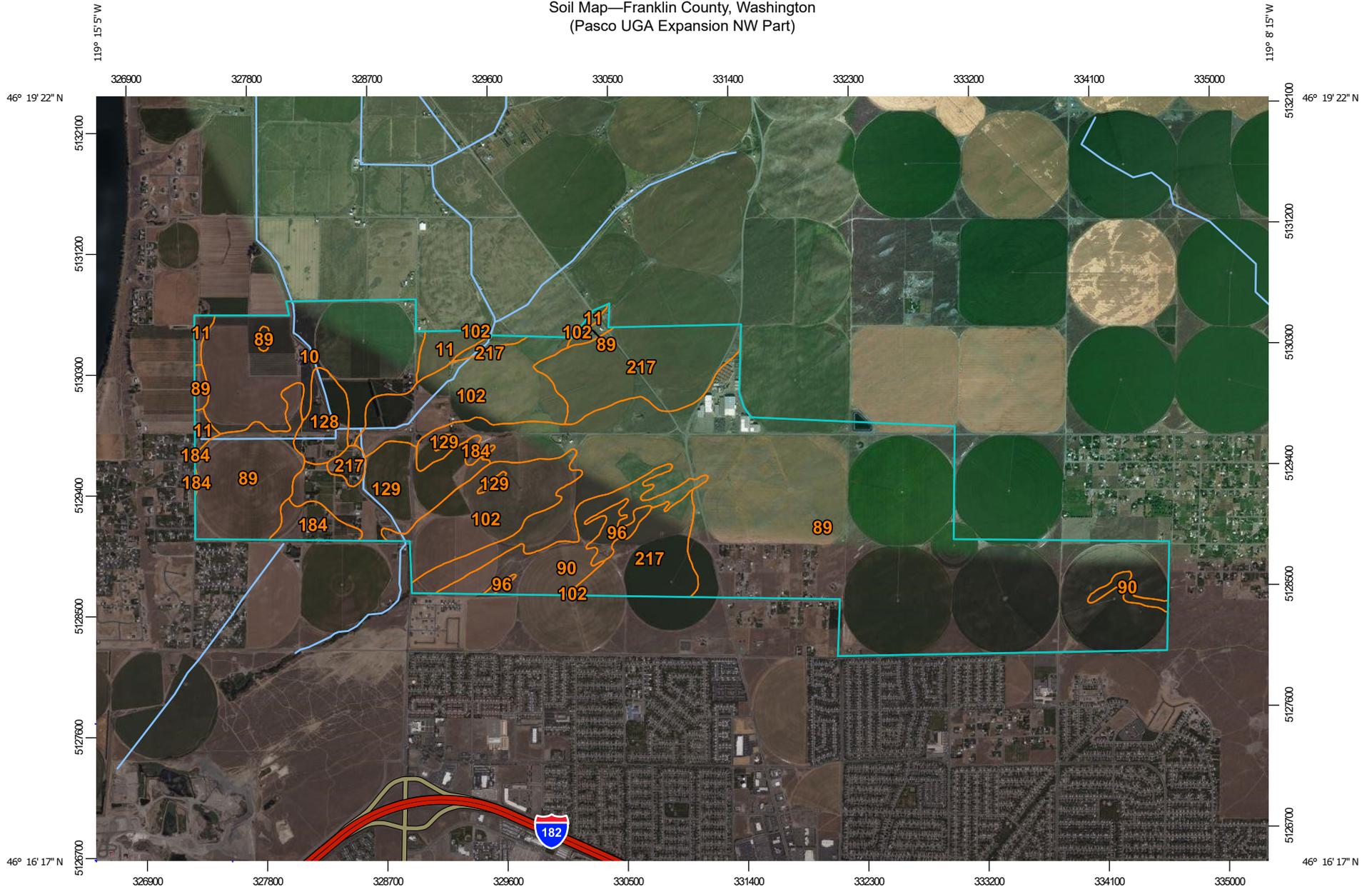
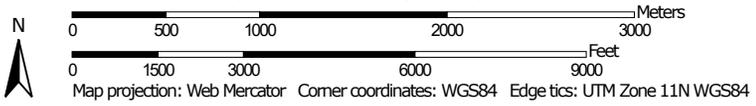


Soil Map—Franklin County, Washington
(Pasco UGA Expansion NW Part)



Map Scale: 1:40,100 if printed on A landscape (11" x 8.5") sheet.



Soil Map—Franklin County, Washington
(Pasco UGA Expansion NW Part)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Franklin County, Washington
Survey Area Data: Version 17, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 28, 2014—Jul 31, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
10	Chedehap fine sandy loam, 0 to 2 percent slopes	297.1	10.4%
11	Chedehap fine sandy loam, 2 to 5 percent slopes	45.5	1.6%
89	Quincy loamy fine sand, 0 to 15 percent slopes	1,509.6	52.8%
90	Quincy loamy fine sand, 15 to 30 percent slopes	126.1	4.4%
96	Quincy-Dune land complex, 5 to 40 percent slopes	23.7	0.8%
102	Quincy-Timmerman complex, 0 to 15 percent slopes	318.0	11.1%
128	Royal fine sandy loam, 0 to 2 percent slopes	49.6	1.7%
129	Royal fine sandy loam, 2 to 5 percent slopes	145.4	5.1%
184	Timmerman fine sandy loam, 2 to 5 percent slopes	40.0	1.4%
217	Winchester loamy coarse sand, 2 to 5 percent slopes	305.2	10.7%
Totals for Area of Interest		2,860.3	100.0%

Franklin County, Washington

10—Chedehap fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2dcv
Elevation: 400 to 1,100 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 180 to 200 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Chedehap and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chedehap

Setting

Landform: Terraces
Parent material: Glaciofluvial deposits

Typical profile

H1 - 0 to 4 inches: fine sandy loam
H2 - 4 to 18 inches: sandy loam
H3 - 18 to 31 inches: sandy loam
H4 - 31 to 60 inches: coarse sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 26 to 40 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 20.0
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: SANDY 6-10 PZ (R007XY501WA)
Hydric soil rating: No

Minor Components

Quincy

Percent of map unit: 15 percent

Landform: Terraces

Hydric soil rating: No

Data Source Information

Soil Survey Area: Franklin County, Washington

Survey Area Data: Version 17, Sep 16, 2019

Franklin County, Washington

11—Chedehap fine sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2ddc
Elevation: 400 to 1,100 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 180 to 200 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Chedehap and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chedehap

Setting

Landform: Terraces
Parent material: Glaciofluvial deposits

Typical profile

H1 - 0 to 4 inches: fine sandy loam
H2 - 4 to 18 inches: sandy loam
H3 - 18 to 31 inches: sandy loam
H4 - 31 to 60 inches: coarse sand

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: 26 to 40 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 20.0
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: SANDY 6-10 PZ (R007XY501WA)
Hydric soil rating: No

Minor Components

Quincy

Percent of map unit: 15 percent

Landform: Terraces

Hydric soil rating: No

Data Source Information

Soil Survey Area: Franklin County, Washington

Survey Area Data: Version 17, Sep 16, 2019

Franklin County, Washington

89—Quincy loamy fine sand, 0 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2dt

Elevation: 350 to 1,200 feet

Mean annual precipitation: 6 to 12 inches

Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 150 to 200 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Quincy and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Quincy

Setting

Landform: Terraces

Parent material: Mixed eolian sands

Typical profile

H1 - 0 to 4 inches: loamy fine sand

H2 - 4 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 15 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 3 percent

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Ecological site: SANDS 6-10 PZ (R007XY502WA)

Hydric soil rating: No

Minor Components

Sagehill

Percent of map unit: 15 percent

Landform: Terraces, dunes

Hydric soil rating: No

Data Source Information

Soil Survey Area: Franklin County, Washington
Survey Area Data: Version 17, Sep 16, 2019

Franklin County, Washington

90—Quincy loamy fine sand, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: 2dv0
Elevation: 350 to 1,200 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Quincy and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Quincy

Setting

Landform: Terraces
Parent material: Mixed eolian sands

Typical profile

H1 - 0 to 4 inches: loamy fine sand
H2 - 4 to 60 inches: fine sand

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 3 percent
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: SANDS 6-10 PZ (R007XY502WA)
Hydric soil rating: No

Minor Components

Sagehill

Percent of map unit: 10 percent
Landform: Dunes, terraces
Hydric soil rating: No

Royal

Percent of map unit: 5 percent

Landform: Terraces, dunes

Hydric soil rating: No

Data Source Information

Soil Survey Area: Franklin County, Washington

Survey Area Data: Version 17, Sep 16, 2019

Franklin County, Washington

96—Quincy-Dune land complex, 5 to 40 percent slopes

Map Unit Setting

National map unit symbol: 2dvr
Elevation: 350 to 1,200 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Quincy and similar soils: 55 percent
Dune land: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Quincy

Setting

Landform: Terraces
Parent material: Mixed eolian sands

Typical profile

H1 - 0 to 11 inches: fine sand
H2 - 11 to 60 inches: fine sand

Properties and qualities

Slope: 5 to 40 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 3 percent
Available water storage in profile: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: SANDS 6-10 PZ (R007XY502WA)
Hydric soil rating: No

Description of Dune Land

Setting

Landform: Dunes
Parent material: Unstratified fine sand and sand

Typical profile

C - 0 to 60 inches: fine sand

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: No

Minor Components

Sagehill

Percent of map unit: 10 percent

Landform: Dunes, terraces

Hydric soil rating: No

Data Source Information

Soil Survey Area: Franklin County, Washington

Survey Area Data: Version 17, Sep 16, 2019

Franklin County, Washington

102—Quincy-Timmerman complex, 0 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2dd1

Elevation: 350 to 1,200 feet

Mean annual precipitation: 6 to 12 inches

Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 150 to 200 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Quincy and similar soils: 60 percent

Timmerman and similar soils: 35 percent

Minor components: 3 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Quincy

Setting

Landform: Terraces

Parent material: Mixed eolian sands

Typical profile

H1 - 0 to 4 inches: loamy fine sand

H2 - 4 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 15 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 3 percent

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Ecological site: SANDS 6-10 PZ (R007XY502WA)

Hydric soil rating: No

Description of Timmerman

Setting

Landform: Terraces

Parent material: Glacial outwash and alluvium mixed with loess in the upper part

Typical profile

H1 - 0 to 5 inches: fine sandy loam

H2 - 5 to 19 inches: sandy loam

H3 - 19 to 60 inches: loamy coarse sand

Properties and qualities

Slope: 0 to 15 percent

Depth to restrictive feature: 13 to 30 inches to strongly contrasting textural stratification

Natural drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: A

Ecological site: SANDY 6-10 PZ (R007XY501WA)

Hydric soil rating: No

Minor Components

Sagehill

Percent of map unit: 3 percent

Landform: Dunes

Hydric soil rating: No

Data Source Information

Soil Survey Area: Franklin County, Washington

Survey Area Data: Version 17, Sep 16, 2019

Franklin County, Washington

128—Royal fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2dfc
Elevation: 400 to 1,400 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 180 to 200 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Royal and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Royal

Setting

Landform: Terraces
Parent material: Sandy alluvium

Typical profile

H1 - 0 to 5 inches: fine sandy loam
H2 - 5 to 15 inches: fine sandy loam
H3 - 15 to 60 inches: stratified fine sand to very fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High
(1.98 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: A
Ecological site: SANDY 6-10 PZ (R007XY501WA)
Hydric soil rating: No

Minor Components

Sagehill

Percent of map unit: 15 percent

Landform: Terraces

Hydric soil rating: No

Data Source Information

Soil Survey Area: Franklin County, Washington

Survey Area Data: Version 17, Sep 16, 2019

Franklin County, Washington

129—Royal fine sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2dff
Elevation: 400 to 1,400 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 180 to 200 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Royal and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Royal

Setting

Landform: Terraces
Parent material: Sandy alluvium

Typical profile

H1 - 0 to 5 inches: fine sandy loam
H2 - 5 to 15 inches: fine sandy loam
H3 - 15 to 60 inches: stratified fine sand to very fine sandy loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High
(1.98 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: SANDY 6-10 PZ (R007XY501WA)
Hydric soil rating: No

Minor Components

Sagehill

Percent of map unit: 15 percent

Landform: Terraces

Hydric soil rating: No

Data Source Information

Soil Survey Area: Franklin County, Washington

Survey Area Data: Version 17, Sep 16, 2019

Franklin County, Washington

184—Timmerman fine sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2djq
Elevation: 350 to 1,000 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 180 to 200 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Timmerman and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Timmerman

Setting

Landform: Terraces
Parent material: Glacial outwash and alluvium mixed with loess in the upper part

Typical profile

H1 - 0 to 5 inches: fine sandy loam
H2 - 5 to 19 inches: sandy loam
H3 - 19 to 60 inches: loamy coarse sand

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: 13 to 30 inches to strongly contrasting textural stratification
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: SANDY 6-10 PZ (R007XY501WA)
Hydric soil rating: No

Minor Components

Royal

Percent of map unit: 5 percent

Landform: Terraces

Hydric soil rating: No

Sagehill

Percent of map unit: 5 percent

Landform: Terraces

Hydric soil rating: No

Winchester

Percent of map unit: 5 percent

Landform: Terraces

Hydric soil rating: No

Data Source Information

Soil Survey Area: Franklin County, Washington

Survey Area Data: Version 17, Sep 16, 2019

Franklin County, Washington

217—Winchester loamy coarse sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2dlb
Elevation: 350 to 1,800 feet
Mean annual precipitation: 4 to 12 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 110 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Winchester and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Winchester

Setting

Landform: Terraces
Parent material: Sandy alluvium and eolian sands

Typical profile

H1 - 0 to 15 inches: loamy coarse sand
H2 - 15 to 60 inches: coarse sand

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: SANDS 6-10 PZ (R007XY502WA)
Hydric soil rating: No

Minor Components

Burbank

Percent of map unit: 10 percent
Landform: Terraces

Hydric soil rating: No

Data Source Information

Soil Survey Area: Franklin County, Washington
Survey Area Data: Version 17, Sep 16, 2019