
JMM WETLAND CONSULTING SERVICES, LLC

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Newtown, CT 06482**

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April 5, 2023

Town of South Windsor
Inland Wetlands Agency/Conservation Commission
1540 Sullivan Avenue
South Windsor, CT 06074

RE: **WETLANDS ASSESSMENT/IMPACT ANALYSIS**
75 Connecticut Avenue, South Windsor, Connecticut

JMM Job # 21-2770-SWN-2

1.0 Introduction

Per the request of the applicant, Trio Investment Properties, LLC, **JMM Wetland Consulting Services, LLC** (JMM) is providing this *Wetlands Assessment/Impact Analysis* report to be submitted as part of a modification of an existing permit for the above-referenced property.

This +/- 6.44-acre site is located north/northeast of the Connecticut Avenue cul-de-sac, in South Windsor, CT. The site is currently an undeveloped disturbed forested parcel (see Figures 1-2, attached).

In this report, JMM is providing the following:

1. Descriptions of the on-site regulated wetlands and watercourses.
2. A functions and values assessment of the regulated wetlands associated with and adjacent to the site.
3. An analysis of potential indirect impacts upon the regulated resources and upon the functions and values they provide.

2.0 Description of Regulated Resource Area

#-Series Wetland

The #-series is located along the northern and northwestern portions of the site. Based on review of CT-DEEP, CT State Library, and Town of South Windsor archival aerial photographs, the northern 2/3rd to 3/4th of the site transitioned from agriculture to sand/gravel mining in the 1960s, and has reverted back to a woodlot since the 1970s. These soil disturbances are evident throughout the majority of the site (see photos 1-6, attached). Along the northern portion of the site an excavated, ditched watercourse was observed, along the northern property line (see photos 4-6).

This regulated wetland is classified as a *palustrine, broad-leaved forested, seasonally flooded/saturated* wetland (PFO1E) according the National Wetland Inventory (NWI) Classification system. The dominant hydrologic regime within this wooded swamp is *seasonally saturated/seasonally flooded* and the wetland's hydro-geomorphic classification (HGM) is predominately *groundwater/surface water slope*. Within this wetland area soils were identified mainly as disturbed poorly drained soils. JMM wetland boundary markers JMM-1 to JMM-34 demarcate this regulated wetland.

Typical vegetation observed within the regulated area included such species as red maple, pin oak, white pine, yellow birch, spicebush, winterberry, silky dogwood, common reed, sedges including tussock, cinnamon fern, sensitive fern, soft rush, Asiatic bittersweet, and poison ivy, to name a few.

It is worth noting that an excavated ditch type feature left over from the former gravel mining was observed and reviewed, within the eastern portion of the site, for its regulatory status. After a careful review it was determined that the feature is not a regulated watercourse. Although the feature technically has a "channel and bank," there were no other features necessary for this feature to be considered a regulated intermittent watercourse. There was no flow observed within the channel, no hydrophytic vegetation communities were identified, and no poorly or very poorly drained soils were observed.

4.0 Soils

The soil types were found to be disturbed throughout the subject site. The disturbed upland soils were mapped as the Udorthents (308) mapping unit.

Udorthents (308). This soil mapping unit consists of well drained to moderately well drained soils that have been altered by cutting, filling, or grading. The areas either have had two feet or more of the upper part of

the original soil removed or have more than two feet of fill material on top of the original soil. *Udorthents* or Made Land soils can be found on any soil parent material but are typically fluvial on glacial till plains and outwash plains and stream terraces.

The disturbed wetland soils were mapped as the *Aquents* (308w) mapping unit.

Aquents (308w). This soil map unit consists of poorly drained and very poorly drained disturbed land areas. They are most often found on landscapes, which have been subject to prior filling and/or excavation activities. In general, this soil map unit occurs where two or more feet of the original soil surface has been filled over, graded or excavated. The *Aquents* are characterized by a seasonal to prolonged high ground water table and either support or are capable of supporting wetland vegetation. *Aquents* are recently formed soils, which have an aquic moisture regime. An aquic moisture regime is associated with a reducing soil environment that is virtually free of dissolved oxygen because the soil is saturated by groundwater or by water of the capillary fringe. The key feature is the presence of a ground water table at or very near to the soil surface for a period of fourteen days or longer during the growing season.

5.0 Functions/Values Assessment

The assessment of wetland functions and values is based primarily on the US Army Corps of Engineers' (USACE) *Descriptive Approach* (1995), and on best professional judgment.

A summary of the functions and values assessment can be found in Table 1, below. As can be seen, the site's wetlands provide one (1) principal function, *groundwater recharge/discharge*. This assessment is based on a number of factors, including the fact that the wetland is disturbed to very disturbed and has a low diversity of vegetative cover types and plant species, which includes invasive species, is surrounded by existing commercial/industrial and residential development.

Table 1: Summary of Wetland Function-Value Assessment

Function/Value	#/A/1A-Series Wetland
<i>Groundwater Recharge/Discharge</i>	P
<i>Floodflow Alteration</i>	Y
<i>Sediment/Shoreline Stabilization</i>	N/A
<i>Sediment/Toxicant/Pathogen Retention</i>	Y
<i>Nutrient Removal/Retention/Transformation</i>	Y
<i>Production Export</i>	N
<i>Fish and Aquatic Habitat</i>	N
<i>Wildlife Habitat</i>	Y
<i>Endangered Species Habitat</i>	N
<i>Visual Quality/Aesthetics</i>	N
<i>Educational/Scientific Value</i>	N
<i>Recreation (Passive, Active)</i>	N
<i>Uniqueness/Heritage</i>	N

Notes: P = Principal function; Y = function present; N = function not appreciably present or absent

6.0 Proposed Activities

Overview

According to the reviewed plan, entitled *Industrial Flex, 75 Connecticut Avenue, South Windsor, CT 06074*, prepared for *Trio Investment Properties, LLC*, by Design Professionals, Inc., and dated March 10, 2023, the proposal consists of the construction of four (4) industrial buildings. Also proposed are paved parking areas and driveways, storm drainage system, utilities, and other miscellaneous site work. The site is to be served by public water and sewer.

Direct Wetland Impacts

According to the reviewed site plan no *direct* impacts to wetlands/watercourses are proposed.

Indirect Wetland Impacts

Indirect or secondary impacts to a wetland or watercourse can occur as a result of activities outside of wetlands or watercourses. Such impacts can be *short-term* or *long-term*, and are typically associated with erosion and sedimentation, mostly during the construction period, the removal or disturbance of vegetation in upland areas, but adjacent to wetlands or watercourses, the alteration of wetland hydrology or the flow regime of a watercourse, and the discharge of degraded or insufficiently treated surface water or groundwater, which may adversely impact the water quality of the regulated resources.

The potential for any of these indirect impacts to occur at the site as a result of the proposal depends on the regulated resources themselves, their sensitivity, their ecological and physical characteristics, and the degree to which they provide recognized functions and values. These *potential* impacts are discussed below.

Erosion and Sedimentation

The potential for soil erosion and subsequent deposition in wetlands or watercourses exists at every construction site that involves soil disturbance. At this site the risk or the potential for adverse impacts from erosion and sedimentation is considered *low-moderate*. The primary reasons for this assessment are as follows: (1) a detailed erosion and sedimentation control plan has been prepared and submitted, which complies with the CT-DEEP's 2002 *Connecticut Guidelines for Erosion and Sediment Control*, as well as any recent guidelines promulgated by regulatory agencies, (2) the majority of the proposed earthwork will be conducted within a disturbed relatively flat to gently sloping portions of the site, and (3) most of the site's soils have *moderate* erodibility.

Removal of Native Vegetation and Habitat Loss

Although the majority of the existing trees will be removed to accommodate the development an effort has been made to achieve a protective wooded buffer to the residential community to along the east and southeast parts of the site. This 50-foot buffer will retain most of the trees will also be interplanted with a variety of shrubs (see Design Professionals, Inc. landscape plan for more details).

In order to provide a separation to the regulated wetlands from buildings and other impervious surfaces, and to provide some complementary habitat to the site's wetland resources, the design places the stormwater quality basins up against the wetlands. Even with the loss of the majority of the tree canopy the robust planting schedule associated with these two water quality basins will ensure that the on-site wetlands, although considered disturbed and man-made, will continue to provide ecological services pre to post-development. Since the two basins will function much like wetlands, and will have emergent and open water habitats, which presently are lacking at the site, a modest increase in wetland functions and values is very likely.

Potential Impacts to Wetland Hydrology and Stream Flow

The hydrologic and flow regime of wetland is dependent both on contributions via shallow groundwater flow and surface flows. The proposal is designed to ensure that wetland hydrology will be maintained.

Potential Water Quality Impacts

The two water quality basins area proposed within the western and southern portions of the site to capture the water quality runoff from the site including the roof runoff. These have been designed and sized following the guidelines of CT-DEEP's Stormwater Quality Manual (2004). The proposed basin plantings will also provide an enhancement to the basins, which combine stormwater wetlands with permanent pools. As are result of these proposed best management practices (BMPs), it is JMM's professional opinion that as designed will ensure that there will not be a degradation of water quality to the receiving waters, which include both the on-site as well as the off-site wetland areas.

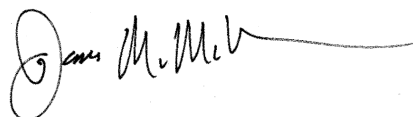
7.0 Conclusion

In conclusion, it is JMM's opinion that as proposed, and with **diligent** monitoring of erosion and sediment controls, the proposal will not have significant adverse short-term (construction) or long-term (water quality/habitat) impacts upon the regulated resources.

Please call us if you have any questions on the above or need further assistance.

Respectfully submitted,

JMM WETLAND CONSULTING SERVICES, LLC

A handwritten signature in black ink, appearing to read "James M. McManus", with a long horizontal flourish extending to the right.

James M. McManus, MS, CPSS
Certified Professional Soil Scientist (No. 15226)

Attachments: Figures 1-2, Photos 1-6, On-Site Soil Investigation Report, NRCS Web Soil Survey Map,
K-Factor Erodibility Assessment

Town of South Windsor

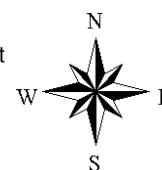
Geographic Information System (GIS)



MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Town of South Windsor and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 200 feet





U.S. Fish and Wildlife Service

National Wetlands Inventory

FIG 2: 75 Connecticut Ave



April 4, 2023

Wetlands



Estuarine and Marine Deepwater



Estuarine and Marine Wetland



Freshwater Emergent Wetland



Freshwater Forested/Shrub Wetland



Freshwater Pond



Lake



Other



Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Photo 1: View of regulated wetlands within #-Series Wetland (JMM photo taken 3/29/2021); facing northerly



Photo 2: View of regulated wetlands within #-Series Wetland (JMM photo taken 3/29/2021); facing northeasterly



Photo 3: View of regulated wetlands within #-Series Wetland (JMM photo taken 3/29/2021); facing northwesterly



Photo 4: View of regulated excavated ditched watercourse along northern property line (JMM photo taken 3/29/2021); facing northwesterly



Photo 5: View of regulated excavated ditched watercourse along northern property line (JMM photo taken 3/29/2021); facing northeasterly



Photo 6: View of regulated excavated ditched watercourse along northern property line (JMM photo taken 3/29/2021); facing northeasterly

JMM WETLAND CONSULTING SERVICES, LLC

23 Horseshoe Ridge Road
Newtown, CT 06482
Phone: 203-364-0345

REPORT DATE: February 22, 2023
PAGE 1 OF 3

ON-SITE SOIL INVESTIGATION REPORT

PROJECT NAME & SITE LOCATION:

Project Site
75 Connecticut Avenue
South Windsor, Connecticut

JMM Job No.: 21-2770-SWN-2

Field Investigation Date(s): 3/29/2021

Field Investigation Method(s):

- ☒ Spade and Auger
☐ Backhoe Test Pits
☐ Other: _____

REPORT PREPARED FOR:

Mr. Joe Degeorge, CEO
St. Pauly Textile
1067 Gateway Drive
Farmington, NY 14425

Field Conditions:

Weather: Sunny, 40's
Soil Moisture: Moist
Snow Depth: N/A
Frost Depth: N/A

Purpose of Investigation:

- ☒ Wetland Delineation/Flagging in Field
☐ Wetland Mapping on Sketch Plan or Topographic Plan
☐ High Intensity Soil Mapping by Soil Scientist
☒ Medium Intensity Soil Mapping from USDA-NRCS Web Soil Survey Maps
☐ Other: _____

Base Map Source: USDA-NRCS Web Soil Survey (attached)

Wetland Boundary Marker Series: JMM-1 to JMM-34

General Site Description/Comments: The site is located north/northeast of the Connecticut Avenue cul-de-sac, in South Windsor, CT. This +/- 6.4-acre site is currently an undeveloped disturbed forested parcel that is comprised of wooded upland and wetland areas and a man-made intermittent ditched watercourse (see Figure 1, attached). The soil types were found to be mainly disturbed throughout. The disturbed upland soils were mapped as the Udorthents (308) mapping unit while any disturbed wetland soils were mapped as the Aquents (308w) mapping unit. The regulated areas associated with the site consist of a seasonally saturated to flooded wooded swamp located in the northwestern and northern parts of the site (JMM-#-series). Typical vegetation observed within the regulated area included such species as red maple, pin oaks, yellow birch, spicebush, winterberry, silky dogwood, common reed, sedges including tussock, cinnamon fern, sensitive fern, soft rush, Asiatic bittersweet, and poison ivy, to name a few.

ON-SITE SOIL INVESTIGATION REPORT (CONTINUED)

PROJECT NAME & SITE LOCATION: Project Site
75 Connecticut Avenue, South Windsor, CT

SOIL MAP UNITS**Wetland Soils**

Aquents (308w). This soil map unit consists of poorly drained and very poorly drained disturbed land areas. They are most often found on landscapes, which have been subject to prior filling and/or excavation activities. In general, this soil map unit occurs where two or more feet of the original soil surface has been filled over, graded or excavated. The *Aquents* are characterized by a seasonal to prolonged high ground water table and either support or are capable of supporting wetland vegetation. *Aquents* are recently formed soils, which have an aquic moisture regime. An aquic moisture regime is associated with a reducing soil environment that is virtually free of dissolved oxygen because the soil is saturated by groundwater or by water of the capillary fringe. The key feature is the presence of a ground water table at or very near to the soil surface for a period of fourteen days or longer during the growing season.

Upland Soils

Udorthents (308). This soil mapping unit consists of well drained to moderately well drained soils that have been altered by cutting, filling, or grading. The areas either have had two feet or more of the upper part of the original soil removed or have more than two feet of fill material on top of the original soil. Udorthents or Made Land soils can be found on any soil parent material but are typically fluvial on glacial till plains and outwash plains and stream terraces.

ON-SITE SOIL INVESTIGATION REPORT (CONTINUED)

PROJECT NAME & SITE LOCATION: Project Site
75 Connecticut Avenue, South Windsor, CT

SOIL MAP UNITS

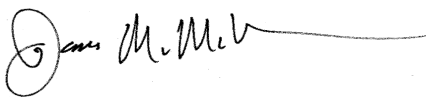
See previous page

Any accompanying soil logs and soil maps, and the on-site soil investigation narrative are in accordance with the taxonomic classification of the National Cooperative Soil Survey of the USDA Natural Resource Conservation Service, and with the Connecticut Soil Legend (DEP Bulletin No.5, 1983). Jurisdictional wetland boundaries were delineated pursuant to the Connecticut General Statutes (CGS Sections 22a-36 to 22a-45), as amended. The site investigation was conducted and/or reviewed by the undersigned Registered Soil Scientist(s) [registered with the Society of Soil Scientists of Southern New England (SSSSNE) in accordance with the standards of the Federal Office of Personnel Management].

All wetland boundary lines established by the undersigned Soil Scientist are subject to change until officially adopted by, local, state, and federal regulatory agencies.

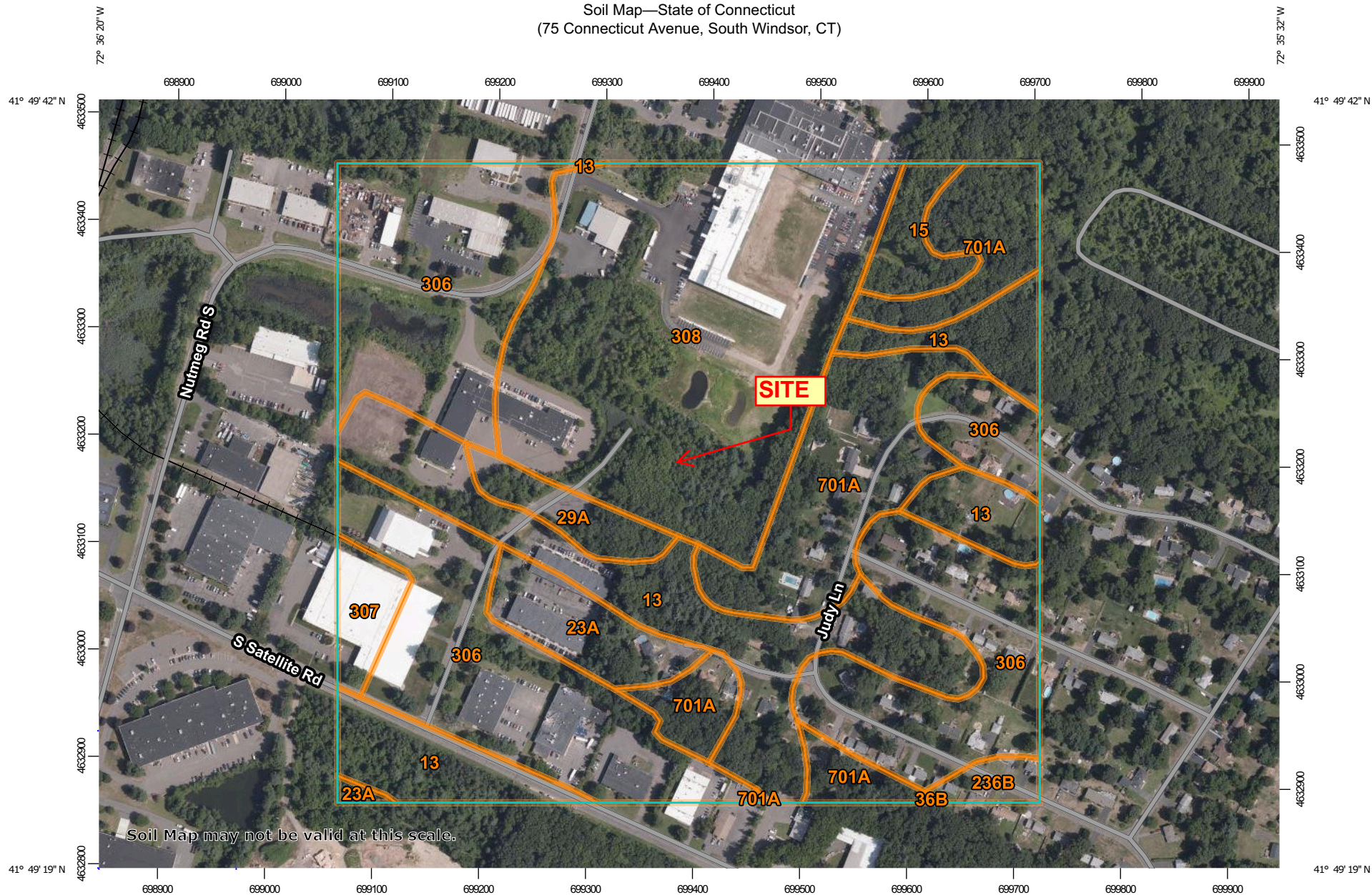
Respectfully submitted,

JMM WETLAND CONSULTING SERVICES, LLC

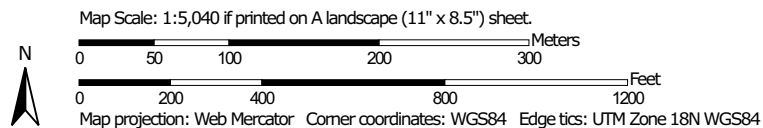


James M. McManus, MS, CPSS
Certified Professional Soil Scientist
Field Investigator/Reviewer

Soil Map—State of Connecticut
(75 Connecticut Avenue, South Windsor, CT)



Soil Map may not be valid at this scale.




Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

2/24/2021
Page 1 of 3


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 1:12,000.

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: State of Connecticut

Survey Area Data: Version 20, Jun 9, 2020

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

Date(s) aerial images were photographed: Jul 15, 2019—Aug 29, 2019

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

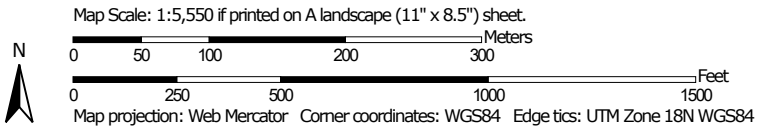
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
13	Walpole sandy loam, 0 to 3 percent slopes	17.6	18.2%
15	Scarboro muck, 0 to 3 percent slopes	1.8	1.9%
23A	Sudbury sandy loam, 0 to 5 percent slopes	3.3	3.4%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	1.9	2.0%
36B	Windsor loamy sand, 3 to 8 percent slopes	0.0	0.0%
236B	Windsor-Urban land complex, 0 to 8 percent slopes	0.9	0.9%
306	Udorthents-Urban land complex	32.1	33.2%
307	Urban land	1.6	1.7%
308	Udorthents, smoothed	24.2	25.0%
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	13.4	13.8%
Totals for Area of Interest		96.9	100.0%



K Factor, Whole Soil—State of Connecticut
(75 Connecticut Avenue, South Windsor, CT)




Soil Map may not be valid at this scale.


















MAP LEGEND

Area of Interest (AOI)







 Area of Interest (AOI)










Soils

Soil Rating Polygons
















	.02
	.05
	.10
	.15
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	.20
	.24
	.28
	.32
	.37
	.43
	.49
	.55
	.64
	Not rated or not available

Soil Rating Lines








	.02
	.05
	.10
	.15
	.17
	.20

	.24
	.28
	.32
	.37
	.43
	.49
	.55
	.64
	Not rated or not available

Soil Rating Points

	.02
	.05
	.10
	.15
	.17
	.20
	.24
	.28
	.32
	.37
	.43
	.49
	.55
	.64
	Not rated or not available

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 1:12,000.

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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: State of Connecticut
Survey Area Data: Version 22, Sep 12, 2022

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

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

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.

K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony		0.2	0.2%
13	Walpole sandy loam, 0 to 3 percent slopes		24.0	18.6%
15	Scarboro muck, 0 to 3 percent slopes		2.6	2.0%
23A	Sudbury sandy loam, 0 to 5 percent slopes		5.0	3.9%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	.37	1.9	1.5%
36B	Windsor loamy sand, 3 to 8 percent slopes		0.6	0.5%
236B	Windsor-Urban land complex, 0 to 8 percent slopes	.15	2.9	2.2%
306	Udorthents-Urban land complex	.32	44.2	34.2%
307	Urban land		4.1	3.2%
308	Udorthents, smoothed	.32	25.0	19.4%
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	.32	18.5	14.4%
Totals for Area of Interest			129.1	100.0%

Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Factor K does not apply to organic horizons and is not reported for those layers.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)