

015LS—Ladysmith silty clay loam, 0 to 2 percent slopes

Map Unit Composition

Ladysmith: 90 percent

Component Descriptions

Ladysmith

MLRA: 75 - Central Loess Plains

Landform: Ridge on upland

Hillslope position: Summit, shoulder

Parent material: Clayey alluvium

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Impermeable (About 0.00 in/hr)

Available water capacity: Moderate (About 8.7 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Ponding hazard: None

Depth to seasonal water saturation: About 0 to 0 inches

Runoff class: High

Ecological site: Clay Upland (pe30-36)

Land capability (nonirrigated): 2s

Typical Profile:

A—0 to 7 inches; silty clay loam

Bt1—7 to 15 inches; silty clay

Bt2—15 to 30 inches; clay

Bck—30 to 38 inches; clay

C—38 to 60 inches; silty clay

Available water capacity: High (About 10.9 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Clay Upland (pe25-34)

Land capability (irrigated): 2s

Land capability (nonirrigated): 2s

Typical Profile:

Ap—0 to 5 inches; silt loam

BA—5 to 9 inches; silty clay loam

Bt1—9 to 19 inches; silty clay loam

Bt2—19 to 27 inches; silty clay

Bt3—27 to 38 inches; silty clay

BC—38 to 48 inches; silty clay loam

C—48 to 80 inches; silty clay loam

Minor Components

Unnamed Wet Soils

Phase: Clayey, Drainageway

Unnamed Wet Soils

Phase: Clayey, Depression

General Considerations: Most areas are used as cropland. This mapunit is well suited to all commonly grown crops. Wheat, grain sorghum, and soybeans are the major crops. A few areas are planted to irrigated corn. The hazard of water erosion is slight and wind erosion is moderate. This problem can be overcome by using a conservation tillage and residue management. This mapunit is moderately well suited for most engineering uses.

079CR—Crete silt loam, 0 to 1 percent slopes

Map Unit Composition

Crete: 100 percent

Component Descriptions

Crete

MLRA: 75 - Central Loess Plains

Landform: Upland

Parent material: Silty and clayey loess

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Slowest permeability: Slow (About 0.06 in/hr)

079CT—Crete silt loam, 1 to 3 percent slopes

Map Unit Composition

Crete: 100 percent

Component Descriptions

Crete

MLRA: 75 - Central Loess Plains

Landform: Hillslope on upland

Parent material: Silty and clayey loess

Slope: 1 to 3 percent

Drainage class: Moderately well drained

Slowest permeability: Slow (About 0.06 in/hr)

Available water capacity: High (About 10.9 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Clay Upland (pe25-34)
Land capability (irrigated): 2e
Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 5 inches; silt loam
 BA—5 to 9 inches; silty clay loam
 Bt1—9 to 19 inches; silty clay
 Bt2—19 to 27 inches; silty clay
 Bt3—27 to 38 inches; silty clay
 BC—38 to 48 inches; silty clay loam
 C—48 to 80 inches; silt loam

Minor Components
Unnamed Wet Soils

General Considerations: Most areas are used as cropland. This mapunit is well suited to all commonly grown crops. Wheat, grain sorghum, and soybeans are the major crops. A few areas are planted to irrigated corn. The hazard of water and wind erosion is moderate. Ephemeral gully erosion potential is moderate in most areas. This problem can be overcome by using a conservation tillage, tall grass barriers, contour farming, terraces and waterways, and residue management. This mapunit is moderately well suited for most engineering uses. The high clay content and shrink-swell may limit some practices.

079DE—Detroit silty clay loam, rarely flooded
Map Unit Composition

Detroit: 100 percent

Component Descriptions

Detroit

MLRA: 75 - Central Loess Plains
Landform: River valley, flood plain
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Slowest permeability: Slow (About 0.06 in/hr)
Available water capacity: High (About 10.8 inches)

Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Loamy Terrace (pe25-34)
Land capability (irrigated): 1
Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 11 inches; silty clay loam
 H2—11 to 36 inches; silty clay
 H3—36 to 60 inches; silty clay loam

079DU—Drummond complex, 0 to 1 percent slopes

Map Unit Composition

Drummond: 75 percent

Component Descriptions

Drummond

MLRA: 79 - Great Bend Sand Plains
Landform: Terrace on river valley
Parent material: Clayey and/or loamy alluvium
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Low (About 5.4 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: About 24 to 48 inches
Runoff class: Negligible
Ecological site: Saline Lowland (pe25-34)
Land capability (nonirrigated): 6s

Typical Profile:

H1—0 to 9 inches; loam
 H2—9 to 60 inches; silty clay loam

Minor Components
Carwile

Unnamed Hydric Soils

Unnamed Hydric Soils

079FA—Farnum fine sandy loam, 0 to 1 percent slopes

Map Unit Composition

Farnum: 100 percent

Component Descriptions

Farnum

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 9.6 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Sandy (pe25-34)

Land capability (irrigated): 1

Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 14 inches; fine sandy loam

H2—14 to 45 inches; clay loam

H3—45 to 60 inches; sandy loam

Minor Components

Carwile

Unnamed Wet Soils

Phase: Loamy, Depression

079FE—Farnum loam, 3 to 6 percent slopes

Map Unit Composition

Farnum: 100 percent

Component Descriptions

Farnum

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.2 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Loamy Upland (pe25-34)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 11 inches; loam

H2—11 to 45 inches; clay loam

H3—45 to 60 inches; sandy loam

079GD—Geary silt loam, 1 to 3 percent slopes

Map Unit Composition

Geary: 100 percent

Component Descriptions

Geary

MLRA: 75 - Central Loess Plains

Landform: Hillslope on upland

Parent material: Loess

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.1 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Loamy Upland (pe25-34)

Land capability (irrigated): 2e

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 9 inches; silt loam

H2—9 to 35 inches;

H3—35 to 60 inches;

079KA—Kaski loam, occasionally flooded**Map Unit Composition**

Kaski: 100 percent

Component Descriptions**Kaski**

MLRA: 79 - Great Bend Sand Plains

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: Occasional

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Loamy Lowland (pe25-34)

Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 24 inches; loam

H2—24 to 41 inches; clay loam

H3—41 to 60 inches; clay loam

Minor Components**Unnamed Wet Soils**

Phase: Loamy, Drainageway

079LA—Ladysmith silty clay loam, 0 to 1 percent slopes**Map Unit Composition**

Ladysmith: 100 percent

Component Descriptions**Ladysmith**

MLRA: 75 - Central Loess Plains

Landform: Paleoterrace on upland

Parent material: Clayey alluvium

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Impermeable (About 0.00 in/hr)

Available water capacity: Moderate (About 8.8 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Clay Upland (pe25-34)

Land capability (nonirrigated): 2s

Typical Profile:

H1—0 to 10 inches; silty clay loam

H2—10 to 45 inches; silty clay

H3—45 to 60 inches; silty clay loam

Minor Components**Unnamed Wet Soils**

Phase: Clayey, Drainageway

Unnamed Wet Soils

Phase: Clayey, Depression

079LB—Ladysmith silty clay loam, 1 to 2 percent slopes**Map Unit Composition**

Ladysmith: 100 percent

Component Descriptions**Ladysmith**

MLRA: 75 - Central Loess Plains

Landform: Paleoterrace on upland

Parent material: Clayey alluvium

Slope: 1 to 2 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Impermeable (About 0.00 in/hr)

Available water capacity: Moderate (About 8.8 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Clay Upland (pe25-34)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 10 inches; silty clay loam

H2—10 to 45 inches; silty clay

H3—45 to 60 inches; silty clay loam

Minor Components
Unnamed Hydric Soils

Unnamed Hydric Soils

079SM—Smolan silty clay loam, 1 to 3 percent slopes

Map Unit Composition

Smolan: 90 percent
Minor components: 10 percent

Component Descriptions

Smolan

MLRA: 75 - Central Loess Plains
Landform: Hillslope on upland
Hillslope position: Footslope
Parent material: Silty and clayey loess
Slope: 1 to 3 percent
Drainage class: Moderately well drained
Slowest permeability: Slow (About 0.06 in/hr)
Available water capacity: High (About 10.7 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Loamy Upland (pe25-34)
Land capability (irrigated): 2e
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 8 inches; silty clay loam
H2—8 to 15 inches; silty clay loam
H3—15 to 40 inches; silty clay
H4—40 to 60 inches; silty clay loam

Minor Components

Norge

Composition: About 5 percent
Slope: 1 to 3 percent
Drainage class: Well drained
Ecological site: Loamy Upland (pe24-32)

Labette

Composition: About 5 percent
Slope: 3 to 7 percent
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Ecological site: Loamy Upland (pe30-36)

095AD—Albion sandy loam, 6 to 15 percent slopes

Map Unit Composition

Albion: 100 percent

Component Descriptions

Albion

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 6 to 15 percent
Drainage class: Well drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Low (About 5.8 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Sandy (pe24-32)
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 8 inches; sandy loam
H2—8 to 16 inches; sandy loam
H3—16 to 26 inches; coarse sandy loam
H4—26 to 60 inches; gravelly sand

095LA—Lincoln loamy sand, occasionally flooded

Map Unit Composition

Lincoln: 100 percent

Component Descriptions

Lincoln

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Alluvium
Slope: 0 to 2 percent
Drainage class: Somewhat excessively drained
Slowest permeability: Rapid (About 5.95 in/hr)
Available water capacity: Low (About 3.3 inches)
Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Occasional
Depth to seasonal water saturation: About 60 to 72 inches
Runoff class: Negligible
Ecological site: Sandy Lowland (pe24-32)
Land capability (nonirrigated): 6w

Typical Profile:
 H1—0 to 10 inches; loamy fine sand
 H2—10 to 60 inches; stratified fine sand to clay loam

Minor Components
Unnamed Wet Soils
Phase: Sandy, Drainageway

095WA—Waldeck fine sandy loam, occasionally flooded

Map Unit Composition

Waldeck: 100 percent

Component Descriptions

Waldeck
MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Moderate (About 7.6 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: About 24 to 48 inches
Runoff class: Negligible
Ecological site: Subirrigated (pe21-28)
Land capability (nonirrigated): 3w

Typical Profile:
 H1—0 to 25 inches; fine sandy loam
 H2—25 to 42 inches; fine sandy loam
 H3—42 to 60 inches; sand

Minor Components
Unnamed Wet Soils
Phase: Sandy, Depression

191BA—Bethany silt loam, 0 to 1 percent slopes

Map Unit Composition

Bethany: 100 percent

Component Descriptions

Bethany
MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on upland
Parent material: Alluvium and/or loess over shale
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 9.0 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Loamy Upland (pe25-34)
Land capability (nonirrigated): 2c

Typical Profile:
 H1—0 to 6 inches; silt loam
 H2—6 to 17 inches; clay
 H3—17 to 60 inches; clay

191BB—Bethany silt loam, 1 to 3 percent slopes

Map Unit Composition

Bethany: 100 percent

Component Descriptions

Bethany
MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on upland
Parent material: Alluvium and/or loess over shale
Slope: 1 to 3 percent
Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 9.0 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Loamy Upland (pe25-34)
Land capability (nonirrigated): 2e

Typical Profile:
 H1—0 to 6 inches; silt loam
 H2—6 to 17 inches; clay
 H3—17 to 60 inches; clay

191DR—Dale And Reinach silt loams, rarely flooded

Map Unit Composition

Dale: 50 percent
 Reinach: 50 percent

Component Descriptions

Dale

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.8 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Loamy Terrace (pe24-32)
Land capability (nonirrigated): 1

Typical Profile:
 H1—0 to 21 inches; silt loam
 H2—21 to 60 inches; silt loam

Reinach

MLRA: 79 - Great Bend Sand Plains
Slope: 0 to 1 percent

Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.2 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Loamy Terrace (pe24-32)
Land capability (nonirrigated): 1

Typical Profile:
 H1—0 to 80 inches; silt loam

191EA—Elandco silty clay loam, rarely flooded

Map Unit Composition

Elandco: 100 percent

Component Descriptions

Elandco

MLRA: 75 - Central Loess Plains, 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.2 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Loamy Terrace (pe24-32)
Land capability (nonirrigated): 1

Typical Profile:
 H1—0 to 40 inches; silt loam
 H2—40 to 60 inches; silt loam

Minor Components **Unnamed Hydric Soils**

Unnamed Hydric Soils

Unnamed Wet Soils*Phase: Loamy, Drainageway***191LO—Lesho clay loam,
occasionally flooded****Map Unit Composition**

Lesho: 100 percent

Component Descriptions**Lesho***MLRA: 79 - Great Bend Sand Plains**Landform: Flood plain on river valley**Parent material: Alluvium**Slope: 0 to 1 percent**Drainage class: Somewhat poorly drained**Slowest permeability: Moderately slow (About 0.20 in/hr)**Available water capacity: Moderate (About 7.4 inches)**Shrink-swell potential: Moderate (About 4.5 LEP)**Flooding hazard: Occasional**Depth to seasonal water saturation: About 24 to 48 inches**Runoff class: Negligible**Ecological site: Subirrigated (pe24-32)**Land capability (nonirrigated): 3w**Typical Profile:*

H1—0 to 18 inches; clay loam

H2—18 to 32 inches; clay loam

H3—32 to 60 inches; fine sand

Minor Components**Unnamed Wet Soils***Phase: Loamy, Drainageway***1011—Albion-Shellabarger sandy
loams, 1 to 3 percent slopes****Map Unit Composition**

Albion: 70 percent

Shellabarger: 30 percent

Component Descriptions**Albion***MLRA: 79 - Great Bend Sand Plains**Landform: Paleoterrace on river valley**Parent material: Loamy alluvium**Slope: 1 to 3 percent**Drainage class: Well drained**Slowest permeability: Moderately rapid (About 2.00 in/hr)**Available water capacity: Moderate (About 7.3 inches)**Shrink-swell potential: Low (About 1.5 LEP)**Flooding hazard: None**Depth to seasonal water saturation: More than 6 feet**Runoff class: Low**Ecological site: Sandy (pe21-28)**Land capability (nonirrigated): 3e**Typical Profile:*

Ap—0 to 9 inches; sandy loam

Bt1—9 to 16 inches; sandy loam

Bt2—16 to 27 inches; sandy loam

BC—27 to 48 inches; loamy coarse sand

C—48 to 80 inches; sand

Shellabarger*MLRA: 79 - Great Bend Sand Plains**Landform: Paleoterrace on river valley**Parent material: Loamy alluvium**Slope: 1 to 3 percent**Drainage class: Well drained**Slowest permeability: Moderate (About 0.60 in/hr)**Available water capacity: Moderate (About 8.5 inches)**Shrink-swell potential: Low (About 1.5 LEP)**Flooding hazard: None**Depth to seasonal water saturation: More than 6 feet**Runoff class: Low**Ecological site: Sandy (pe21-28)**Land capability (nonirrigated): 2e**Typical Profile:*

Ap—0 to 7 inches; sandy loam

Bt1—7 to 11 inches; sandy clay loam

Bt2—11 to 19 inches; sandy clay loam

Bt3—19 to 33 inches; sandy loam

BC—33 to 47 inches; coarse sandy loam

C1—47 to 59 inches; loamy sand

C2—59 to 73 inches; sand

C3—73 to 80 inches; sand

Minor Components**Unnamed Wet Soils***General Considerations: Most areas are used as cropland, but some areas are in pasture or range. This map unit is moderately well*

suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is severe and the hazard of water erosion is moderate for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind and water erosion can be controlled maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. In some places, soil test results may show soil reaction (pH) in the strongly acid range. Additions of lime may be required for optimum nutrient balance. The moderately rapid permeability and relatively shallow depths to sandy textures can limit some of the engineering uses of these soils.

1070—Avans loam, 0 to 1 percent slopes

Map Unit Composition

Avans: 100 percent

Component Descriptions

Avans

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.8 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Loamy Upland (pe21-28)

Land capability (nonirrigated): 1

Typical Profile:

Ap1—0 to 5 inches; loam

Ap2—5 to 10 inches; loam

BA—10 to 14 inches; loam

Bt1—14 to 19 inches; clay loam

Bt2—19 to 30 inches; clay loam

Bt3—30 to 43 inches; loam

Bt4—43 to 53 inches; loam

Btk1—53 to 65 inches; silt loam

Btk2—65 to 80 inches; loam

Minor Components

Unnamed Wet Soils

General Considerations: Most areas are used as cropland. This mapunit is well suited to all commonly grown crops. Wheat, grain sorghum, and soybeans are the major crops. A few areas are planted to irrigated corn. The hazard of water erosion is slight and wind erosion is moderate. This problem can be overcome by using a conservation tillage and residue management. This mapunit is moderately well suited for most engineering uses.

1071—Avans loam, 1 to 3 percent slopes

Map Unit Composition

Avans: 85 percent

Minor components: 15 percent

Component Descriptions

Avans

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.8 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Loamy Upland (pe21-28)

Land capability (nonirrigated): 1

Typical Profile:

Ap1—0 to 5 inches; loam

Ap2—5 to 10 inches; loam

BA—10 to 14 inches; silt loam

Bt1—14 to 19 inches; clay loam
 Bt2—19 to 30 inches; loam
 Bt3—30 to 43 inches; loam
 Bt4—43 to 53 inches; silt loam
 Btk1—53 to 65 inches; silt loam
 Btk2—65 to 80 inches; loam

Minor Components

Ost

Composition: About 15 percent
Slope: 1 to 3 percent
Drainage class: Well drained
Ecological site: Loamy Upland (pe24-32)

Unnamed Wet Soils

General Considerations: Most areas are used as cropland. This mapunit is well suited to all commonly grown crops. Wheat, grain sorghum, and soybeans are the major crops. A few areas are planted to irrigated corn. The hazard of water and wind erosion is moderate. Ephemeral gully erosion potential is moderate in most areas. This problem can be overcome by using a conservation tillage system, tall grass barriers, contour farming, terraces and waterways, and residue management. This mapunit is moderately well suited for most engineering uses.

1072—Avans loam, 3 to 7 percent slopes

Map Unit Composition

Avans: 85 percent
 Minor components: 15 percent

Component Descriptions

Avans

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 3 to 7 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.8 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium
Ecological site: Loamy Upland (pe21-28)
Land capability (nonirrigated): 2e

Typical Profile:

Ap1—0 to 5 inches; loam
 Ap2—5 to 10 inches; loam
 BA—10 to 14 inches; silt loam
 Bt1—14 to 19 inches; clay loam
 Bt2—19 to 30 inches; loam
 Bt3—30 to 43 inches; loam
 Bt4—43 to 53 inches; silt loam
 Btk1—53 to 65 inches; silt loam
 Btk2—65 to 80 inches; loam

Minor Components

Ost

Composition: About 15 percent
Slope: 3 to 6 percent
Drainage class: Well drained
Ecological site: Loamy Upland (pe24-32)

Unnamed Wet Soils

General Considerations: Most areas are used as cropland, but some are used for pasture or range. This mapunit is moderately well suited to all commonly grown crops. Wheat, grain sorghum, and soybeans are the major crops. The hazard of water erosion is severe and wind erosion is moderate. Ephemeral gully erosion potential is also severe. This problem can be overcome by using a conservation tillage, tall grass barriers, contour farming, terraces and waterways, and residue management. This mapunit is moderately well suited for most engineering uses.

2204—Jamash-Piedmont clay loams, 0 to 1 percent slopes

Map Unit Composition

Jamash: 50 percent
 Piedmont: 50 percent

Component Descriptions

Jamash

MLRA: 80A - Central Rolling Red Prairies
Landform: Pediment on upland
Parent material: Residuum weathered from shale, unspecified
Slope: 0 to 1 percent

Depth to restrictive feature: 12 to 15 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Very low (About 2.5 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Shallow Prairie (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:

Ap—0 to 4 inches; clay loam
 Bw—4 to 11 inches; silty clay loam
 BC—11 to 15 inches; silty clay loam
 Cr1—15 to 28 inches; weathered bedrock
 Cr2—28 to 80 inches; weathered bedrock

Piedmont

MLRA: 80A - Central Rolling Red Prairies
Landform: Pediment on upland
Parent material: Residuum weathered from shale, clayey
Slope: 0 to 1 percent
Depth to restrictive feature: 32 to 36 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Low (About 5.4 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Clay Upland (pe24-32)
Land capability (nonirrigated): 2e

Typical Profile:

Ap1—0 to 4 inches; clay loam
 Ap2—4 to 7 inches; clay loam
 Bt1—7 to 13 inches; clay
 Bt2—13 to 20 inches; clay
 Btk—20 to 24 inches; silty clay
 Bck—24 to 32 inches; silty clay
 Cr—32 to 80 inches; weathered bedrock

Minor Components
Unnamed Wet Soils

General Considerations: Most areas are used as cropland, but some areas are used for pasture or range. This map unit is poorly suited for the commonly grown crops such as wheat and grain sorghum. The hazard of

wind erosion is severe and water erosion is slight. Wind erosion can be controlled through conservation tillage practices. The shallow depth to bedrock and slow permeability can limit some engineering uses of this soil.

2205—Jamash-Piedmont clay loams, 1 to 3 percent slopes

Map Unit Composition

Jamash: 60 percent
 Piedmont: 40 percent

Component Descriptions

Jamash

MLRA: 80A - Central Rolling Red Prairies
Landform: Pediment on upland
Parent material: Residuum weathered from shale, unspecified
Slope: 1 to 3 percent
Depth to restrictive feature: 12 to 15 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Very low (About 2.5 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Shallow Prairie (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:

Ap—0 to 4 inches; clay loam
 Bw—4 to 11 inches; silty clay loam
 BC—11 to 15 inches; silty clay loam
 Cr1—15 to 28 inches; weathered bedrock
 Cr2—28 to 80 inches; weathered bedrock

Piedmont

MLRA: 80A - Central Rolling Red Prairies
Landform: Pediment on upland
Parent material: Residuum weathered from shale, clayey
Slope: 1 to 3 percent
Depth to restrictive feature: 32 to 36 inches to bedrock (paralithic)
Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Low (About 5.4 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Clay Upland (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

Ap1—0 to 4 inches; clay loam
 Ap2—4 to 7 inches; clay loam
 Bt1—7 to 13 inches; clay
 Bt2—13 to 20 inches; clay
 Btk—20 to 24 inches; silty clay
 Bck—24 to 32 inches; silty clay
 Cr—32 to 80 inches; weathered bedrock

Minor Components
Unnamed Wet Soils

General Considerations: Some areas are used as cropland, but most areas are used for pasture or range. Many areas of this map unit are also in the Conservation Reserve Program. This map unit is poorly suited for the commonly grown crops such as wheat and grain sorghum. The hazard of wind erosion is severe and water erosion is slight. Wind erosion can be controlled through conservation tillage practices. The shallow depth to bedrock and slow permeability can limit some engineering uses of this soil.

2207—Jamash clay loam, 0 to 8 percent slopes

Map Unit Composition

Jamash: 80 percent
 Minor components: 20 percent

Component Descriptions

Jamash

MLRA: 80A - Central Rolling Red Prairies
Landform: Pediment on upland
Parent material: Residuum weathered from shale, unspecified
Slope: 0 to 8 percent
Depth to restrictive feature: 12 to 15 inches to bedrock (paralithic)
Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Very low (About 2.5 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Shallow Prairie (pe24-32)
Land capability (nonirrigated): 6e

Typical Profile:

Ap—0 to 4 inches; clay loam
 Bw—4 to 11 inches; silty clay loam
 BC—11 to 15 inches; silty clay loam
 Cr1—15 to 28 inches; weathered bedrock
 Cr2—28 to 80 inches; weathered bedrock

Minor Components
Piedmont

Composition: About 20 percent
Slope: 0 to 8 percent
Depth to restrictive feature: 32 to 36 inches to bedrock (paralithic)
Drainage class: Well drained
Ecological site: Clay Upland (pe24-32)

Unnamed Wet Soils

General Considerations: Most areas are used for pasture or range. This map unit is poorly suited for the commonly grown crops such as wheat and grain sorghum. The hazard of wind erosion is severe and water erosion is moderately severe. The shallow depth to bedrock and slow permeability can limit most engineering uses of this soil.

2381—Kanza-Ninnescah sandy loams, 0 to 2 percent slopes, Commonly flooded

Map Unit Composition

Kanza: 50 percent
 Ninnescah: 50 percent

Component Descriptions

Kanza

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Alluvium
Slope: 0 to 2 percent

Drainage class: Poorly drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Low (About 5.7 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: Frequent
Depth to seasonal water saturation: About 0 to 36 inches
Runoff class: Very low
Ecological site: Subirrigated (pe21-28)
Land capability (nonirrigated): 5w

Typical Profile:

A1—0 to 4 inches; sandy loam
 A2—4 to 9 inches; loamy fine sand
 AC—9 to 17 inches; loamy fine sand
 C1—17 to 33 inches; loamy fine sand
 C2—33 to 80 inches; sand

Ninnescah

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Loamy alluvium
Slope: 0 to 2 percent
Drainage class: Poorly drained
Slowest permeability: Moderately rapid (About 1.98 in/hr)
Available water capacity: Moderate (About 7.4 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: About 24 to 24 inches
Runoff class: Very low
Ecological site: Subirrigated (pe21-28)
Land capability (nonirrigated): 5w

Typical Profile:

Ak1—0 to 6 inches; sandy loam
 Ak2—6 to 14 inches; sandy loam
 Ak3—14 to 19 inches; sandy loam
 Bkg1—19 to 30 inches; sandy loam
 Bkg2—30 to 37 inches; sandy loam
 Cg1—37 to 52 inches; sandy loam
 Cg2—52 to 80 inches; loamy sand

General Considerations: Most areas are in pasture or range. This map unit is poorly suited for the most commonly grown crops. The hazard for wind and water erosion is slight. The water tables, flooding, and depth to sand limit most engineering uses for this mapunit.

2587—Imano clay loam, 0 to 1 percent slopes, occasionally flooded

Map Unit Composition

Imano: 85 percent
 Minor components: 15 percent

Component Descriptions

Imano

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Loamy alluvium over sandy alluvium
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: Moderate (About 6.6 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 48 inches
Runoff class: Very low
Ecological site: Subirrigated (pe21-28)
Land capability (nonirrigated): 3w

Typical Profile:

Ap—0 to 10 inches; clay loam
 Bw—10 to 25 inches; loam
 2C1—25 to 55 inches; stratified fine sand to sand
 2C2—55 to 80 inches; coarse sand

Minor Components

Willowbrook

Composition: About 15 percent
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Ecological site: Subirrigated (pe21-28)

Kanza

Slope: 0 to 2 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

Ninnescah

Slope: 0 to 2 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are used for pasture or range, some areas are used

for hay production. This map unit is poorly suited for most commonly grown crops. Wheat and alfalfa are the predominant crops. The hazard for water erosion is slight and wind erosion is severe. Wind erosion can be controlled by conservation tillage and residue management. Depth to sand and water tables can limit most engineering uses for this map unit.

2948—Nalim loam, 0 to 1 percent slopes

Map Unit Composition

Nalim: 80 percent
Minor components: 20 percent

Component Descriptions

Nalim

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 10.4 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Loamy Upland (pe24-32)
Land capability (irrigated): 2e
Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 6 inches; loam
Bt1—6 to 9 inches; loam
Bt2—9 to 13 inches; clay loam
Bt3—13 to 21 inches; clay loam
Bt4—21 to 31 inches; clay loam
Bt5—31 to 39 inches; sandy clay loam
Bt6—39 to 44 inches; gravelly sandy clay loam
Bt7—44 to 52 inches; sandy clay loam
BC—52 to 62 inches; loamy coarse sand
C1—62 to 72 inches; gravelly loamy coarse sand
C2—72 to 80 inches; stratified sand to gravelly loamy coarse sand

Minor Components

Farnum

Composition: About 20 percent
Slope: 0 to 1 percent
Drainage class: Well drained
Ecological site: Loamy Upland (pe21-28)

Unnamed Wet Soils

General Considerations: Most areas are used as cropland. This mapunit is well suited to all commonly grown crops. Wheat, grain sorghum, and soybeans are the major crops. A few areas are planted to irrigated corn. The hazard of water erosion is slight and wind erosion is moderate. This problem can be overcome by using conservation tillage and residue management. This mapunit is moderately well suited for most engineering uses.

3052—Ost-Clark loams, 1 to 3 percent slopes

Map Unit Composition

Ost: 55 percent
Clark: 45 percent

Component Descriptions

Ost

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 10.0 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 2c

Typical Profile:

Ap—0 to 8 inches; loam
Bt1—8 to 12 inches; loam
Bt2—12 to 18 inches; loam
Bk1—18 to 23 inches; clay loam
Bk2—23 to 38 inches; clay loam

BCK—38 to 54 inches; loam
C—54 to 80 inches; loam

Clark

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Limy Upland (pe21-28)

Land capability (nonirrigated): 2c

Typical Profile:

Ap—0 to 11 inches; loam

Bw—11 to 16 inches; loam

Bk1—16 to 28 inches; loam

Bk2—28 to 45 inches; fine sandy loam

BCK1—45 to 65 inches; fine sandy loam

Ck2—65 to 80 inches; very fine sandy loam

Minor Components**Unnamed Wet Soils**

General Considerations: Most areas are used as cropland. This mapunit is well suited to all commonly grown crops. Wheat, grain sorghum, and soybeans are the predominant crops. The hazard of wind erosion is moderate and water erosion is slight. This mapunit is well suited for most engineering practices.

3170—Penalosa silt loam, 0 to 1 percent slopes**Map Unit Composition**

Penalosa: 100 percent

Component Descriptions**Penalosa**

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Slowest permeability: Slow (About 0.06 in/hr)

Available water capacity: High (About 10.9 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Loamy Upland (pe21-28)

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

Typical Profile:

Ap1—0 to 5 inches; silt loam

Ap2—5 to 10 inches; silt loam

Bt1—10 to 14 inches; silty clay loam

Bt2—14 to 22 inches; silty clay loam

Btss1—22 to 28 inches; silty clay loam

Btss2—28 to 34 inches; silty clay loam

Btss3—34 to 39 inches; silty clay loam

BC—39 to 48 inches; silt loam

2Btkssb1—48 to 61 inches; silty clay loam

2Btkssb2—61 to 71 inches; silty clay loam

2Btkssb3—71 to 80 inches; clay loam

Minor Components**Carbika**

Slope: 0 to 1 percent

Drainage class: Poorly drained

Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are used for cropland but some areas are in pasture. This mapunit is well suited for most commonly grown crops. Wheat, grain sorghum, soybeans and irrigated corn are the predominant crops in the area. The hazard of wind and water erosion is slight. The slow permeability and high shrink-swell can limit the engineering uses of the soil.

3171—Penalosa silt loam, 1 to 3 percent slopes**Map Unit Composition**

Penalosa: 100 percent

Component Descriptions**Penalosa**

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 3 percent
Drainage class: Moderately well drained
Slowest permeability: Slow (About 0.06 in/hr)
Available water capacity: High (About 10.9 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Loamy Upland (pe21-28)
Land capability (irrigated): 1
Land capability (nonirrigated): 2c

Typical Profile:

Ap1—0 to 5 inches; silt loam
 Ap2—5 to 10 inches; silty clay loam
 Bt1—10 to 14 inches; silty clay loam
 Bt2—14 to 22 inches; silty clay loam
 Btss1—22 to 28 inches; silty clay loam
 Btss2—28 to 34 inches; silty clay loam
 Btss3—34 to 39 inches; silty clay loam
 BC—39 to 48 inches; silt loam
 2Btkssb1—48 to 61 inches; silty clay loam
 2Btkssb2—61 to 71 inches; silty clay loam
 2Btkssb3—71 to 80 inches; clay loam

Minor Components
Unnamed Wet Soils

General Considerations: Most areas are used for cropland but some areas are in pasture. This mapunit is well suited for most commonly grown crops. Wheat, grain sorghum, soybeans and irrigated corn are the predominant crops in the area. The hazard of wind and water erosion is slight. The slow permeability and high shrink-swell can limit the engineering uses of the soil.

3535—Shellabarger-Nalim complex, 1 to 3 percent slopes

Map Unit Composition

Shellabarger: 55 percent
 Nalim: 45 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 1 to 3 percent

Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Moderate (About 8.5 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Sandy (pe21-28)
Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 7 inches; sandy loam
 Bt1—7 to 11 inches; sandy clay loam
 Bt2—11 to 19 inches; sandy clay loam
 Bt3—19 to 33 inches; sandy loam
 BC—33 to 47 inches; coarse sandy loam
 C1—47 to 59 inches; loamy sand
 C2—59 to 73 inches; sand
 C3—73 to 80 inches; sand

Nalim

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 10.4 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Loamy Upland (pe24-32)
Land capability (irrigated): 2e
Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 6 inches; loam
 Bt1—6 to 9 inches; loam
 Bt2—9 to 13 inches; clay loam
 Bt3—13 to 21 inches; clay loam
 Bt4—21 to 31 inches; clay loam
 Bt5—31 to 39 inches; sandy clay loam
 Bt6—39 to 44 inches; gravelly sandy clay loam
 Bt7—44 to 52 inches; sandy clay loam
 BC—52 to 62 inches; loamy coarse sand
 C1—62 to 72 inches; gravelly loamy coarse sand
 C2—72 to 80 inches; stratified sand to gravelly loamy coarse sand

Minor Components

Unnamed Wet Soils

General Considerations: Most areas are used as cropland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind and water erosion is moderate for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind and water erosion can be controlled by maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. These soils are moderately well suited for most engineering uses of these soils.

2Bt2—17 to 33 inches; silty clay
 2Btk1—33 to 53 inches; silty clay loam
 2Btk2—53 to 64 inches; clay loam
 3Bt—64 to 80 inches; sandy clay loam

Minor Components**Saltcreek**

Composition: About 10 percent
Slope: 0 to 1 percent
Drainage class: Well drained
Ecological site: Sandy (pe21-28)

Carbika

Slope: 0 to 1 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are used for cropland, but some areas are in pasture or range. This map unit is well suited for the most commonly grown crops such as wheat, grain sorghum, soybeans, and irrigated corn. The hazard for wind and water erosion is slight. This map unit is moderately well suited for most engineering practices. The potential for high shrink-swell may limit some practices.

3639—Taver loam, 0 to 1 percent slopes**Map Unit Composition**

Taver: 90 percent
 Minor components: 10 percent

Component Descriptions**Taver**

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Clayey alluvium
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: High (About 9.4 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Clay Upland (pe21-28)
Land capability (nonirrigated): 2s

Typical Profile:

Ap—0 to 7 inches; loam
 2Bt1—7 to 17 inches; silty clay loam

3966—Willowbrook fine sandy loam, 0 to 1 percent slopes, occasionally flooded**Map Unit Composition**

Willowbrook: 90 percent
 Minor components: 10 percent

Component Descriptions**Willowbrook**

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Loamy alluvium over sandy alluvium
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Low (About 5.7 inches)
Shrink-swell potential: Low (About 1.7 LEP)
Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 48 inches
Runoff class: Very low
Ecological site: Subirrigated (pe21-28)

Land capability (irrigated): 2e
Land capability (nonirrigated): 3e

Typical Profile:

Ap1—0 to 4 inches; fine sandy loam
 Ap2—4 to 9 inches; fine sandy loam
 AB—9 to 13 inches; fine sandy loam
 Bw—13 to 17 inches; fine sandy loam
 Bk1—17 to 19 inches; loam
 Bk2—19 to 26 inches; fine sandy loam
 2C1—26 to 45 inches; coarse sand
 2C2—45 to 51 inches; coarse sand
 2C3—51 to 80 inches; stratified gravelly
 coarse sand to sand

Minor Components

Nickerson

Composition: About 10 percent
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Ecological site: Sandy (pe21-28)

Kanza

Slope: 0 to 2 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

Ninnescah

Slope: 0 to 2 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are used for pasture or range, some areas are used for hay production. This map unit is poorly suited for most commonly grown crops. The hazard for water erosion is slight and wind erosion is severe. Depth to sand and water tables can limit most engineering uses for this map unit. Most areas are used for pasture or range, some areas are used for hay production. This map unit is poorly suited for most commonly grown crops. The hazard for water erosion is slight and wind erosion is severe. Depth to sand and water tables can limit most engineering uses for this map unit.

4004—Yaggy fine sandy loam, 0 to 1 percent slopes

Map Unit Composition

Yaggy: 95 percent
 Minor components: 5 percent

Component Descriptions

Yaggy

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Loamy alluvium over sandy alluvium
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Low (About 4.5 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: About 24 to 48 inches
Runoff class: Very low
Ecological site: Sandy Lowland (pe21-28)
Land capability (irrigated): 2e
Land capability (nonirrigated): 3e

Typical Profile:

Ap1—0 to 5 inches; fine sandy loam
 Ap2—5 to 11 inches; fine sandy loam
 2C1—11 to 14 inches; stratified very fine sandy loam to silt loam
 3C2—14 to 24 inches; fine sand
 3C3—24 to 31 inches; fine sand
 3C4—31 to 42 inches; fine sand
 3C5—42 to 53 inches; stratified gravelly coarse sand
 3C6—53 to 69 inches; stratified gravelly coarse sand to sand
 3C7—69 to 80 inches; stratified gravelly coarse sand to sand

Minor Components

Imano

Composition: About 5 percent
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Ecological site: Subirrigated (pe21-28)

Kanza

Slope: 0 to 2 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

Ninnescah

Slope: 0 to 2 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are used for pasture or range, some areas are used for hay production. This map unit is poorly suited for most commonly grown crops. The hazard for water erosion is slight and wind erosion is severe. Depth to sand and water tables can limit most engineering uses for this map unit. Most areas are used for pasture or range, some areas are used for

hay production. This map unit is poorly suited for most commonly grown crops. The hazard for water erosion is slight and wind erosion is severe. Depth to sand and water tables can limit most engineering uses for this map unit.

Ecological site: Sandy (pe24-32)
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 15 inches; sandy loam
H2—15 to 40 inches; sandy clay loam
H3—40 to 60 inches; sandy loam

Aa—Albion-Shellabarger sandy loams, 1 to 4 percent slopes

Minor Components Unnamed Wet Soils

Map Unit Composition

Albion: 70 percent
Shellabarger: 30 percent

Ab—Albion And Shellabarger sandy loams, 7 to 15 percent slopes

Map Unit Composition

Albion: 50 percent
Shellabarger: 50 percent

Component Descriptions

Albion

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 1 to 4 percent
Drainage class: Well drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Low (About 5.9 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Sandy (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; sandy loam
H2—9 to 19 inches; sandy loam
H3—19 to 26 inches; coarse sandy loam
H4—26 to 60 inches; sand

Shellabarger

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 1 to 4 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Moderate (About 8.9 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low

Component Descriptions

Albion

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 7 to 15 percent
Drainage class: Well drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Low (About 5.9 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Sandy (pe24-32)
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 9 inches; sandy loam
H2—9 to 19 inches; sandy loam
H3—19 to 26 inches; coarse sandy loam
H4—26 to 60 inches; sand

Shellabarger

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 7 to 15 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.9 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Sandy (pe24-32)
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 15 inches; sandy loam
 H2—15 to 40 inches; sandy clay loam
 H3—40 to 60 inches; sand

Minor Components
Unnamed Wet Soils

AED—Arents, Earthen Dam

Ba—Blanket silt loam, 0 to 1 percent slopes

Map Unit Composition

Blanket: 100 percent

Component Descriptions

Blanket

MLRA: 80A - Central Rolling Red Prairies
Landform: Paleoterrace on river valley
Parent material: Clayey alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 9.3 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 14 inches; silt loam
 H2—14 to 34 inches; silty clay

H3—34 to 60 inches; silty clay loam

Minor Components
Unnamed Wet Soils

Phase: Clayey, Drainageway

Unnamed Wet Soils

Phase: Clayey, Depression

Bb—Blanket silt loam, 1 to 3 percent slopes

Map Unit Composition

Blanket: 100 percent

Component Descriptions

Blanket

MLRA: 80A - Central Rolling Red Prairies
Landform: Paleoterrace on river valley
Parent material: Clayey alluvium
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 9.3 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 14 inches; silt loam
 H2—14 to 34 inches; silty clay
 H3—34 to 60 inches; silty clay loam

Minor Components
Unnamed Wet Soils

Phase: Clayey, Drainageway

Unnamed Wet Soils

Phase: Clayey, Depression

**BRR—Brewer silty clay loam,
rarely flooded****Map Unit Composition**

Brewer: 85 percent
 Minor components: 15 percent

Component Descriptions**Brewer**

MLRA: 80A - Central Rolling Red Prairies
Landform: Flood plain on river valley
Parent material: Clayey alluvium
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Slowest permeability: Slow (About 0.06 in/hr)
Available water capacity: High (About 10.5 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Loamy Terrace (pe25-34)
Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 14 inches; silty clay loam
 H2—14 to 66 inches; silty clay

Minor Components**Osage**

Composition: About 10 percent
Slope: 0 to 1 percent
Drainage class: Poorly drained
Ecological site: Clay Lowland (pe25-34)

Verdigris

Composition: About 5 percent
Slope: 0 to 3 percent
Drainage class: Moderately well drained
Ecological site: Loamy Lowland (pe30-36)

**Ca—Canadian fine sandy loam,
rarely flooded****Map Unit Composition**

Canadian: 100 percent

Component Descriptions**Canadian**

MLRA: 80A - Central Rolling Red Prairies
Landform: River valley, flood plain
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderately rapid (About 1.98 in/hr)
Available water capacity: Moderate (About 8.2 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Sandy Terrace (pe24-32)
Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 20 inches; fine sandy loam
 H2—20 to 35 inches; fine sandy loam
 H3—35 to 60 inches; fine sandy loam

Minor Components**Unnamed Wet Soils**

Phase: Sandy, Depression

Unnamed Wet Soils

Phase: Sandy, Drainageway

Unnamed Wet Soils

Phase: Sandy, Drainageway Flooded

**Cb—Canadian-Waldeck fine sandy
loams, rarely flooded****Map Unit Composition**

Canadian: 70 percent
 Waldeck: 30 percent

Component Descriptions**Canadian**

MLRA: 80A - Central Rolling Red Prairies
Landform: River valley, flood plain
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderately rapid (About 1.98 in/hr)
Available water capacity: Moderate (About 8.2 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Rare

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Sandy Terrace (pe24-32)

Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 20 inches; fine sandy loam

H2—20 to 35 inches; fine sandy loam

H3—35 to 60 inches; fine sandy loam

Waldeck

MLRA: 80A - Central Rolling Red Prairies

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 6.1 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Occasional

Depth to seasonal water saturation: About 24 to 48 inches

Runoff class: Negligible

Ecological site: Subirrigated (pe24-32)

Land capability (nonirrigated): 3w

Typical Profile:

H1—0 to 14 inches; fine sandy loam

H2—14 to 27 inches; sandy loam

H3—27 to 60 inches; sand

Minor Components

Unnamed Wet Soils

Phase: Sandy, Drainageway Flooded

Unnamed Wet Soils

Phase: Sandy, Depression

Unnamed Wet Soils

Phase: Sandy, Drainageway

Cc—Carwile fine sandy loam, 0 to 1 percent slopes

Map Unit Composition

Carwile: 100 percent

Component Descriptions

Carwile

MLRA: 80A - Central Rolling Red Prairies

Landform: Depression on paleoterrace on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Slow (About 0.06 in/hr)

Available water capacity: High (About 9.4 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 0 to 0 inches

Runoff class: Negligible

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 18 inches; fine sandy loam

H2—18 to 24 inches; clay loam

H3—24 to 47 inches; clay loam

H4—47 to 60 inches; clay loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Depression

Cd—Clark-Ost clay loams, 1 to 4 percent slopes
Map Unit Composition

Clark: 75 percent

Ost: 25 percent

Component Descriptions

Clark

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 4 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Limy Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 11 inches; clay loam
H2—11 to 60 inches; clay loam

Ost

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 4 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 10.2 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 7 inches; clay loam
H2—7 to 15 inches; clay loam
H3—15 to 19 inches; clay loam
H4—19 to 60 inches; clay loam

Ce—Clime silty clay, 3 to 6 percent slopes**Map Unit Composition**

Clime: 100 percent

Component Descriptions**Clime**

MLRA: 75 - Central Loess Plains

Landform: Hillslope on upland

Parent material: Silty and clayey residuum weathered from shale, calcareous

Slope: 3 to 6 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Slow (About 0.06 in/hr)

Available water capacity: Low (About 3.9 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: High

Ecological site: Limy Upland (pe25-34)

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 9 inches; silty clay
H2—9 to 27 inches; silty clay
Cr—27 to 34 inches; unweathered bedrock

Minor Components**Unnamed Hydric Soils****Unnamed Wet Soils**

Phase: Clayey, Depression

Ea—Elandco silt loam, rarely flooded**Map Unit Composition**

Elandco: 100 percent

Component Descriptions**Elandco**

MLRA: 75 - Central Loess Plains, 79 - Great Bend Sand Plains

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.2 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: Rare

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Loamy Terrace (pe24-32)

Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 40 inches; silt loam
H2—40 to 60 inches; silt loam

Minor Components**Unnamed Hydric Soils****Unnamed Hydric Soils****Unnamed Wet Soils**

Phase: Loamy, Drainageway

Eb—Elandco silt loam, occasionally flooded

Map Unit Composition

Elandco: 100 percent

Component Descriptions

Elandco

MLRA: 75 - Central Loess Plains

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.2 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: Occasional

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Loamy Lowland (pe24-32)

Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 40 inches; silt loam

H2—40 to 60 inches; silt loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Drainageway

Unnamed Wet Soils

Phase: Loamy, Drainageway

Unnamed Wet Soils

Phase: Loamy, Drainageway

Ec—Elandco silt loam, frequently flooded

Map Unit Composition

Elandco: 100 percent

Component Descriptions

Elandco

MLRA: 75 - Central Loess Plains

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.2 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: Frequent

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Loamy Lowland (pe24-32)

Land capability (nonirrigated): 5w

Typical Profile:

H1—0 to 40 inches; silt loam

H2—40 to 60 inches; silt loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Depression

Unnamed Wet Soils

Phase: Loamy, Drainageway

Unnamed Wet Soils

Phase: Loamy, Drainageway

Fa—Farnum loam, 0 to 1 percent slopes

Map Unit Composition

Farnum: 100 percent

Component Descriptions

Farnum

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.3 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Loamy Upland (pe24-32)
Land capability (irrigated): 1
Land capability (nonirrigated): 1

Typical Profile:
 H1—0 to 14 inches; loam
 H2—14 to 46 inches; clay loam
 H3—46 to 60 inches; clay loam

Minor Components
Carwile

Unnamed Wet Soils
Phase: Loamy, Depression

Unnamed Wet Soils
Phase: Loamy, Drainageway

Fb—Farnum loam, 1 to 3 percent slopes

Map Unit Composition

Farnum: 100 percent

Component Descriptions

Farnum
MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Alluvium
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 10.3 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Loamy Upland (pe24-32)
Land capability (irrigated): 2e
Land capability (nonirrigated): 2e

Typical Profile:
 H1—0 to 14 inches; loam
 H2—14 to 46 inches; clay loam
 H3—46 to 60 inches; clay loam

Minor Components
Unnamed Wet Soils
Phase: Loamy, Depression

Unnamed Wet Soils
Phase: Loamy, Drainageway

Fc—Farnum loam, sandy Substratum, 0 to 1 percent slopes

Map Unit Composition

Farnum: 100 percent

Component Descriptions

Farnum
MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: Moderate (About 8.5 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Loamy Upland (pe24-32)
Land capability (irrigated): 1
Land capability (nonirrigated): 1

Typical Profile:
 H1—0 to 14 inches; loam
 H2—14 to 28 inches; clay loam
 H3—28 to 40 inches; clay loam
 H4—40 to 60 inches; clay loam

Minor Components
Unnamed Wet Soils
Phase: Loamy, Depression

Unnamed Wet Soils
Phase: Loamy, Drainageway

Ga—Goessel silty clay, 0 to 1 percent slopes

Map Unit Composition

Goessel: 100 percent

Component Descriptions

Goessel

MLRA: 75 - Central Loess Plains

Landform: Paleoterrace on upland

Parent material: Clayey alluvium

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 7.7 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 24 to 36 inches

Runoff class: Negligible

Ecological site: Clay Upland (pe25-34)

Land capability (nonirrigated): 2s

Typical Profile:

H1—0 to 5 inches; silty clay

H2—5 to 60 inches; silty clay

Minor Components

Unnamed Wet Soils

Phase: Clayey, Depression

Gb—Goessel silty clay, 1 to 2 percent slopes

Map Unit Composition

Goessel: 100 percent

Component Descriptions

Goessel

MLRA: 75 - Central Loess Plains

Landform: Paleoterrace on upland

Parent material: Clayey alluvium

Slope: 1 to 2 percent

Drainage class: Moderately well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 7.7 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 24 to 36 inches

Runoff class: Very low

Ecological site: Clay Upland (pe25-34)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 5 inches; silty clay

H2—5 to 60 inches; silty clay

Ia—Irwin silty clay loam, 1 to 3 percent slopes

Map Unit Composition

Irwin: 100 percent

Component Descriptions

Irwin

MLRA: 75 - Central Loess Plains

Landform: Paleoterrace on upland

Parent material: Residuum

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 8.5 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Clay Upland (pe25-34)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 13 inches; silty clay loam

H2—13 to 52 inches; silty clay

H3—52 to 60 inches; silty clay

Minor Components

Unnamed Wet Soils

Phase: Clayey, Drainageway

Ib—Irwin silty clay loam, 3 to 6 percent slopes

Map Unit Composition

Irwin: 100 percent

Component Descriptions

Irwin

MLRA: 75 - Central Loess Plains

Landform: Paleoterrace on upland

Parent material: Residuum

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 8.5 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Clay Upland (pe25-34)

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 13 inches; silty clay loam

H2—13 to 52 inches; silty clay

H3—52 to 60 inches; silty clay

Minor Components

Unnamed Wet Soils

Phase: Clayey, Drainageway

Ic—Irwin silty clay loam, 2 to 6 percent slopes, eroded

Map Unit Composition

Irwin: 100 percent

Component Descriptions

Irwin

MLRA: 75 - Central Loess Plains

Landform: Paleoterrace on upland

Parent material: Residuum

Slope: 2 to 6 percent

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 7.8 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Clay Upland (pe25-34)

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 6 inches; silty clay loam

H2—6 to 52 inches; silty clay

H3—52 to 60 inches; silty clay

Minor Components

Unnamed Wet Soils

Phase: Clayey, Drainageway

INT—Aquolls

Map Unit Composition

Aquolls: 100 percent

Component Descriptions

Aquolls

MLRA: -

Landform: Depression on terrace on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Very poorly drained

Flooding hazard: None

Ponding hazard: Occasional

Depth to seasonal water saturation: About 0 to 0 inches

Runoff class: Negligible

Land capability (nonirrigated): 5w

Typical Profile:

H1—0 to 72 inches; variable

General Considerations: This map unit was formerly labeled as an Intermittent Water spot symbol. These depressional areas contain soils that are occasionally ponded for long duration.

KAA—Kaski loam, occasionally flooded**Map Unit Composition**

Kaski: 100 percent

Component Descriptions**Kaski**

MLRA: 79 - Great Bend Sand Plains

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: Occasional

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Loamy Lowland (pe25-34)

Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 24 inches; loam

H2—24 to 41 inches; clay loam

H3—41 to 60 inches; clay loam

Minor Components**Unnamed Wet Soils**

Phase: Loamy, Drainageway

La—Lesho loam, occasionally flooded**Map Unit Composition**

Lesho: 100 percent

Component Descriptions**Lesho**

MLRA: 80A - Central Rolling Red Prairies

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: Moderate (About 7.1 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: Occasional

Depth to seasonal water saturation: About 24 to 48 inches

Runoff class: Negligible

Ecological site: Subirrigated (pe24-32)

Land capability (nonirrigated): 3w

Typical Profile:

H1—0 to 10 inches; loam

H2—10 to 27 inches; loam

H3—27 to 60 inches; fine sand

Minor Components**Plevna****Unnamed Hydric Soils****Unnamed Hydric Soils****Lb—Lincoln Soils, frequently flooded****Map Unit Composition**

Lincoln: 100 percent

Component Descriptions**Lincoln**

MLRA: 80A - Central Rolling Red Prairies

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Somewhat excessively drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Low (About 3.6 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Frequent

Depth to seasonal water saturation: About 60 to 72 inches

Runoff class: Negligible

Ecological site: Sandy Lowland (pe24-32)

Land capability (nonirrigated): 6w

Typical Profile:

H1—0 to 8 inches; fine sandy loam

H2—8 to 60 inches; stratified fine sand to clay loam

Minor Components
Plevna

Unnamed Hydric Soils

Unnamed Wet Soils

Phase: Sandy, Drainageway Flooded

M-W—Miscellaneous Water

Map Unit Composition

Miscellaneous Water: 100 percent

Component Descriptions

Miscellaneous Water

MLRA: -

Depth to seasonal water saturation: More than 6 feet

Ma—Milan loam, 1 to 3 percent slopes

Map Unit Composition

Milan: 100 percent

Component Descriptions

Milan

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 11.0 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Loamy Upland (pe24-32)

Land capability (irrigated): 2e

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 11 inches; loam

H2—11 to 60 inches; clay loam

Mb—Milan loam, 3 to 6 percent slopes

Map Unit Composition

Milan: 100 percent

Component Descriptions

Milan

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 11.0 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 11 inches; loam

H2—11 to 60 inches; clay loam

Mc—Milan clay loam, 2 to 6 percent slopes, eroded

Map Unit Composition

Milan: 100 percent

Component Descriptions

Milan

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Alluvium
Slope: 2 to 6 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 10.8 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 6 inches; clay loam
 H2—6 to 60 inches; clay loam

Na—Naron fine sandy loam, 0 to 2 percent slopes

Map Unit Composition

Naron: 100 percent

Component Descriptions

Naron

MLRA: 79 - Great Bend Sand Plains
Landform: Dune on paleoterrace on river valley
Parent material: Loamy eolian deposits
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 9.6 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Sandy (pe24-32)
Land capability (irrigated): 1
Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 8 inches; fine sandy loam
 H2—8 to 50 inches; sandy clay loam
 H3—50 to 60 inches; fine sand

Minor Components

Unnamed Wet Soils

Phase: Loamy, Drainageway

Unnamed Wet Soils

Phase: Loamy, Depression

Oc—Wellsford clay loam, 1 to 3 percent slopes

Map Unit Composition

Wellsford: 100 percent

Component Descriptions

Wellsford

MLRA: 80A - Central Rolling Red Prairies
Landform: Pediment on upland
Parent material: Residuum
Slope: 1 to 3 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Very low (About 1.8 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Red Clay Prairie (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 7 inches; clay loam
 H2—7 to 15 inches; silty clay
 H3—15 to 20 inches; weathered bedrock

Od—Wellsford-Rock outcrop complex, 3 to 10 percent slopes

Map Unit Composition

Wellsford: 60 percent
 Rock outcrop: 40 percent

Component Descriptions

Wellsford

MLRA: 80A - Central Rolling Red Prairies
Landform: Pediment on upland
Parent material: Residuum
Slope: 3 to 10 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Very low (About 1.8 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Red Clay Prairie (pe24-32)
Land capability (nonirrigated): 6e

Typical Profile:
 H1—0 to 7 inches; clay loam
 H2—7 to 15 inches; silty clay
 H3—15 to 20 inches; weathered bedrock

Rock outcrop

MLRA: 80A - Central Rolling Red Prairies
Drainage class: Excessively drained
Depth to seasonal water saturation: More than 6 feet
Land capability (nonirrigated): 8

Minor Components

Unnamed Wet Soils

Phase: Clayey, Drainageway

Unnamed Wet Soils

Phase: Clayey, Seep

Pa—Pits

Pb—Plevna fine sandy loam, frequently flooded

Map Unit Composition

Plevna: 100 percent

Component Descriptions

Plevna

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley

Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Poorly drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Moderate (About 6.4 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Frequent
Depth to seasonal water saturation: About 0 to 24 inches
Runoff class: Negligible
Ecological site: Subirrigated (pe24-32)
Land capability (nonirrigated): 5w

Typical Profile:

H1—0 to 9 inches; fine sandy loam
 H2—9 to 35 inches; sandy loam
 H3—35 to 60 inches; fine sand

Minor Components

Unnamed Wet Soils

Phase: Sandy, Drainageway

Unnamed Wet Soils

Phase: Sandy, Depression

Pc—Pratt loamy fine sand, 1 to 5 percent slopes

Map Unit Composition

Pratt: 100 percent

Component Descriptions

Pratt

MLRA: 79 - Great Bend Sand Plains
Landform: Dune on paleoterrace on river valley
Parent material: Sandy eolian deposits
Slope: 1 to 7 percent
Drainage class: Well drained
Slowest permeability: Rapid (About 5.95 in/hr)
Available water capacity: Moderate (About 6.4 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Sands (pe24-32)
Land capability (irrigated): 3e
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 18 inches; loamy fine sand
 H2—18 to 36 inches; loamy fine sand
 H3—36 to 60 inches; fine sand

Minor Components**Carwile****Unnamed Wet Soils**

Phase: Sandy, Depression

Pd—Pratt-Tivoli complex, 5 to 30 percent slopes**Map Unit Composition**

Pratt: 65 percent

Tivoli: 35 percent

Component Descriptions**Pratt**

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Sandy eolian deposits

Slope: 5 to 12 percent

Drainage class: Well drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Moderate (About 6.4 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sands (pe24-32)

Land capability (irrigated): 3e

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 18 inches; loamy fine sand
 H2—18 to 36 inches; loamy fine sand
 H3—36 to 60 inches; fine sand

Tivoli

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Sandy eolian deposits

Slope: 5 to 30 percent

Drainage class: Excessively drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Low (About 3.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sands (pe24-32)

Land capability (nonirrigated): 7e

Typical Profile:

H1—0 to 10 inches; loamy fine sand
 H2—10 to 60 inches; fine sand

Minor Components**Unnamed Wet Soils**

Phase: Sandy, Depression

Ra—Renfrow silty clay loam, 1 to 3 percent slopes**Map Unit Composition**

Renfrow: 100 percent

Component Descriptions**Renfrow**

MLRA: 80A - Central Rolling Red Prairies

Landform: Hillslope on upland

Parent material: Residuum

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 8.9 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Red Clay Prairie (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; silty clay loam
 H2—9 to 13 inches; silty clay loam
 H3—13 to 60 inches; silty clay

Rb—Renfrow silty clay loam, 3 to 6 percent slopes

Map Unit Composition

Renfrow: 100 percent

Component Descriptions

Renfrow

MLRA: 80A - Central Rolling Red Prairies

Landform: Hillslope on upland

Parent material: Residuum

Slope: 3 to 5 percent

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 8.9 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Red Clay Prairie (pe24-32)

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 9 inches; silty clay loam

H2—9 to 13 inches; silty clay loam

H3—13 to 60 inches; silty clay

Available water capacity: Moderate (About 8.9 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Red Clay Prairie (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; clay loam

H2—9 to 13 inches; silty clay loam

H3—13 to 60 inches; silty clay

Wellsford

MLRA: 80A - Central Rolling Red Prairies

Landform: Pediment on upland

Parent material: Residuum

Slope: 1 to 4 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Very low (About 1.8 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Red Clay Prairie (pe24-32)

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 7 inches; clay loam

H2—7 to 15 inches; silty clay

H3—15 to 20 inches; weathered bedrock

Rc—Renfrow-Wellsford clay loams, 1 to 4 percent slopes

Map Unit Composition

Renfrow: 65 percent

Wellsford: 35 percent

Component Descriptions

Renfrow

MLRA: 80A - Central Rolling Red Prairies

Landform: Hillslope on upland

Parent material: Residuum

Slope: 1 to 4 percent

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Rd—Rosehill silty clay, 1 to 3 percent slopes

Map Unit Composition

Rosehill: 100 percent

Component Descriptions

Rosehill

MLRA: 75 - Central Loess Plains

Landform: Hillslope on upland

Parent material: Residuum

Slope: 1 to 3 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Moderately well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Low (About 3.7 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Clay Upland (pe25-34)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 8 inches; silty clay

H2—8 to 30 inches; silty clay

H3—30 to 34 inches; unweathered bedrock

Sa—Shellabarger sandy loam, 1 to 3 percent slopes

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 15 inches; sandy loam

H2—15 to 40 inches; sandy clay loam

H3—40 to 60 inches; sand

Sb—Shellabarger sandy loam, 3 to 6 percent slopes

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 15 inches; sandy loam

H2—15 to 40 inches; sandy clay loam

H3—40 to 60 inches; sand

Sc—Shellabarger sandy loam, 3 to 6 percent slopes, eroded

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet

Runoff class: Low
Ecological site: Sandy (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 15 inches; sandy loam
 H2—15 to 40 inches; sandy clay loam
 H3—40 to 60 inches; sand

Ta—Tabler silty clay loam, 0 to 1 percent slopes

Map Unit Composition

Tabler: 100 percent

Component Descriptions

Tabler

MLRA: 75 - Central Loess Plains
Landform: Paleoterrace on river valley
Parent material: Clayey alluvium
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: High (About 9.8 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low
Ecological site: Clay Upland (pe25-34)
Land capability (nonirrigated): 2s

Typical Profile:

H1—0 to 9 inches; silty clay loam
 H2—9 to 32 inches; silty clay
 H3—32 to 60 inches; silty clay

Minor Components

Unnamed Wet Soils

Phase: Clayey, Drainageway

Unnamed Wet Soils

Phase: Clayey, Depression

Tb—Tabler-Drummond complex, 0 to 1 percent slopes

Map Unit Composition

Tabler: 60 percent
 Drummond: 40 percent

Component Descriptions

Tabler

MLRA: 80A - Central Rolling Red Prairies
Landform: Paleoterrace on river valley
Parent material: Clayey alluvium
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: High (About 9.9 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Clay Upland (pe24-32)
Land capability (nonirrigated): 2s

Typical Profile:

H1—0 to 9 inches; silt loam
 H2—9 to 32 inches; silty clay
 H3—32 to 60 inches; silty clay

Drummond

MLRA: 80A - Central Rolling Red Prairies
Landform: Terrace on river valley
Parent material: Clayey and/or loamy alluvium
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Moderate (About 6.4 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: About 24 to 72 inches
Runoff class: Negligible
Ecological site: Saline Lowland (pe24-32)
Land capability (nonirrigated): 6s

Typical Profile:

H1—0 to 8 inches; silt loam
 H2—8 to 48 inches; silty clay
 H3—48 to 60 inches; variable

Minor Components
Carwile

Unnamed Wet Soils
Phase: Clayey, Drainageway

Unnamed Wet Soils
Phase: Clayey, Depression

Ua—Urban land-Canadian complex, 0 to 3 percent slopes

Map Unit Composition

Urban land: 70 percent
 Canadian: 30 percent

Component Descriptions

Urban land

MLRA: 80A - Central Rolling Red Prairies
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet

Canadian

MLRA: 80A - Central Rolling Red Prairies
Landform: Flood plain, river valley
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderately rapid (About 1.98 in/hr)
Available water capacity: Moderate (About 8.2 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 20 inches; fine sandy loam
 H2—20 to 35 inches; fine sandy loam
 H3—35 to 60 inches; fine sandy loam

Ub—Urban land-Elandco complex, 0 to 1 percent slopes

Map Unit Composition

Urban land: 75 percent
 Elandco: 25 percent

Component Descriptions

Urban land

MLRA: 80A - Central Rolling Red Prairies
Depth to seasonal water saturation: More than 6 feet

Elandco

MLRA: 80A - Central Rolling Red Prairies
Landform: Flood plain on river valley
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.2 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 40 inches; silt loam
 H2—40 to 60 inches; silty clay loam

Uc—Urban land-Farnum complex, 0 to 3 percent slopes

Map Unit Composition

Urban land: 70 percent
 Farnum: 30 percent

Component Descriptions

Urban land

MLRA: 80A - Central Rolling Red Prairies
Depth to seasonal water saturation: More than 6 feet

Farnum*MLRA:* 80A - Central Rolling Red Prairies*Landform:* Paleoterrace on river valley*Parent material:* Alluvium*Slope:* 0 to 3 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* High (About 10.4 inches)*Shrink-swell potential:* Moderate (About 4.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Very low*Land capability (irrigated):* 2e*Land capability (nonirrigated):* 2e*Typical Profile:*

H1—0 to 14 inches; loam

H2—14 to 28 inches;

H3—28 to 40 inches; clay loam

H4—40 to 60 inches; clay loam

Ud—Urban land-Irwin complex, 1 to 3 percent slopes**Map Unit Composition**

Urban land: 70 percent

Irwin: 30 percent

Component Descriptions**Urban land***MLRA:* 75 - Central Loess Plains*Depth to seasonal water saturation:* More than 6 feet**Irwin***MLRA:* 75 - Central Loess Plains*Landform:* Paleoterrace on upland*Parent material:* Residuum*Slope:* 1 to 3 percent*Drainage class:* Well drained*Slowest permeability:* Very slow (About 0.00 in/hr)*Available water capacity:* Moderate (About 8.5 inches)*Shrink-swell potential:* High (About 7.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Very low*Land capability (nonirrigated):* 3e*Typical Profile:*

H1—0 to 13 inches; silty clay loam

H2—13 to 52 inches; silty clay

H3—52 to 60 inches; silty clay

Ue—Urban land-Tabler complex, 0 to 1 percent slopes**Map Unit Composition**

Urban land: 70 percent

Tabler: 30 percent

Component Descriptions**Urban land***MLRA:* 80A - Central Rolling Red Prairies*Depth to seasonal water saturation:* More than 6 feet**Tabler***MLRA:* 80A - Central Rolling Red Prairies*Landform:* Paleoterrace on river valley*Parent material:* Clayey alluvium*Slope:* 0 to 1 percent*Drainage class:* Moderately well drained*Slowest permeability:* Very slow (About 0.00 in/hr)*Available water capacity:* High (About 9.8 inches)*Shrink-swell potential:* High (About 7.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Negligible*Land capability (nonirrigated):* 2s*Typical Profile:*

H1—0 to 9 inches; silty clay loam

H2—9 to 32 inches; silty clay

H3—32 to 60 inches; silty clay

Va—Vanoss silt loam, 0 to 1 percent slopes

Map Unit Composition

Vanoss: 100 percent

Component Descriptions

Vanoss

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 13 inches; silt loam

H2—13 to 16 inches; silty clay loam

H3—16 to 60 inches; silty clay loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Drainageway

Unnamed Wet Soils

Phase: Loamy, Depression

Vb—Vanoss silt loam, 1 to 3 percent slopes

Map Unit Composition

Vanoss: 100 percent

Component Descriptions

Vanoss

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 13 inches; silt loam

H2—13 to 16 inches; silty clay loam

H3—16 to 60 inches; silty clay loam

Vc—Vanoss silt loam, 3 to 6 percent slopes

Map Unit Composition

Vanoss: 100 percent

Component Descriptions

Vanoss

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 13 inches; silt loam

H2—13 to 16 inches; silty clay loam

H3—16 to 60 inches; silty clay loam

Vd—Vanoss silt loam, 3 to 6 percent slopes, eroded

Map Unit Composition

Vanoss: 100 percent

Component Descriptions

Vanoss

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 7 inches; silt loam

H2—7 to 16 inches; silty clay loam

H3—16 to 60 inches; silty clay loam

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Low (About 5.4 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Red Clay Prairie (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 8 inches; sandy loam

H2—8 to 13 inches; sandy clay loam

H3—13 to 28 inches; silty clay

H4—28 to 60 inches;

Vf—Vernon sandy loam, 3 to 6 percent slopes

Map Unit Composition

Vernon: 100 percent

Component Descriptions

Vernon

MLRA: 80A - Central Rolling Red Prairies

Landform: Hillslope on upland

Parent material: Residuum

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Low (About 5.4 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Red Clay Prairie (pe24-32)

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; sandy loam

H2—8 to 13 inches; sandy clay loam

H3—13 to 28 inches; silty clay

H4—28 to 60 inches;

Ve—Vernon sandy loam, 1 to 3 percent slopes

Map Unit Composition

Vernon: 100 percent

Component Descriptions

Vernon

MLRA: 80A - Central Rolling Red Prairies

Landform: Hillslope on upland

Parent material: Residuum

Slope: 1 to 3 percent

Drainage class: Well drained

W—Water

**Wa—Waldeck sandy loam,
occasionally flooded****Map Unit Composition**

Waldeck: 100 percent

Component Descriptions**Waldeck**

MLRA: 80A - Central Rolling Red Prairies

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 6.1 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Occasional

Depth to seasonal water saturation: About 24 to 48 inches

Runoff class: Negligible

Ecological site: Subirrigated (pe24-32)

Land capability (nonirrigated): 3w

Typical Profile:

H1—0 to 14 inches; sandy loam

H2—14 to 27 inches; sandy loam

H3—27 to 60 inches; sand

Minor Components**Plevna****Unnamed Wet Soils**

Phase: Sandy, Depression

**Wb—Waurika silt loam, 0 to 1
percent slopes****Map Unit Composition**

Waurika: 100 percent

Component Descriptions**Waurika**

MLRA: 80A - Central Rolling Red Prairies

Landform: Depression on paleoterrace on river valley

Parent material: Old clayey alluvium and/or residuum weathered from shale

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: High (About 9.2 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 6 to 12 inches

Runoff class: Negligible

Ecological site: Clay Upland (pe24-32)

Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 15 inches; silt loam

H2—15 to 40 inches; silty clay

H3—40 to 53 inches; silty clay

H4—53 to 60 inches; silty clay

Minor Components**Unnamed Wet Soils**

Phase: Clayey, Depression