USDA United States Department of Agriculture
Farm Service Agency

Farm: 5051
Tract: 7532

Accomack County

1:6,000

March 25, 2019

Disclaimer: Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

Legend

- Parcel Boundary
- Application Area
- Occupied Dwellings
- Occupied Dwellings 200 ft Buffer
- Stream
- Ag Ditch 10 ft Buffer
- Streams 35 ft Buffer
- Roads
- Road 10 ft Buffer

Farm: 5051
Tract: 7532

Accomack County, Virginia

Total Field Acres:
Field 1: 36.2

Total Application Acres:
Field 1: 34.74

0 165 330 660 Feet

1 inch = 284 feet

N
W E
S

Accomack County, Virginia

Legend

Tax Parcel 25-A-47

Operator: Tommy Davis

Owner: Beverly Fletcher

Map Printed from AccoMap
http://accomack.mapsdirect.net/

Feet

0 200 400 600 800

Title: Farm 5051 Tract 7532 Field 1 **Date: 9/9/2020**

DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and Accomack County is not responsible for its accuracy or how current it may be.

Soil Map—Accomack County, Virginia
(F-5051 T-7532)

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 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Accomack County, Virginia
Survey Area Data: Version 16, Jun 3, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 24, 2017

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
BhB	Bojac loamy sand, 2 to 6 percent slopes	6.0	16.2%
BkA	Bojac sandy loam, 0 to 2 percent slopes	29.0	77.8%
DrA	Dragston fine sandy loam, 0 to 2 percent slopes	0.1	0.2%
McA	Melfa-Hobucken complex, 0 to 1 percent slopes, frequently flooded	0.0	0.1%
MuA	Munden sandy loam, 0 to 2 percent slopes	2.0	5.5%
PoA	Polawana mucky sandy loam, 0 to 2 percent slopes, frequently flooded	0.1	0.2%
Totals for Area of Interest		**37.2**	**100.0%**

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Accomack County, Virginia

AmA—Arapahoe-Melfa complex, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 3yvr

Elevation: 0 to 20 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Arapahoe and similar soils: 45 percent
Melfa and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arapahoe

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 13 inches: mucky loam
H2 - 13 to 34 inches: loam
H3 - 34 to 85 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of Melfa

Setting

Landform: Salt marshes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

Oe - 0 to 6 inches: mucky peat
H2 - 6 to 13 inches: sandy loam

H3 - 13 to 50 inches: sandy loam
H4 - 50 to 85 inches: coarse sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Slightly saline to strongly saline (7.0 to 30.0 mmhos/cm)
Sodium adsorption ratio, maximum: 90.0
Available water capacity: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

BhB—Bojac loamy sand, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 3yvv
Elevation: 10 to 250 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bojac and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bojac

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 7 inches: loamy sand
H2 - 7 to 40 inches: loam
H3 - 40 to 85 inches: sand

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Hydric soil rating: No

BkA—Bojac sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yvw
Elevation: 10 to 250 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bojac and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bojac

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 7 inches: sandy loam
H2 - 7 to 40 inches: loam
H3 - 40 to 85 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: A
Hydric soil rating: No

DrA—Dragston fine sandy loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 3yw0
Elevation: 0 to 20 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Prime farmland if drained

Map Unit Composition
Dragston and similar soils: 90 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dragston

Setting
Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile
H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 40 inches: loam
H3 - 40 to 85 inches: fine sand

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A/D
Hydric soil rating: No

Minor Components

Arapahoe

Percent of map unit: 3 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

McA—Melfa-Hobucken complex, 0 to 1 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 3yw5
Elevation: 0 to 10 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Melfa and similar soils: 45 percent
Hobucken and similar soils: 40 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Melfa

Setting

Landform: Tidal flats
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

Oe - 0 to 6 inches: mucky peat
H2 - 6 to 13 inches: sandy loam
H3 - 13 to 50 inches: sandy loam
H4 - 50 to 85 inches: coarse sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Slightly saline to strongly saline (7.0 to 30.0 mmhos/cm)
Sodium adsorption ratio, maximum: 90.0
Available water capacity: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of Hobucken

Setting

Landform: Tidal flats
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

H1 - 0 to 13 inches: loam
H2 - 13 to 40 inches: loam
H3 - 40 to 85 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Maximum salinity: Strongly saline (16.0 to 70.0 mmhos/cm)
Sodium adsorption ratio, maximum: 50.0
Available water capacity: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Chincoteague

Percent of map unit: 1 percent
Landform: Salt marshes

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

MoD—Molena loamy sand, 6 to 35 percent slopes

Map Unit Setting

National map unit symbol: 3yw7
Elevation: 20 to 70 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Molena and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Molena

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 8 inches: loamy sand
H2 - 8 to 45 inches: loamy sand
H3 - 45 to 85 inches: sand

Properties and qualities

Slope: 6 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

MuA—Munden sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yw8
Elevation: 0 to 150 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Munden and similar soils: 90 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Munden

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 8 inches: sandy loam
H2 - 8 to 40 inches: sandy loam
H3 - 40 to 85 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Nimmo

Percent of map unit: 6 percent
Landform: Depressions

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

NmA—Nimmo sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yw9
Elevation: 10 to 100 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Nimmo and similar soils: 85 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nimmo

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 6 inches: sandy loam
H2 - 6 to 32 inches: loam
H3 - 32 to 85 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Polawana

Percent of map unit: 2 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

PoA—Polawana mucky sandy loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 3ywb
Elevation: 10 to 100 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Polawana and similar soils: 95 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Polawana

Setting

Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

H1 - 0 to 22 inches: mucky sandy loam
H2 - 22 to 85 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: FrequentNone
Frequency of ponding: Frequent
Available water capacity: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Nimmo

Percent of map unit: 2 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

W—Water

Map Unit Setting

National map unit symbol: 3ywf
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Down-slope shape: Linear
Across-slope shape: Linear

Data Source Information

Soil Survey Area: Accomack County, Virginia
Survey Area Data: Version 16, Jun 3, 2020

USDA United States Department of Agriculture
Farm Service Agency

March 26, 2019

Farm: 5051
Tract: 7531

Accomack County

1:11,208

Disclaimer: Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

Legend

- Parcel Boundary
- Application Area
- Occupied Dwellings
- Occupied Dwellings 200 ft Buffer
- Stream
- Ag Ditch 10 ft Buffer
- Streams 35 ft Buffer
- Roads
- Road 10 ft Buffer

Farm: 5051
Tract: 7531

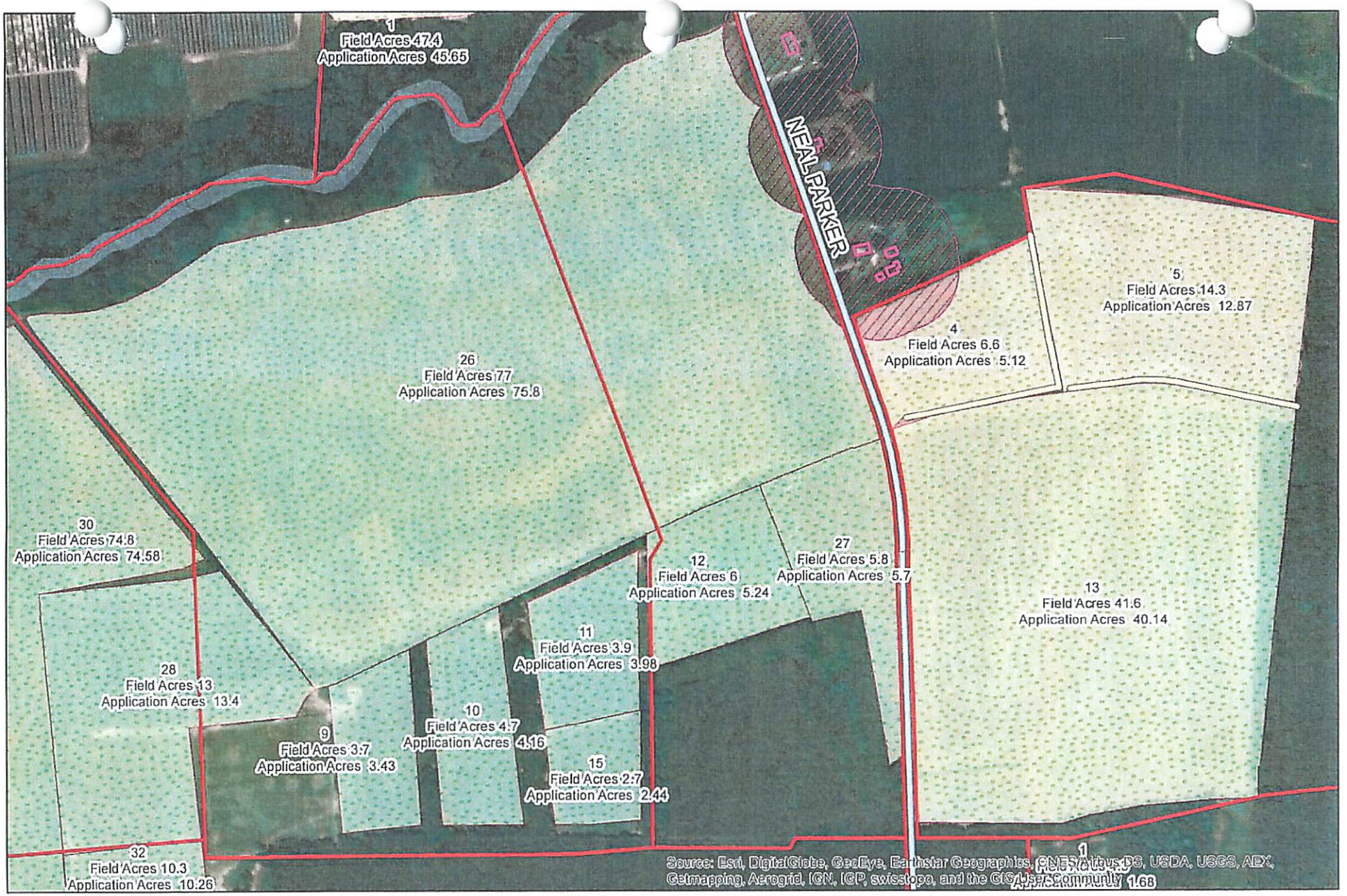
Accomack County, Virginia

Total Field Acres:
Field 1: 47.4

Total Application Acres:
Field 1: 45.65

0 145 290 580 Feet

1 inch = 255 feet



Legend

- Parcel Boundary
- Application Area
- Occupied Dwellings
- Occupied Dwellings 200 ft Buffer
- Stream
- Ag Ditch 10 ft Buffer
- Streams 35 ft Buffer
- Roads
- Road 10 ft Buffer

Farm: 5051
Tract: 7531

Accomack County, Virginia

0 245 490 980 Feet
1 inch = 421 feet

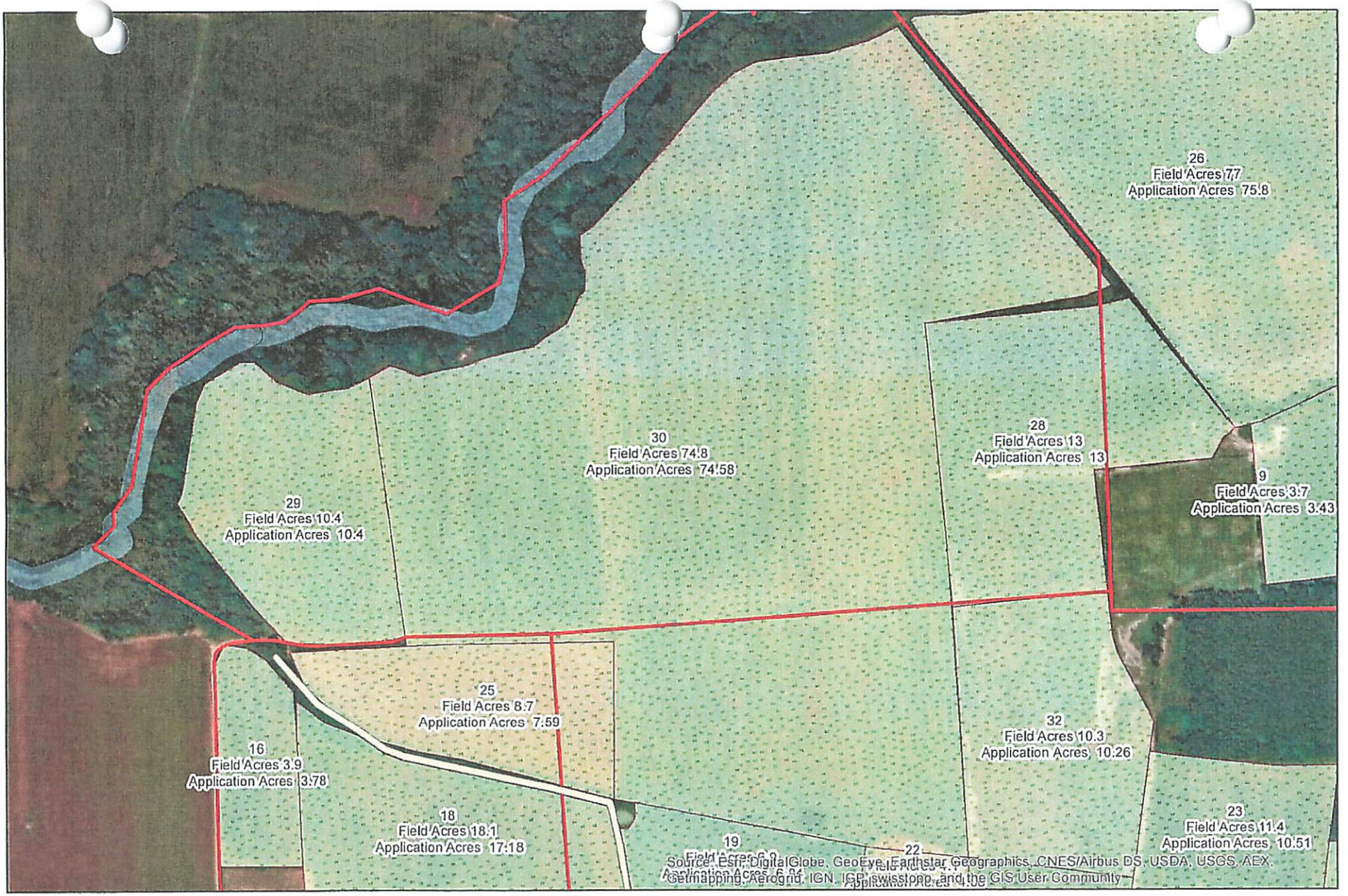
Total Field Acres:

Field 4: 6.6	Field 12: 6
Field 5: 14.3	Field 13: 41.6
Field 9: 3.7	Field 15: 2.7
Field 10: 4.7	Field 26: 77
Field 11: 3.9	Field 27: 5.8

Total Application Acres:

Field 4: 5.12	Field 12: 5.24
Field 5: 12.87	Field 13: 40.14
Field 9: 3.43	Field 15: 2.44
Field 10: 4.16	Field 26: 75.8
Field 11: 3.98	Field 27: 5.7

N W E S



Legend

- Parcel Boundary
- Application Area
- Occupied Dwellings
- Occupied Dwellings 200 ft Buffer
- Stream
- Ag Ditch 10 ft Buffer
- Streams 35 ft Buffer
- Roads
- Road 10 ft Buffer

Farm: 5051
Tract: 7531

Accomack County, Virginia

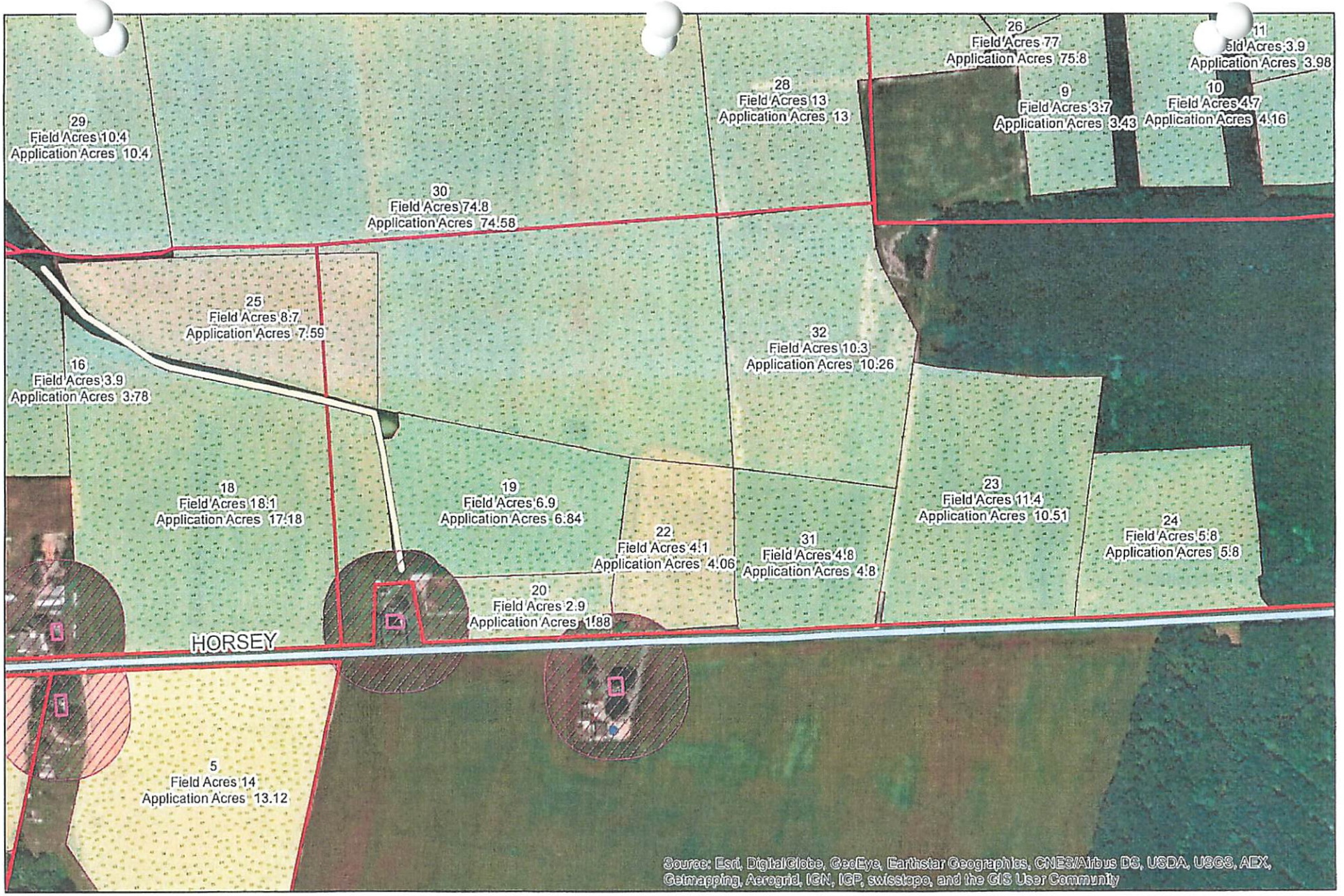
0 220 440 880 Feet

1 inch = 385 feet

Total Field Acres:
- Field 16: 3.9
- Field 25: 8.7
- Field 28: 13
- Field 29: 10.4
- Field 30: 74.8
- Field 32: 10.3

Total Application Acres:
- Field 16: 3.78
- Field 25: 7.59
- Field 28: 13
- Field 29: 10.4
- Field 30: 74.58
- Field 32: 10.26

N W E S



Legend

- Parcel Boundary
- Application Area
- Occupied Dwellings
- Occupied Dwellings 200 ft Buffer
- Stream
- Ag Ditch 10 ft Buffer
- Streams 35 ft Buffer
- Roads
- Road 10 ft Buffer

Farm: 5051
Tract: 7531

Accomack County, Virginia

0 220 440 880 Feet

1 inch = 383 feet

Total Field Acres:
- Field 18: 18.1
- Field 19: 6.9
- Field 20: 2.9
- Field 22: 4.1
- Field 23: 11.4
- Field 24: 5.8
- Field 31: 4.8

Total Application Acres:
- Field 18: 17.18
- Field 19: 6.84
- Field 20: 1.88
- Field 22: 4.06
- Field 23: 10.51
- Field 24: 5.8
- Field 31: 4.8

N W E S

Legend

- Application Area
- Parcel Boundary
- 100 ft Parcel Buffer
- Occupied Dwellings
- Occupied Dwelling 200 ft Buffer
- Ag Ditch
- Ag Ditch 10 ft Buffer
- Streams
- Streams 35 ft Buffer

Farm: 5051
Tract: 7531

Accomack County, Virginia

0 220 440 880 Feet

1 inch = 379 feet

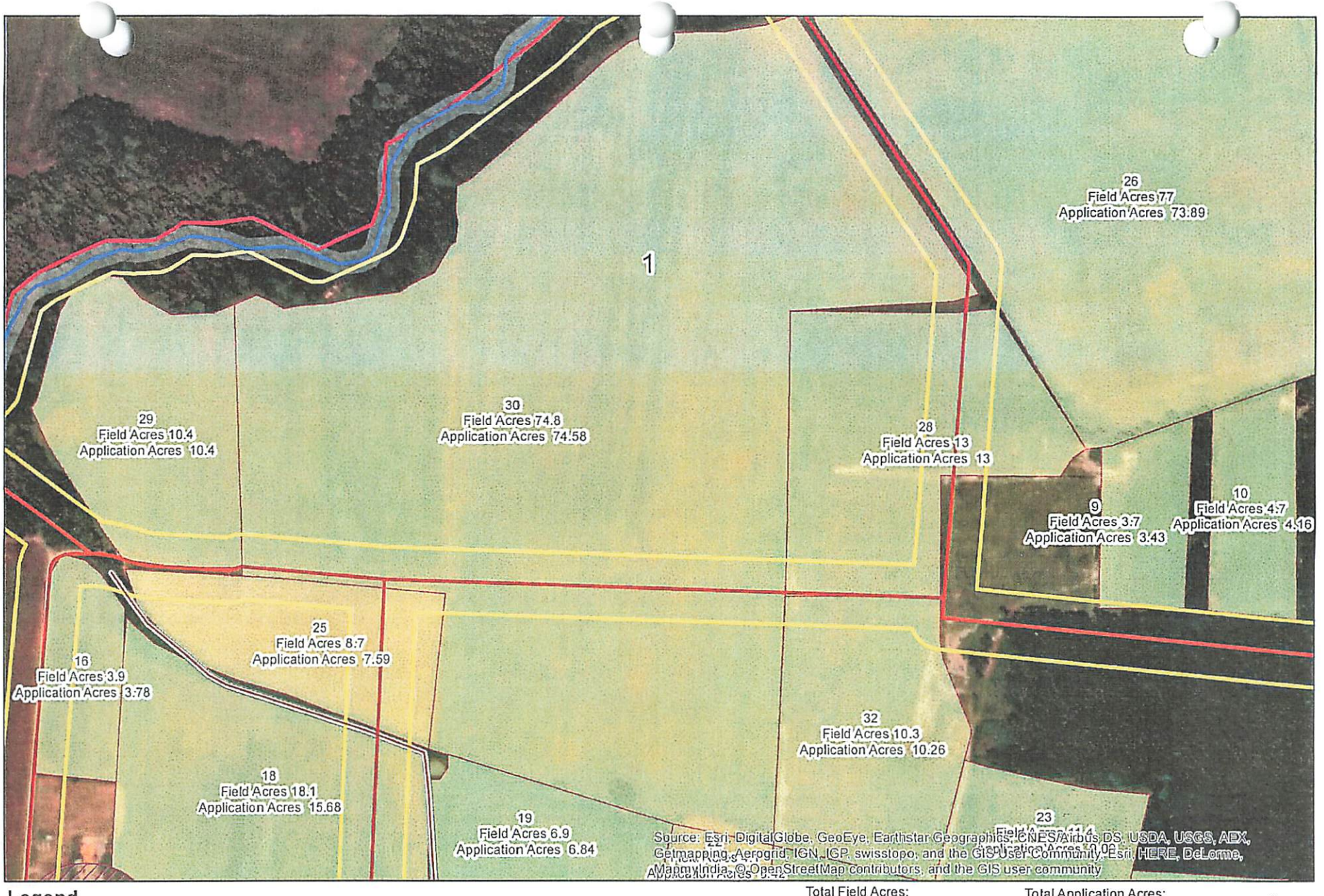
Total Field Acres:

Field 16: 3.9
Field 18: 18.1
Field 19: 6.9
Field 20: 2.9
Field 22: 4.1
Field 23: 11.4
Field 24: 5.8
Field 25: 8.7
Field 31: 4.8
Field 32: 10.3

Total Application Acres:

Field 16: 3.78
Field 18: 15.68
Field 19: 6.84
Field 20: 1
Field 22: 3.42
Field 23: 9.09
Field 24: 4.89
Field 25: 7.59
Field 31: 4.02
Field 32: 10.26

N W E S



Legend

- Application Area
- Parcel Boundary
- 100 ft Parcel Buffer
- Occupied Dwellings
- Occupied Dwelling 200 ft Buffer
- Ag Ditch
- Ag Ditch 10 ft Buffer
- Streams
- Streams 35 ft Buffer

Farm: 5051
Tract: 7531

Accomack County, Virginia

0 220 440 880 Feet

1 inch = 379 feet

Total Field Acres:
Field 9: 3.7
Field 10: 4.7
Field 28: 13
Field 29: 10.4
Field 30: 74.8

Total Application Acres:
Field 9: 3.43
Field 10: 4.16
Field 28: 13
Field 29: 10.4
Field 30: 74.58

N
W E
S

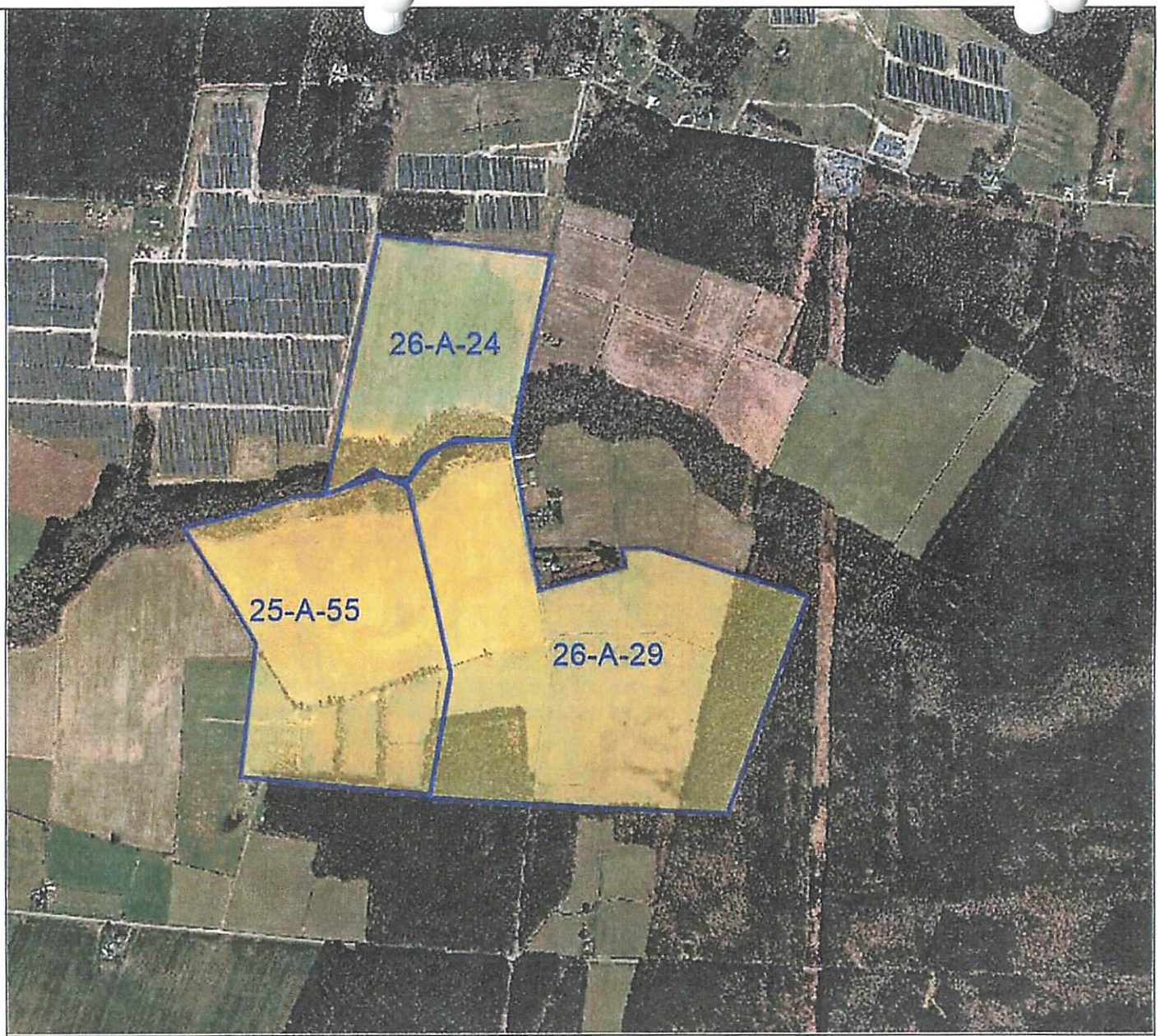
Accomack County, Virginia

Legend

Tax Parcel 25-A-55, 26-A-24
26-A-29

Operator: Tommy Davis

Owner: Beverly Fletcher



Map Printed from AccoMap
http://accomack.mapsdirect.net/

Feet

0 500 1000 1500 2000

Title: Farm 5051 Tract 7531 Field 1, 4, 5, 9-13, 15, 26, 27 **Date: 9/9/2020**

DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and Accomack County is not responsible for its accuracy or how current it may be.

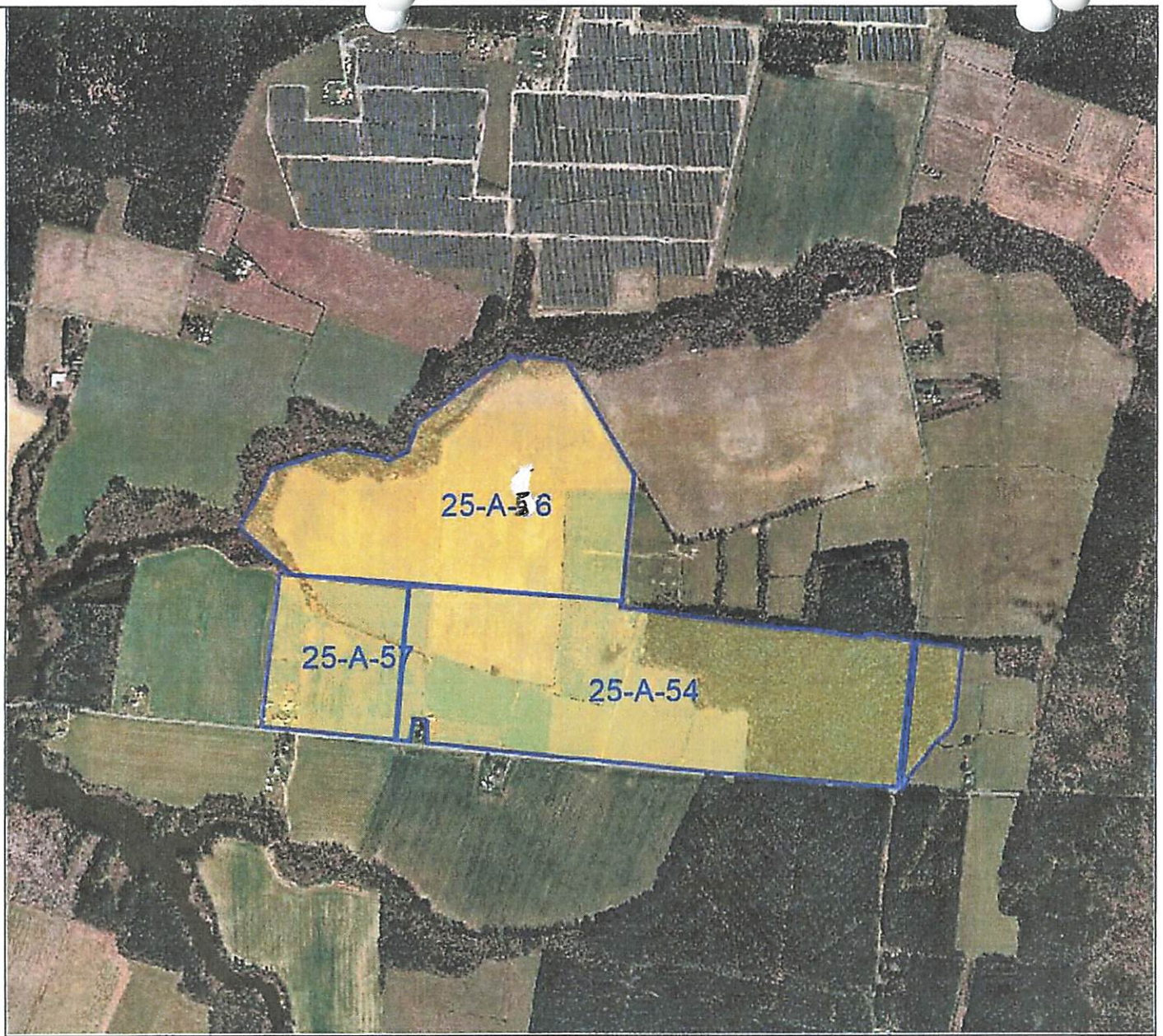
Accomack County, Virginia

Legend

Tax Parcels 25-A-54, 25-A-57
25-A-56

Operator: Tommy Davis

Owner: Beverly Fletcher



Map Printed from AccoMap
http://accomack.mapsdirect.net/

Feet

0 500 1000 1500 2000

Title: Farm 5051 Tract 7531 Field 16, 18-20, 22-25, 28-32 **Date: 9/9/2020**

DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and Accomack County is not responsible for its accuracy or how current it may be.

VPA PERMIT APPLICATION FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS

PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS

A. This land application agreement is made on 10/29/2020 between Beverly Fletcher referred to here as "Landowner", and Tyson Foods, referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

Landowner:
The Landowner is the owner of record of the real property located in Accomack County, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) with county documentation identifying owners, attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges

Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
25-A-60 T7529	25-A-58A T7532	26-A-24 T7537	25-A-56 T7531
25-A-63 T7529	25-A-58B T7532	26-A-29 T7537	25-A-47 T7532
25-A-58 T7529	25-A-55 T7531	25-A-57 T7534	25-A-64 T7531
26-A-32 T7532			
26-A-33 T7532			
25-A-54 T7531			

☐ Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one: ☒ The Landowner is the sole owner of the properties identified herein.
☐ The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

Class B biosolids	Water treatment residuals	Food processing waste	Other industrial sludges
☐ Yes ☒ No	☐ Yes ☒ No	☒ Yes ☐ No	☐ Yes ☒ No

Printed name / By:	Mailing Address	Landowner Signature
Beverly Fletcher By: B. Beverly Fletcher	27329 Tonsy Rd Oak Hall, VA 23416	B. Beverly Fletcher
Title*	Phone No. 757 824 3930	

*☒ I certify that I have authority to sign for the landowner as indicated by my title as Executor, Trustee or Power of attorney, etc.

*☐ I certify that I am a responsible official [or officer] authorized to act on behalf of the corporation, partnership, proprietorship, LLC, municipality, state or federal agency, etc.

Permittee:
Tyson Foods, the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

Printed name	Mailing Address	Permittee- Authorized Representative Signature
Kevin Taylor	P.O. Box 8 Temperanceville, VA 23442	Kevin Taylor
Title Complex Manager	Phone No. 757-824-3471	

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Permittee: Tyson Foods **County or City:** Accomack County

Landowner: Beverly Fletcher

Landowner Site Management Requirements:

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.

2. Public Access
   a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
   b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
   c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.

3. Crop Restrictions:
   a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
   b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
   c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
   d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
   e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).

4. Livestock Access Restrictions:
   Following biosolids application to pasture or hayland sites:
   a. Meat producing livestock shall not be grazed for 30 days,
   b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
   c. Other animals shall be restricted from grazing for 30 days;

5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;

6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

B. Beverly Fletcher — 10/29/20

Landowner's Signature — Date

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Landowner Coordination Form

This form is used by the Permittee to identify properties (tax parcels) that are authorized to receive biosolids and/or industrial residuals, and each of the legal landowners of those tax parcels. A *Land Application Agreement - Biosolids and Industrial Residuals* form with original signature must be attached for each legal landowner identified below prior to land application at the identified parcels.

Submission of completed Form D VPA Permit Application Workbook, Tabs 14.a and/or 14.b, supersedes the need to complete this Landowner Coordination Form.

Permittee: Tyson Foods

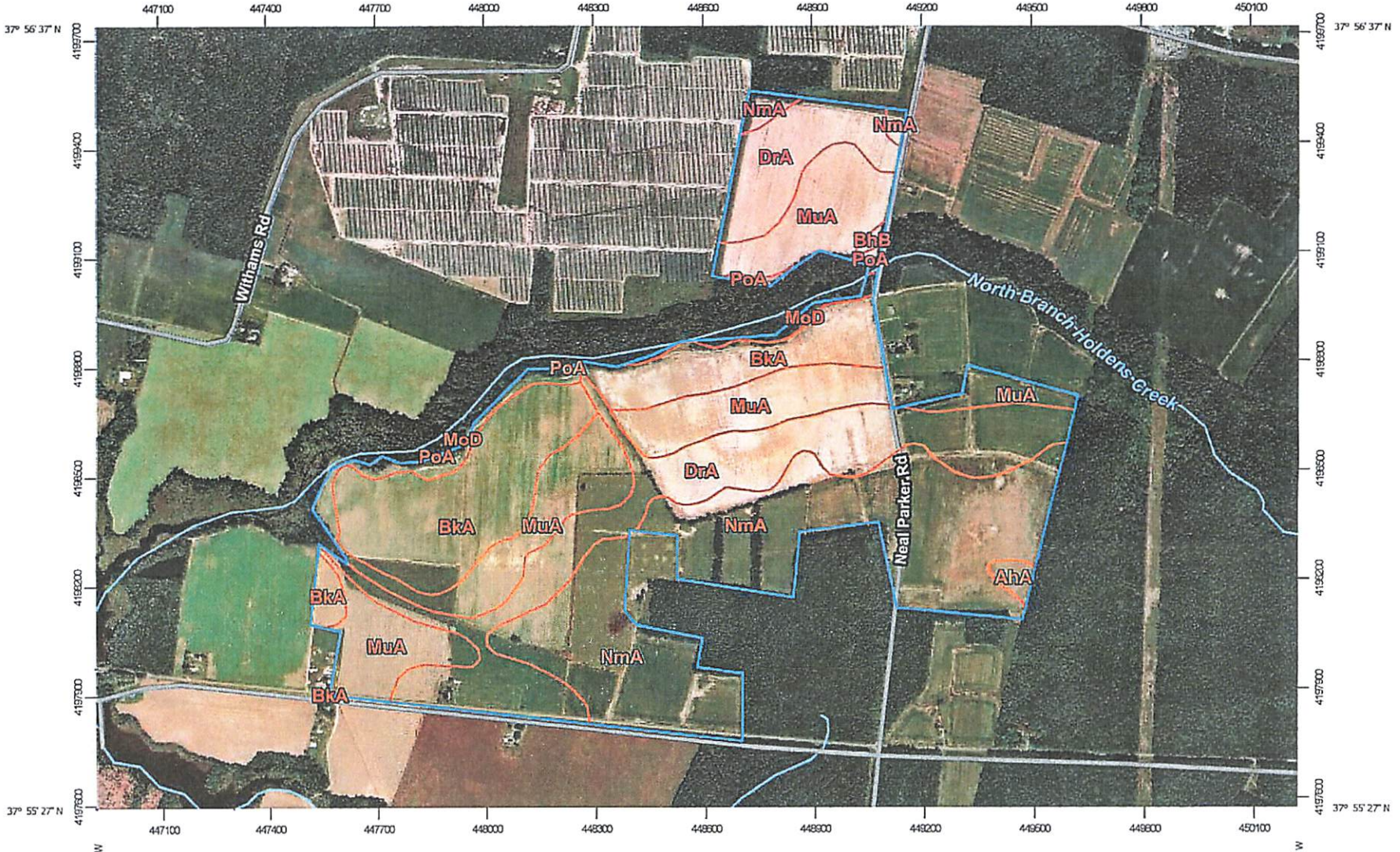
County or City: Accomack County

Please Print

(Landowner signatures are not required on this page

Tax Parcel ID(s)	Landowner(s)
25-A-60	Beverly Fletcher
25-A-63	
25-A-58	
25-A-58A	
25-A-58B	
25-A-55	
26-A-24	
26-A-29	
25-A-54	
25-A-57	
25-A-56	
25-A-47	
25-A-64	
26-A-32	
26-A 33	

Soil Map—Accomack County, Virginia
(F-5051 T-7531)



Map Scale: 1:15,100 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 200 400 800 1200

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

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 1:15,800.

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: Accomack County, Virginia
Survey Area Data: Version 16, Jun 3, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 24, 2017

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
AhA	Arapahoe mucky loam, 0 to 2 percent slopes, rarely flooded	2.4	0.6%
BhB	Bojac loamy sand, 2 to 6 percent slopes	0.9	0.2%
BkA	Bojac sandy loam, 0 to 2 percent slopes	77.7	18.6%
DrA	Dragston fine sandy loam, 0 to 2 percent slopes	103.1	24.7%
MoD	Molena loamy sand, 6 to 35 percent slopes	11.3	2.7%
MuA	Munden sandy loam, 0 to 2 percent slopes	94.8	22.7%
NmA	Nimmo sandy loam, 0 to 2 percent slopes	125.2	30.0%
PoA	Polawana mucky sandy loam, 0 to 2 percent slopes, frequently flooded	1.7	0.4%
Totals for Area of Interest		**417.1**	**100.0%**

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Accomack County, Virginia

AmA—Arapahoe-Melfa complex, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 3yvr

Elevation: 0 to 20 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Arapahoe and similar soils: 45 percent
Melfa and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arapahoe

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 13 inches: mucky loam
H2 - 13 to 34 inches: loam
H3 - 34 to 85 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of Melfa

Setting

Landform: Salt marshes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

Oe - 0 to 6 inches: mucky peat
H2 - 6 to 13 inches: sandy loam

H3 - 13 to 50 inches: sandy loam
H4 - 50 to 85 inches: coarse sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Slightly saline to strongly saline (7.0 to 30.0 mmhos/cm)
Sodium adsorption ratio, maximum: 90.0
Available water capacity: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

BhB—Bojac loamy sand, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 3yvv
Elevation: 10 to 250 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bojac and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bojac

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 7 inches: loamy sand
H2 - 7 to 40 inches: loam
H3 - 40 to 85 inches: sand

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Hydric soil rating: No

BkA—Bojac sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yvw
Elevation: 10 to 250 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bojac and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bojac

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 7 inches: sandy loam
H2 - 7 to 40 inches: loam
H3 - 40 to 85 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: A
Hydric soil rating: No

DrA—Dragston fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yw0
Elevation: 0 to 20 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Dragston and similar soils: 90 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dragston

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 40 inches: loam
H3 - 40 to 85 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A/D
Hydric soil rating: No

Minor Components

Arapahoe

Percent of map unit: 3 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

McA—Melfa-Hobucken complex, 0 to 1 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 3yw5
Elevation: 0 to 10 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Melfa and similar soils: 45 percent
Hobucken and similar soils: 40 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Melfa

Setting

Landform: Tidal flats
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

Oe - 0 to 6 inches: mucky peat
H2 - 6 to 13 inches: sandy loam
H3 - 13 to 50 inches: sandy loam
H4 - 50 to 85 inches: coarse sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Slightly saline to strongly saline (7.0 to 30.0 mmhos/cm)
Sodium adsorption ratio, maximum: 90.0
Available water capacity: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of Hobucken

Setting

Landform: Tidal flats
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

H1 - 0 to 13 inches: loam
H2 - 13 to 40 inches: loam
H3 - 40 to 85 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Maximum salinity: Strongly saline (16.0 to 70.0 mmhos/cm)
Sodium adsorption ratio, maximum: 50.0
Available water capacity: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Chincoteague

Percent of map unit: 1 percent
Landform: Salt marshes

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

MoD—Molena loamy sand, 6 to 35 percent slopes

Map Unit Setting

National map unit symbol: 3yw7
Elevation: 20 to 70 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Molena and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Molena

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 8 inches: loamy sand
H2 - 8 to 45 inches: loamy sand
H3 - 45 to 85 inches: sand

Properties and qualities

Slope: 6 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

MuA—Munden sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yw8
Elevation: 0 to 150 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Munden and similar soils: 90 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Munden

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 8 inches: sandy loam
H2 - 8 to 40 inches: sandy loam
H3 - 40 to 85 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Nimmo

Percent of map unit: 6 percent
Landform: Depressions

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

NmA—Nimmo sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yw9
Elevation: 10 to 100 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Nimmo and similar soils: 85 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nimmo

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 6 inches: sandy loam
H2 - 6 to 32 inches: loam
H3 - 32 to 85 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Polawana

Percent of map unit: 2 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

PoA—Polawana mucky sandy loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 3ywb
Elevation: 10 to 100 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Polawana and similar soils: 95 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Polawana

Setting

Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

H1 - 0 to 22 inches: mucky sandy loam
H2 - 22 to 85 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: FrequentNone
Frequency of ponding: Frequent
Available water capacity: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Nimmo

Percent of map unit: 2 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

W—Water

Map Unit Setting

National map unit symbol: 3ywf
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Down-slope shape: Linear
Across-slope shape: Linear

Data Source Information

Soil Survey Area: Accomack County, Virginia
Survey Area Data: Version 16, Jun 3, 2020

USDA United States Department of Agriculture
Farm Service Agency

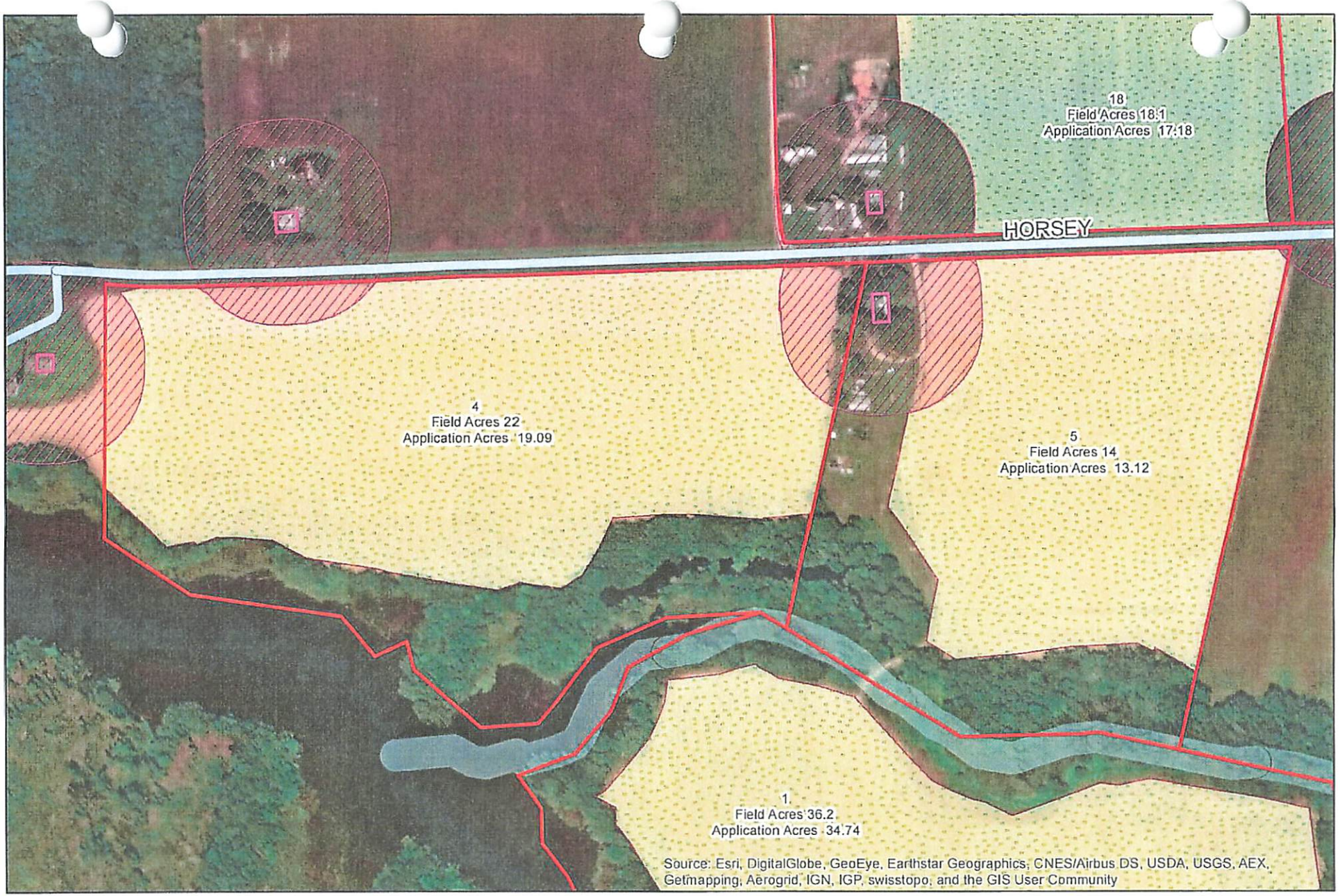
Farm: 5051
Tract: 7528

Accomack County

1:6,988

March 26, 2019

Disclaimer: Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.



Legend

- Parcel Boundary
- Application Area
- Occupied Dwellings
- Occupied Dwellings 200 ft Buffer
- Stream
- Ag Ditch 10 ft Buffer
- Streams 35 ft Buffer
- Roads
- Road 10 ft Buffer

Farm: 5051
Tract: 7528

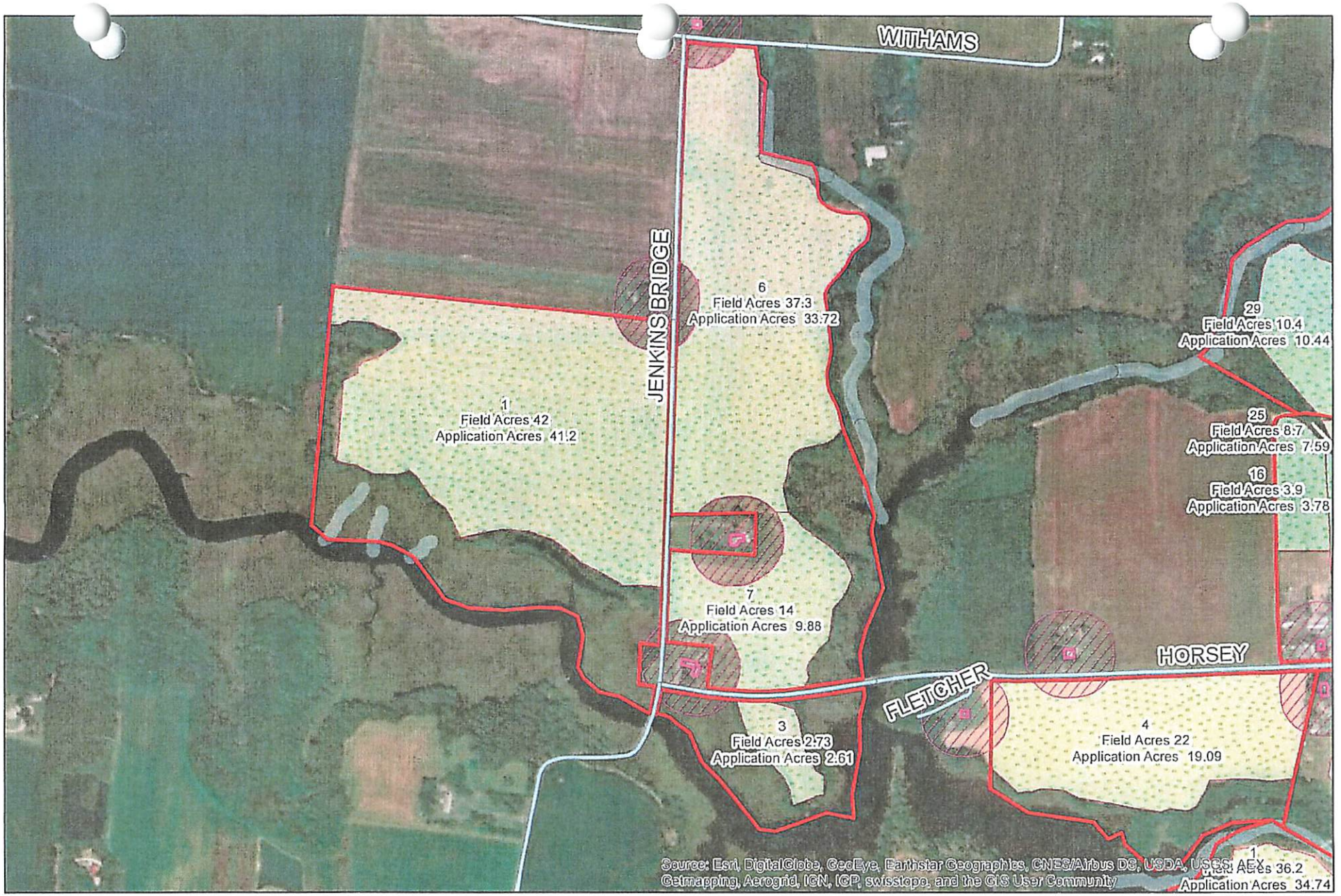
Accomack County, Virginia

0 155 310 620 Feet
1 inch = 267 feet

Total Field Acres:
Field 4: 22
Field 5: 14

Total Application Acres:
Field 4: 19.09
Field 5: 13.12

N
W E
S



Legend

- Parcel Boundary
- Application Area
- Occupied Dwellings
- Occupied Dwellings 200 ft Buffer
- Stream
- Ag Ditch 10 ft Buffer
- Streams 35 ft Buffer
- Roads
- Road 10 ft Buffer

Farm: 5051
Tract: 7528, 7534

Accomack County, Virginia

0 360 720 1,440 Feet

1 inch = 627 feet

Total Field Acres:
Field 1: 42
Field 3: 2.73
Field 6: 37.3
Field 7: 14

Total Application Acres:
Field 1: 41.2
Field 3: 2.61
Field 6: 33.72
Field 7: 9.88

N
W E
S

Accomack County, Virginia

Legend

Tax Parcel 25-A-60
25-A-63

Operator: Tommy Davis

Owner: Beverly Fletcher

Map Printed from AccoMap
http://accomack.mapsdirect.net/

Feet
0 200 400 600 800

Title: Farm 5051 Tract 7528 Field 3, 6, 7

Date: 9/9/2020

DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and Accomack County is not responsible for its accuracy or how current it may be.

Accomack County, Virginia

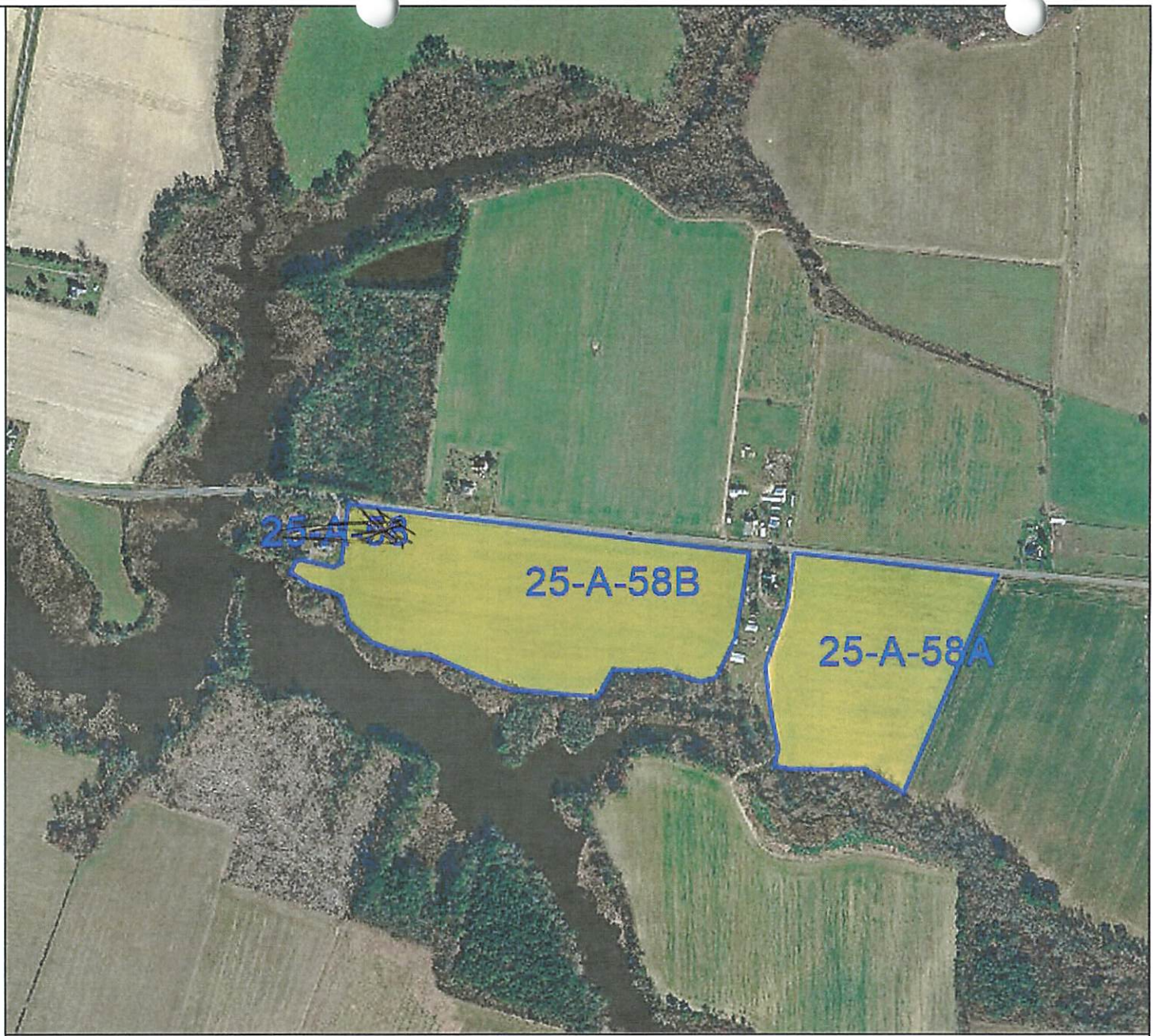
Legend

Tax Parcels 25-A-58B

Owner: Tommy Davis

25-A-58A

Owner: Beverly Fletcher



Map Printed from AccoMap
http://accomack.mapsdirect.net/

Feet

0 200 400 600 800

Title: Farm 5051 Tract 7528 Field 4 and 5

Date: 9/9/2020

DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and Accomack County is not responsible for its accuracy or how current it may be.

VPA PERMIT APPLICATION FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS

PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS

A. This land application agreement is made on 10/24/2020 between Thomas Davis or Cherron Davis here as "Landowner", and Tyson Foods, referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

Landowner:
The Landowner is the owner of record of the real property located in Accomack Cty Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) with county documentation identifying owners, attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges

Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
T7865 12-A-42	25-A-58B T-7528 #4		
T76272 12-A-17			
T76787			
T76927			
T78046			

☐ Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one: ☒ The Landowner is the sole owner of the properties identified herein.
☐ The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

Class B biosolids	Water treatment residuals	Food processing waste	Other industrial sludges
☐ Yes ☒ No	☐ Yes ☒ No	☒ Yes ☐ No	☐ Yes ☒ No

Printed name / By:	Mailing Address	Landowner Signature
Thomas A Davis	3093 Lilli Millpond Rd New Church, VA 23415	Thomas A Davis
Title* Owner	Phone No. 757 824 3163	

*☒ I certify that I have authority to sign for the landowner as indicated by my title as Executor, Trustee or Power of attorney, etc.

*☐ I certify that I am a responsible official (or officer) authorized to act on behalf of the corporation, partnership, proprietorship, LLC, municipality, state or federal agency, etc.

Permittee:
Tyson Foods, the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

Printed name	Mailing Address	Permittee- Authorized Representative Signature
Kevin Taylor	P.O. Box 8 Temperanceville, VA 23442	Kevin Taylor
Title Complex Manager	Phone No. 757-824-3471	

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Permittee: Tyson Foods **County or City:** Accomack

Landowner: Thomas Davis or Cherron Davis

Landowner Site Management Requirements:

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.

2. Public Access
   a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
   b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
   c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.

3. Crop Restrictions:
   a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
   b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
   c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
   d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
   e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).

4. Livestock Access Restrictions:
   Following biosolids application to pasture or hayland sites:
   a. Meat producing livestock shall not be grazed for 30 days,
   b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
   c. Other animals shall be restricted from grazing for 30 days;

5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;

6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

Thomas A. Davis

Landowner's Signature

10/24/22

Date

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Landowner Coordination Form

This form is used by the Permittee to identify properties (tax parcels) that are authorized to receive biosolids and/or industrial residuals, and each of the legal landowners of those tax parcels. A *Land Application Agreement - Biosolids and Industrial Residuals* form with original signature must be attached for each legal landowner identified below prior to land application at the identified parcels.

Submission of completed Form D VPA Permit Application Workbook, Tabs 14.a and/or 14.b, supersedes the need to complete this Landowner Coordination Form.

Permittee: Tyson Foods

County or City: Accomack County

Please Print

(Landowner signatures are not required on this page

Tax Parcel ID(s)	Landowner(s)
12-A-42	Thomas Davis or Cherron Davis
12-A-17	" "
25-A-58B	" "

Rev 6/11/2018b

Soil Map—Accomack County, Virginia
(F-5051 T-7528)

Map Scale: 1:9,930 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

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 1:15,800.

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: Accomack County, Virginia
Survey Area Data: Version 16, Jun 3, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 24, 2017

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
AmA	Arapahoe-Melfa complex, 0 to 2 percent slopes, frequently flooded	2.4	2.4%
BhB	Bojac loamy sand, 2 to 6 percent slopes	0.0	0.0%
BkA	Bojac sandy loam, 0 to 2 percent slopes	57.0	56.8%
DrA	Dragston fine sandy loam, 0 to 2 percent slopes	4.3	4.3%
McA	Melfa-Hobucken complex, 0 to 1 percent slopes, frequently flooded	1.1	1.1%
MoD	Molena loamy sand, 6 to 35 percent slopes	5.0	5.0%
MuA	Munden sandy loam, 0 to 2 percent slopes	22.5	22.4%
NmA	Nimmo sandy loam, 0 to 2 percent slopes	3.2	3.2%
PoA	Polawana mucky sandy loam, 0 to 2 percent slopes, frequently flooded	4.7	4.7%
W	Water	0.0	0.0%
Totals for Area of Interest		**100.2**	**100.0%**

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Accomack County, Virginia

AmA—Arapahoe-Melfa complex, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 3yvr

Elevation: 0 to 20 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Arapahoe and similar soils: 45 percent
Melfa and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arapahoe

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 13 inches: mucky loam
H2 - 13 to 34 inches: loam
H3 - 34 to 85 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of Melfa

Setting

Landform: Salt marshes
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

Oe - 0 to 6 inches: mucky peat
H2 - 6 to 13 inches: sandy loam

H3 - 13 to 50 inches: sandy loam
H4 - 50 to 85 inches: coarse sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Slightly saline to strongly saline (7.0 to 30.0 mmhos/cm)
Sodium adsorption ratio, maximum: 90.0
Available water capacity: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

BhB—Bojac loamy sand, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 3yvv
Elevation: 10 to 250 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bojac and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bojac

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 7 inches: loamy sand
H2 - 7 to 40 inches: loam
H3 - 40 to 85 inches: sand

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Hydric soil rating: No

BkA—Bojac sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yvw
Elevation: 10 to 250 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bojac and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bojac

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 7 inches: sandy loam
H2 - 7 to 40 inches: loam
H3 - 40 to 85 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: A
Hydric soil rating: No

DrA—Dragston fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yw0
Elevation: 0 to 20 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Dragston and similar soils: 90 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dragston

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 40 inches: loam
H3 - 40 to 85 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A/D
Hydric soil rating: No

Minor Components

Arapahoe

Percent of map unit: 3 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

McA—Melfa-Hobucken complex, 0 to 1 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 3yw5
Elevation: 0 to 10 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Melfa and similar soils: 45 percent
Hobucken and similar soils: 40 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Melfa

Setting

Landform: Tidal flats
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

Oe - 0 to 6 inches: mucky peat
H2 - 6 to 13 inches: sandy loam
H3 - 13 to 50 inches: sandy loam
H4 - 50 to 85 inches: coarse sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Slightly saline to strongly saline (7.0 to 30.0 mmhos/cm)
Sodium adsorption ratio, maximum: 90.0
Available water capacity: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of Hobucken

Setting

Landform: Tidal flats
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

H1 - 0 to 13 inches: loam
H2 - 13 to 40 inches: loam
H3 - 40 to 85 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Maximum salinity: Strongly saline (16.0 to 70.0 mmhos/cm)
Sodium adsorption ratio, maximum: 50.0
Available water capacity: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Chincoteague

Percent of map unit: 1 percent
Landform: Salt marshes

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

MoD—Molena loamy sand, 6 to 35 percent slopes

Map Unit Setting

National map unit symbol: 3yw7
Elevation: 20 to 70 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Molena and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Molena

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 8 inches: loamy sand
H2 - 8 to 45 inches: loamy sand
H3 - 45 to 85 inches: sand

Properties and qualities

Slope: 6 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

MuA—Munden sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yw8
Elevation: 0 to 150 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Munden and similar soils: 90 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Munden

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 8 inches: sandy loam
H2 - 8 to 40 inches: sandy loam
H3 - 40 to 85 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Nimmo

Percent of map unit: 6 percent
Landform: Depressions

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

NmA—Nimmo sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 3yw9
Elevation: 10 to 100 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Nimmo and similar soils: 85 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nimmo

Setting

Landform: Terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine sediments

Typical profile

H1 - 0 to 6 inches: sandy loam
H2 - 6 to 32 inches: loam
H3 - 32 to 85 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Polawana

Percent of map unit: 2 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

PoA—Polawana mucky sandy loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 3ywb
Elevation: 10 to 100 feet
Mean annual precipitation: 25 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Polawana and similar soils: 95 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Polawana

Setting

Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine sediments

Typical profile

H1 - 0 to 22 inches: mucky sandy loam
H2 - 22 to 85 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: FrequentNone
Frequency of ponding: Frequent
Available water capacity: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Nimmo

Percent of map unit: 2 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

W—Water

Map Unit Setting

National map unit symbol: 3ywf
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Down-slope shape: Linear
Across-slope shape: Linear

Data Source Information

Soil Survey Area: Accomack County, Virginia
Survey Area Data: Version 16, Jun 3, 2020