Eroded

#### Component Description

##### Clarion and similar soils

Extent: 55 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.0 inches  
Content of organic matter in the upper 10 inches: 2.6 percent  
Typical profile:  
H1--0 to 8 inches; loam  
H2--8 to 24 inches; loam  
H3--24 to 60 inches; loam

##### Storden and similar soils

Extent: 30 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained

Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.2 percent  
Typical profile:  
H1--0 to 8 inches; loam  
H2--8 to 60 inches; loam

944B--Lester-Storden-Estherville Complex, 2 To 6 Percent Slopes

Component Description

Lester and similar soils

Extent: 50 percent of the unit  
Slope range: 2 to 5 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
3.6 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet January February July August  
September October December

Ponding: None  
Available water capacity to a depth of 60 inches: 10.2 inches  
Content of organic matter in the upper 10 inches: 3.5 percent  
Typical profile:  
H1--0 to 8 inches; loam  
H2--8 to 28 inches; clay loam  
H3--28 to 60 inches; loam

Storden and similar soils

Extent: 25 percent of the unit  
Slope range: 4 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
3.6 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet January February July August  
September October December

Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.2 percent  
Typical profile:  
H1--0 to 7 inches; loam  
H2--7 to 60 inches; loam

Estherville and similar soils

Extent: 15 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Sandy loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 4.6 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 10 inches; sandy loam  
H2--10 to 18 inches; sandy loam  
H3--18 to 60 inches; gravelly coarse sand

945B--Lester-Storden Complex, 2 To 6 Percent Slopes



Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.2 percent  
Typical profile:  
H1--0 to 7 inches; loam  
H2--7 to 60 inches; loam

#### 956--Canisteo-Glencoe Complex

##### Component Description

###### Canisteo and similar soils

Extent: 55 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 9.7 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 10 inches; clay loam  
H2--10 to 22 inches; clay loam  
H3--22 to 60 inches; clay loam

###### Glencoe and similar soils

Extent: 30 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
At the surface March April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet February August  
Ponding does not occur (months):  
January February May June July August September October  
November December  
Ponding is deepest (depth, months):  
1.0 foot April  
Available water capacity to a depth of 60 inches: 11.1 inches  
Content of organic matter in the upper 10 inches: 7.5 percent  
Typical profile:  
H1--0 to 10 inches; clay loam  
H2--10 to 30 inches; clay loam  
H3--30 to 60 inches; clay loam

#### 960D2--Storden-Clarion Complex, 12 To 18 Percent Slopes, Eroded

##### Component Description

###### Storden and similar soils

Extent: 45 percent of the unit  
Slope range: 12 to 18 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None

Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.2 percent  
Typical profile:  
H1--0 to 7 inches; loam  
H2--7 to 60 inches; loam

#### Clarion and similar soils

Extent: 40 percent of the unit  
Slope range: 12 to 18 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.0 inches  
Content of organic matter in the upper 10 inches: 2.6 percent  
Typical profile:  
H1--0 to 8 inches; loam  
H2--8 to 22 inches; loam  
H3--22 to 60 inches; loam

#### 960F--Storden-Clarion Complex, 18 To 40 Percent Slopes

##### Component Description

#### Storden and similar soils

Extent: 45 percent of the unit  
Slope range: 18 to 40 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.6 inches  
Content of organic matter in the upper 10 inches: 1.5 percent  
Typical profile:  
H1--0 to 10 inches; loam  
H2--10 to 60 inches; loam

#### Clarion and similar soils

Extent: 40 percent of the unit  
Slope range: 18 to 40 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.1 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 12 inches; loam  
H2--12 to 22 inches; loam  
H3--22 to 60 inches; loam

#### 978--Cordova-Rolfe Complex

##### Component Description

#### Cordova and similar soils

Extent: 70 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam

Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.1 inches  
Content of organic matter in the upper 10 inches: 5.5 percent  
Typical profile:  
H1--0 to 18 inches; clay loam  
H2--18 to 30 inches; clay loam  
H3--30 to 60 inches; loam

Rolfe and similar soils

Extent: 30 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
At the surface March April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet February August  
Ponding does not occur (months):  
January February May June July August September October  
November December  
Ponding is deepest (depth, months):  
1.0 foot April  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 4.0 percent  
Typical profile:  
H2--0 to 14 inches; loam  
H1--14 to 26 inches; loam  
H3--26 to 43 inches; silty clay  
H4--43 to 60 inches; loam

1016--Udorthents, Loamy

Component Description

Udorthents and similar soils

Extent: 90 percent of the unit  
Slope range: 0 to 18 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Ponding: None  
Available water capacity to a depth of 60 inches: 6.6 inches  
Content of organic matter in the upper 10 inches: 0.8 percent  
Typical profile:  
H1--0 to 60 inches; loam

1030--Udorthents-Pits, Gravel Complex

Component Description

Udorthents and similar soils

Extent: 50 percent of the unit  
Slope range: 0 to 50 percent  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None

Ponding: None  
Typical profile:  
H1--0 to 60 inches;

Pits and similar soils

Extent: 40 percent of the unit  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Flooding: None  
Ponding: None

1075--Klossner-Muskego Complex, Ponded

Component Description

Klossner and similar soils

Extent: 45 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Muck  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status: At the surface all year  
Ponding: At 1.5 feet all year  
Available water capacity to a depth of 60 inches: 18.7 inches  
Content of organic matter in the upper 10 inches: 42.5 percent  
Typical profile:  
H1--0 to 36 inches; muck  
H2--36 to 60 inches; clay loam

Muskego and similar soils

Extent: 40 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture:  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status: At the surface all year  
Ponding: At 2.0 feet all year  
Available water capacity to a depth of 60 inches: 20.2 inches  
Content of organic matter in the upper 10 inches: 42.5 percent  
Typical profile:  
H1--0 to 40 inches;  
H2--40 to 60 inches; coprogenous earth

1080--Klossner-Okoboji-Glencoe Complex, Ponded

Component Description

Klossner and similar soils

Extent: 35 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Muck  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status: At the surface all year  
Ponding: At 1.5 feet all year  
Available water capacity to a depth of 60 inches: 15.2 inches  
Content of organic matter in the upper 10 inches: 42.5 percent  
Typical profile:  
H1--0 to 20 inches; muck  
H2--20 to 60 inches; clay loam

Okoboji and similar soils

Extent: 30 percent of the unit

Geomorphic description:

Depression

Slope range: 0 to 1 percent

Surface layer texture: Silty clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Very poorly drained

Flooding: None

Wet soil moisture status: At the surface all year

Ponding: At 1.5 feet all year

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

H1--0 to 8 inches; silty clay loam

H2--8 to 30 inches; silty clay loam

H3--30 to 60 inches; silty clay loam

Glencoe and similar soils

Extent: 25 percent of the unit

Geomorphic description:

Depression

Slope range: 0 to 1 percent

Surface layer texture: Clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Very poorly drained

Flooding: None

Wet soil moisture status: At the surface all year

Ponding: At 1.5 feet all year

Available water capacity to a depth of 60 inches: 11.0 inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

H1--0 to 26 inches; clay loam

H2--26 to 30 inches; clay loam

H3--30 to 60 inches; loam

1084--Hanlon-Kalmarville Complex, Frequently Flooded

Component Description

Hanlon and similar soils

Extent: 50 percent of the unit

Slope range: 0 to 3 percent

Surface layer texture: Fine sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Flooding does not occur (months):

January February September October November December

Flooding is most likely (frequency, months):

Frequent March April May June

Wet soil moisture status is highest (depth, months):

1.5 feet April

Wet soil moisture status is lowest (depth, months):

More than 5.0 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 9.2 inches

Content of organic matter in the upper 10 inches: 2.5 percent

Typical profile:

H1--0 to 16 inches; fine sandy loam

H2--16 to 40 inches; fine sandy loam

H3--40 to 60 inches; fine sandy loam

Kalmarville and similar soils

Extent: 40 percent of the unit

Geomorphic description:

Flood plain

Slope range: 0 to 1 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding does not occur (months):  
January February September October November December  
Flooding is most likely (frequency, months):  
Frequent March April May June  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 9.6 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 32 inches; sandy loam  
H2--32 to 60 inches; silt loam

#### 1091--Klossner, Sandy Substratum-Harps-Mayer Complex

##### Component Description

Klossner, sandy substratum and similar soils  
Extent: 40 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 2 percent  
Surface layer texture: Muck  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
At the surface March April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet February August  
Ponding does not occur (months):  
January February May June July August September October  
November December  
Ponding is deepest (depth, months):  
1.0 foot April  
Available water capacity to a depth of 60 inches: 11.3 inches  
Content of organic matter in the upper 10 inches: 35.0 percent  
Typical profile:  
H1--0 to 18 inches; muck  
H2--18 to 30 inches; sandy clay loam  
H3--30 to 60 inches; gravelly loamy coarse sand

##### Harps and similar soils

Extent: 30 percent of the unit  
Geomorphic description:  
Rim  
Slope range: 0 to 3 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.6 inches  
Content of organic matter in the upper 10 inches: 4.5 percent  
Typical profile:  
H1--0 to 10 inches; loam  
H2--10 to 20 inches; clay loam  
H3--20 to 60 inches; loam

##### Mayer and similar soils

Extent: 20 percent of the unit  
Geomorphic description:  
Flat

Slope range: 0 to 2 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    0.5 foot                      April  
Wet soil moisture status is lowest (depth, months):  
    3.3 feet                      February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 7.0 inches  
Content of organic matter in the upper 10 inches: 5.8 percent  
Typical profile:  
    H1--0 to 9 inches; loam  
    H2--9 to 33 inches; clay loam  
    H3--33 to 60 inches; gravelly coarse sand

## 1092--Harps-Glencoe Complex

### Component Description

#### Harps and similar soils

Extent: 50 percent of the unit  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    0.5 foot                      April  
Wet soil moisture status is lowest (depth, months):  
    3.3 feet                      February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.9 inches  
Content of organic matter in the upper 10 inches: 4.0 percent  
Typical profile:  
    H1--0 to 18 inches; clay loam  
    H2--18 to 36 inches; loam  
    H3--36 to 60 inches; loam

#### Glencoe and similar soils

Extent: 35 percent of the unit  
Geomorphic description:  
    Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    At the surface                January February March April May  
                                    June July October November  
                                    December  
Wet soil moisture status is lowest (depth, months):  
    More than 6.0 feet            August September  
Ponding does not occur (months):  
    August September  
Ponding is deepest (depth, months):  
    0.5 foot                      January February March April May  
                                    June July October November  
                                    December  
Available water capacity to a depth of 60 inches: 11.2 inches  
Content of organic matter in the upper 10 inches: 7.5 percent  
Typical profile:  
    H1--0 to 26 inches; clay loam  
    H2--26 to 36 inches; clay loam  
    H3--36 to 50 inches; clay loam  
    H4--50 to 60 inches; clay loam

1095--Zook Silty Clay Loam, Frequently Flooded

Component Description

Zook and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flood plain

Slope range: 0 to 1 percent

Surface layer texture: Silty clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding does not occur (months):

January February September October November December

Flooding is most likely (frequency, months):

Frequent March April May June

Wet soil moisture status is highest (depth, months):

0.5 foot April

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 10.7 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

H1--0 to 30 inches; silty clay loam

H2--30 to 50 inches; silty clay

H3--50 to 60 inches; silty clay loam

1159B--Strout-Arkton Complex, 2 To 6 Percent Slopes

Component Description

Strout and similar soils

Extent: 75 percent of the unit

Slope range: 2 to 6 percent

Surface layer texture: Clay

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet April May June

Wet soil moisture status is lowest (depth, months):

5.6 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 8.5 inches

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

H1--0 to 10 inches; clay

H2--10 to 24 inches; clay

H3--24 to 60 inches; clay loam

Arkton and similar soils

Extent: 15 percent of the unit

Slope range: 4 to 6 percent

Surface layer texture: Clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet April May June

Wet soil moisture status is lowest (depth, months):

5.6 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 9.2 inches

Content of organic matter in the upper 10 inches: 3.3 percent

Typical profile:

H1--0 to 9 inches; clay loam

H2--9 to 60 inches; clay loam

1193--Cosmos Silty Clay

Component Description

Cosmos and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flat

Slope range: 0 to 2 percent

Surface layer texture: Silty clay

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 9.6 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

H1--0 to 20 inches; silty clay

H2--20 to 36 inches; silty clay

H3--36 to 60 inches; clay loam

1204B--Cokato Loam, 2 To 6 Percent Slopes

Component Description

Cokato and similar soils

Extent: 90 percent of the unit

Slope range: 2 to 5 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet April

Wet soil moisture status is lowest (depth, months):

More than 5.0 feet January February July August  
September October December

Ponding: None

Available water capacity to a depth of 60 inches: 10.3 inches

Content of organic matter in the upper 10 inches: 4.0 percent

Typical profile:

H1--0 to 11 inches; loam

H2--11 to 28 inches; clay loam

H3--28 to 60 inches; loam

1207B--Cokato-Le Sueur Complex, 1 To 6 Percent Slopes

Component Description

Cokato and similar soils

Extent: 45 percent of the unit

Slope range: 2 to 5 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet April

Wet soil moisture status is lowest (depth, months):

More than 5.0 feet January February July August  
September October December

Ponding: None

Available water capacity to a depth of 60 inches: 10.4 inches

Content of organic matter in the upper 10 inches: 4.0 percent

Typical profile:

H1--0 to 12 inches; loam  
H2--12 to 31 inches; clay loam  
H3--31 to 60 inches; loam

Le sueur and similar soils

Extent: 40 percent of the unit  
Slope range: 1 to 4 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Moderately well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    1.5 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.9 inches  
Content of organic matter in the upper 10 inches: 5.0 percent  
Typical profile:  
    H1--0 to 15 inches; loam  
    H2--15 to 32 inches; clay loam  
    H3--32 to 60 inches; loam

1213B--Cokato-Storden Complex, 2 To 6 Percent Slopes

Component Description

Cokato and similar soils

Extent: 55 percent of the unit  
Slope range: 2 to 5 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.3 inches  
Content of organic matter in the upper 10 inches: 4.0 percent  
Typical profile:  
    H1--0 to 11 inches; loam  
    H2--11 to 30 inches; clay loam  
    H3--30 to 60 inches; loam

Storden and similar soils

Extent: 30 percent of the unit  
Slope range: 4 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.2 percent  
Typical profile:  
    H1--0 to 8 inches; loam  
    H2--8 to 60 inches; loam

1213C--Cokato-Storden Complex, 6 To 12 Percent Slopes, Eroded

Component Description

Cokato and similar soils

Extent: 50 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.2 inches  
Content of organic matter in the upper 10 inches: 3.8 percent  
Typical profile:  
    H1--0 to 9 inches; clay loam  
    H2--9 to 25 inches; clay loam  
    H3--25 to 60 inches; loam

Storden and similar soils

Extent: 40 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.2 percent  
Typical profile:  
    H1--0 to 8 inches; loam  
    H2--8 to 60 inches; loam

1228--Hoopeston-Le Sueur Complex

Component Description

Hoopeston and similar soils

Extent: 60 percent of the unit  
Slope range: 1 to 3 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    1.0 foot                      January March April May  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet           August  
Ponding: None  
Available water capacity to a depth of 60 inches: 7.0 inches  
Content of organic matter in the upper 10 inches: 2.5 percent  
Typical profile:  
    H1--0 to 20 inches; loam  
    H2--20 to 34 inches; sandy loam  
    H3--34 to 60 inches; sand

Le sueur and similar soils

Extent: 30 percent of the unit  
Slope range: 1 to 3 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Moderately well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    1.5 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet           February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 5.0 percent

Typical profile:

H1--0 to 18 inches; clay loam  
H2--18 to 32 inches; clay loam  
H3--32 to 60 inches; loam

1229B--Cokato-Storden-Estherville Complex, 2 To 6 Percent Slopes

Component Description

Cokato and similar soils

Extent: 45 percent of the unit  
Slope range: 2 to 5 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.4 inches  
Content of organic matter in the upper 10 inches: 4.0 percent  
Typical profile:  
    H1--0 to 12 inches; loam  
    H2--12 to 36 inches; clay loam  
    H3--36 to 60 inches; loam

Storden and similar soils

Extent: 25 percent of the unit  
Slope range: 4 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.2 percent  
Typical profile:  
    H1--0 to 7 inches; loam  
    H2--7 to 60 inches; loam

Estherville and similar soils

Extent: 20 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Sandy loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 4.4 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
    H1--0 to 10 inches; sandy loam  
    H2--10 to 20 inches; sandy loam  
    H3--20 to 60 inches; coarse sand

1356--Water, Miscellaneous

Component Description

Water, miscellaneous

Extent: 100 percent of the unit

1833--Coland Clay Loam, Occasionally Flooded

Component Description

Coland and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flood plain

Slope range: 0 to 2 percent

Surface layer texture: Clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding does not occur (months):

January February September October November December

Flooding is most likely (frequency, months):

Occasional March April May June July August

Wet soil moisture status is highest (depth, months):

0.5 foot April

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 11.9 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

H1--0 to 10 inches; clay loam

H2--10 to 48 inches; clay loam

H3--48 to 60 inches; loam

1834--Coland Clay Loam, Frequently Flooded

Component Description

Coland and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flood plain

Slope range: 0 to 2 percent

Surface layer texture: Clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding does not occur (months):

January February September October November December

Flooding is most likely (frequency, months):

Frequent March April May June

Wet soil moisture status is highest (depth, months):

0.5 foot April

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 12.0 inches

Content of organic matter in the upper 10 inches: 5.8 percent

Typical profile:

H1--0 to 9 inches; clay loam

H2--9 to 50 inches; clay loam

H3--50 to 60 inches; loam

1901B--Lester-Le Sueur Complex, 1 To 6 Percent Slopes

Component Description

Lester and similar soils

Extent: 45 percent of the unit

Slope range: 2 to 5 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet April

Wet soil moisture status is lowest (depth, months):

More than 5.0 feet January February July August  
September October December

Ponding: None

Available water capacity to a depth of 60 inches: 10.5 inches

Content of organic matter in the upper 10 inches: 2.4 percent

Typical profile:

H1--0 to 9 inches; loam

H2--9 to 30 inches; clay loam

H3--30 to 60 inches; loam

Le sueur and similar soils

Extent: 40 percent of the unit

Slope range: 1 to 3 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet April

Wet soil moisture status is lowest (depth, months):

More than 5.0 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 11.0 inches

Content of organic matter in the upper 10 inches: 5.0 percent

Typical profile:

H1--0 to 16 inches; loam

H2--16 to 35 inches; clay loam

H3--35 to 60 inches; loam

W--Water

Component Description

Water

Extent: 95 percent of the unit